# Round 1 v Washington University

## 1AC

### Plan

**The United States federal government should obtain, through alternative financing, electricity from small modular reactors for military bases in the United States.**

### Grid

#### Grid disruptions are inevitable - only SMR’s can solve

Robitaille 12

(George, Department of Army Civilian, United States Army War College, “Small Modular Reactors: The Army’s Secure Source of Energy?” 21-03-2012, Strategy Research Project)

In recent years, the U.S Department of Defense (DoD) has identified a security issue at our installations related to the dependence on the civilian electrical grid. 1 The DoD depends on a steady source of electricity at military facilities to perform the functions that secure our nation. The flow of electricity into military facilities is controlled by a public grid system that is susceptible to being compromised because of the age of the infrastructure, damage from natural disasters and the potential for cyber attacks. Although most major functions at military installations employ diesel powered generators as temporary backup, the public grid may not be available to provide electricity when it is needed the most. The United States electrical infrastructure system is prone to failures and susceptible to terrorist attacks. 2 It is critical that the source of electricity for our installations is reliable and secure. In order to ensure that our military facilities possess a secure source of electricity, either the public system of electric generation and distribution is upgraded to increase its reliability as well as reducing its susceptibility to cyber attack or another source of electricity should be pursued. Although significant investments are being made to upgrade the electric grid, the current investment levels are not keeping up with the aging system. Small modular reactors (SMRs) are nuclear reactors that are about an order of magnitude smaller than traditional commercial reactor used in the United States. SMRs are capable of generating electricity and at the same time, they are not a significant contributor to global warming because of green house gas emissions. The DoD needs to look at small modular nuclear reactors (SMRs) to determine if they can provide a safe and secure source of electricity. Electrical Grid Susceptibility to Disruptions According to a recent report by the Defense Science Board, the DoD gets ninety nine percent of their electrical requirements from the civilian electric grid. 3 The electric grid, as it is currently configured and envisioned to operate for the foreseeable future, may not be reliable enough to ensure an uninterrupted flow of electricity for our critical military facilities given the influences of the aging infrastructure, its susceptibility to severe weather events, and the potential for cyber attacks. The DoD dependency on the grid is reflected in the $4.01 Billion spent on facilities energy in fiscal year 2010, the latest year which data was available. 4 The electricity used by military installations amounts to $3.76 billion. 5 As stated earlier, the DoD relies on the commercial grid to provide a secure source of energy to support the operations that ensure the security of our nation and it may not be available when we need it. The system could be taken down for extended periods of time by failure of aging components, acts of nature, or intentionally by cyber attacks. Aging Infrastructure. The U.S electric power grid is made up of independently owned power plants and transmission lines. The political and environmental resistance to building new electric generating power plants combined with the rise in consumption and aging infrastructure increases the potential for grid failure in the future. There are components in the U.S. electric grid that are over one hundred years old and some of the recent outages such as the 2006 New York blackout can be directly attributed to this out of date, aging infrastructure. 6 Many of the components of this system are at or exceeding their operational life and the general trend of the utility companies is to not replace power lines and other equipment until they fail. 7 The government led deregulation of the electric utility industry that started in the mid 1970s has contributed to a three decade long deterioration of the electric grid and an increased state of instability. Although significant investments are being made to upgrade the electric grid, the many years of prior neglect will require a considerable amount of time and funding to bring the aging infrastructure up to date. Furthermore, the current investment levels to upgrade the grid are not keeping up with the aging system. 8 In addition, upgrades to the digital infrastructure which were done to increase the systems efficiency and reliability, have actually made the system more susceptible to cyber attacks. 9 Because of the aging infrastructure and the impacts related to weather, the extent, as well as frequency of failures is expected to increase in the future. Adverse Weather. According to a 2008 grid reliability report by the Edison Electric Institute, sixty seven per cent of all power outages are related to weather. Specifically, lightning contributed six percent, while adverse weather provided thirty one percent and vegetation thirty percent (which was predominantly attributed to wind blowing vegetation into contact with utility lines) of the power outages. 10 In 1998 a falling tree limb damaged a transformer near the Bonneville Dam in Oregon, causing a cascade of related black-outs across eight western states. 11 In August of 2003 the lights went out in the biggest blackout in North America, plunging over fifty million people into darkness over eight states and two Canadian provinces. Most areas did not have power restored four or five days. In addition, drinking water had to be distributed by the National Guard when water pumping stations and/or purification processes failed. The estimated economic losses associated with this incident were about five billion dollars. Furthermore, this incident also affected the operations of twenty two nuclear plants in the United States and Canada. 12 In 2008, Hurricane Ike caused approximately seven and a half million customers to lose power in the United States from Texas to New York. 13 The electric grid suffered numerous power outages every year throughout the United States and the number of outages is expected to increase as the infrastructure ages without sufficient upgrades and weather-related impacts continue to become more frequent. Cyber Attacks. The civilian grid is made up of three unique electric networks which cover the East, West and Texas with approximately one hundred eighty seven thousand miles of power lines. There are several weaknesses in the electrical distribution infrastructure system that could compromise the flow of electricity to military facilities. The flow of energy in the network lines as well as the main distribution hubs has become totally dependent on computers and internet-based communications. Although the digital infrastructure makes the grid more efficient, it also makes it more susceptible to cyber attacks. Admiral Mr. Dennis C. Blair (ret.), the former Director of National Intelligence, testified before Congress that “the growing connectivity between information systems, the Internet, and other infrastructures creates opportunities for attackers to disrupt telecommunications, electrical power, energy pipelines, refineries, financial networks, and other critical infrastructures. 14 ” The Intelligence Community assesses that a number of nations already have the technical capability to conduct such attacks. 15 In the 2009 report, Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee, Adm. Blair stated that “Threats to cyberspace pose one of the most serious economic and national security challenges of the 21st Century for the United States and our allies.”16 In addition, the report highlights a growing array of state and non-state actors that are targeting the U.S. critical infrastructure for the purpose of creating chaos that will subsequently produce detrimental effects on citizens, commerce, and government operations. These actors have the ability to compromise, steal, change, or completely destroy information through their detrimental activities on the internet. 17 In January 2008, US Central Intelligence Agency senior analyst Tom Donahue told a gathering of three hundred international security managers from electric, water, oil & gas, and other critical industry, that data was available from multiple regions outside the United States, which documents cyber intrusions into utilities. In at least one case (outside the U.S.), the disruption caused a power outage affecting multiple cities. Mr. Donahue did not specify who executed these attacks or why, but did state that all the intrusions were conducted via the Internet. 18 During the past twenty years, advances in computer technologies have permeated and advanced all aspects of our lives. Although the digital infrastructure is being increasingly merged with the power grid to make it more efficient and reliable, it also makes it more vulnerable to cyber attack. In October 2006, a foreign hacker invaded the Harrisburg, PA., water filtration system and planted malware. 19 In June 2008, the Hatch nuclear power plant in Georgia shut down for two days after an engineer loaded a software update for a business network that also rebooted the plant's power control system. In April 2009, The Wall Street Journal reported that cyber spies had infiltrated the U.S. electric grid and left behind software that could be used to disrupt the system. The hackers came from China, Russia and other nations and were on a “fishing expedition” to map out the system. 20 According to the secretary of Homeland Security, Janet Napolitano at an event on 28 October 2011, cyber–attacks have come close to compromising the country’s critical infrastructure on multiple occasions. 21 Furthermore, during FY11, the United States Computer Emergency Readiness Team took action on more than one hundred thousand incident reports by releasing more than five thousand actionable cyber security alerts and information products. 22 The interdependence of modern infrastructures and digital based systems makes any cyber attacks on the U.S. electric grid potentially significant. The December 2008 report by the Commission on Cyber Security for the forty fourth Presidency states the challenge plainly: “America’s failure to protect cyberspace is one of the most urgent national security problems facing the new administration”. 23 The susceptibility of the grid to being compromised has resulted in a significant amount of resources being allocated to ensuring the systems security. Although a substantial amount of resources are dedicated to protecting the nation’s infrastructure, it may not be enough to ensure the continuous flow of electricity to our critical military facilities. SMRs as they are currently envisioned may be able to provide a secure and independent alternative source of electricity in the event that the public grid is compromised. SMRs may also provide additional DoD benefit by supporting the recent government initiatives related to energy consumption and by circumventing the adverse ramifications associated with building coal or natural gas fired power plants on the environment.\

#### Cyber-attack is coming ---actors are probing grid weaknesses

**Reed 10/11** John, Reports on the frontiers of cyber war and the latest in military technology for Killer Apps at Foreign Policy, "U.S. energy companies victims of potentially destructive cyber intrusions", 2012, killerapps.foreignpolicy.com/posts/2012/10/11/us\_energy\_companies\_victims\_of\_potentially\_destructive\_cyber\_attacks

Foreign actors are probing the networks of key American companies in an attempt to gain control of industrial facilities and transportation systems, Defense Secretary Leon Panetta revealed tonight.¶ "We know that foreign **cyber actors are probing America's critical infrastructure networks**," said Panetta, disclosing previously classified information during a speech in New York laying out the Pentagon's role in protecting the U.S. from cyber attacks. "They are targeting the computer control systems that operate chemical, **electricity** and water plants, and those that guide transportation thorough the country."¶ He went on to say that the U.S. government knows of "specific instances where intruders have gained access" to these systems -- frequently known as Supervisory Control and Data Acquisition (or SCADA) systems -- and that "they are seeking to create advanced tools to attack these systems and cause panic, destruction and even the loss of life," according to an advance copy of his prepared remarks.¶ The secretary said that **a coordinated attack on enough critical infrastructure could be a "cyber Pearl Harbor" that would "cause physical destruction and loss of life, paralyze and shock the nation, and create a profound new sense of vulnerability.**"¶ While there have been reports of criminals using 'spear phishing' email attacks aimed at stealing information about American utilties, Panetta's remarks seemed to suggest more sophisticated, nation-state backed attempts to actually gain control of and damage power-generating equipment. ¶ Panetta's comments regarding the penetration of American utilities echo those of a private sector cyber security expert Killer Apps spoke with last week **who said that the networks of American electric companies were penetrated, perhaps in preparation for a Stuxnet-style attack**.¶ Stuxnet is the famous cyber weapon that infected Iran's uranium-enrichment centrifuges in 2009 and 2010. Stuxnet is believed to have caused some of the machines to spin erratically, thereby destroying them.¶ "**There is hard evidence** that there has been penetration of our power companies, and given Stuxnet, that is a staging step before destruction" of electricity-generating equipment, the expert told Killer Apps. Because uranium centrifuges and power turbines are both spinning machines, "**the attack is identical -- the one to take out the centrifuges and the one to take out our power systems is the same attack**."¶ "If a centrifuge running at the wrong speed can blow apart" so can a power generator, said the expert. "If you do, in fact, spin them at the wrong speeds, you can blow up any rotating device."¶ Cyber security expert Eugene Kaspersky said two weeks ago that one of his greatest fears is someone reverse-engineering a sophisticated cyber weapon like Stuxnet **-- a relatively easy task** -- and he noted that Stuxnet itself passed through power plants on its way to Iran. "Stuxnet infected thousands of computer systems all around the globe, I know there were power plants infected by Stuxnet very far away from Iran," Kaspersky said.

**Defense doesn’t apply---Stuxnet changed the game**

**Gross 11** Michael Joseph, Vanity Fair contributing editor, he covers topics including politics, technology, and national security, has also written extensively for The New York Times, The Boston Globe, and GQ, attended Williams College, and later studied at Princeton Theological Seminary. After graduating, he wrote speeches for Massachusetts Governor William Weld, “A Declaration of Cyber-War”, April, http://www.vanityfair.com/culture/features/2011/04/stuxnet-201104?currentPage=all

Regardless of how well it worked, there is no question that Stuxnet is something new under the sun. At the very least, it is a blueprint for a new way of **attacking industrial-control systems**. In the end, the most important thing now publicly known about Stuxnet is that Stuxnet is **now publicly known.** That knowledge is, on the simplest level, a warning: **America’s own critical infrastructure is a sitting target for attacks like this**. That aside, if Stuxnet really did attack Iran’s nuclear program, it could be called the first unattributable act of war. The implications of that concept are confounding. Because cyber-weapons pose an almost **unsolvable problem of sourcing**—who pulled the trigger?—war could evolve into something **more and more like terror**. Cyber-conflict makes military action more like a **never-ending game of uncle**, where the fingers of weaker nations are perpetually bent back. The wars would often be secret, waged by members of anonymous, elite brain trusts, none of whom would ever have to look an enemy in the eye. For people whose lives are connected to the targets, the results could be **as catastrophic as a bombing** **raid, but would be even more disorienting**. People would suffer, but would never be certain whom to blame.¶ **Stuxnet is the Hiroshima of cyber-war**. That is its true significance, and all the speculation about its target and its source should not blind us to that larger reality. **We have crossed a threshold, and there is no turning back**.

#### Small nuclear reactors key to prevent bases from being vulnerable to grid outages- renewables fail and grid shutdown triggers nuclear war

Andres and Breetz 11

(Richard B. Andres is Professor of ¶ national Security Strategy at the ¶ national War College and a Senior fellow and energy and environmental ¶ Security and Policy Chair in the Center ¶ for Strategic research, institute for national Strategic Studies, at the national Defense University. Hanna L. Breetz is a doctoral candidate in the Department of Political Science at the Massachusetts institute of technology, “Small Nuclear Reactors ¶ for Military Installations:¶ Capabilities, Costs, and ¶ Technological Implications” Institute for National Strategic Studies, <http://www.ndu.edu/press/lib/pdf/strforum/sf-262.pdf>, SEH)

Grid Vulnerability**. DOD is unable to provide its ¶ bases with electricity when the civilian electrical grid is ¶ offline for an extended period of time**. Currently, domestic military installations receive 99 percent of their ¶ electricity from the civilian power grid. As explained in a ¶ recent study from the Defense Science Board:¶ DOD’s key problem with electricity is **that** critical ¶ missions, such as national strategic awareness and ¶ national command authorities, are **almost entirely ¶** dependent on the **national transmission** grid. . . ¶ **[which] is fragile, vulnerable, near its capacity ¶ limit, and outside of DOD control**. In most cases, ¶ **neither the grid nor on-base backup power provides¶ sufficient reliability to ensure continuity of critical ¶ national priority functions and oversight of ¶ strategic missions in the face of** a long term (several ¶ months) **outage**.¶ 7¶ The grid’s fragility was demonstrated during the 2003 ¶ Northeast blackout in which 50 million people in the ¶ United States and Canada lost power, some for up to a ¶ week, when one Ohio utility failed to properly trim trees. ¶ The blackout created cascading disruptions in sewage ¶ systems, gas station pumping, cellular communications, ¶ border check systems, and so forth, and demonstrated the ¶ interdependence of modern infrastructural systems.¶ 8¶ More recently, awareness has been growing that ¶ **the grid is also vulnerable to purposive attacks**. A report sponsored by the Department of Homeland Security suggests **that a coordinated cyberattack on the grid ¶ could result in a third of the country losing power for ¶ a period of weeks or months**.¶ 9¶ Cyberattacks on critical ¶ infrastructure are not well understood. It is not clear, for ¶ instance, whether existing terrorist groups might be able ¶ to develop the capability to conduct this type of attack. **It ¶ is likely, however, that some nation-states either have or ¶ are working on developing the ability to take down the ¶ U.S. grid**. **In the event of a war** with one of these states, ¶ it is possible, if not likely, that **parts of the civilian grid ¶ would cease to function, taking with them military bases ¶ located in affected regions.**¶ Government and private organizations are currently ¶ working to secure the grid against attacks; however, it is ¶ not clear that they will be successful. Most military bases ¶ currently have backup power that allows them to function for a period of hours or, at most, a few days on their ¶ own. If power were not restored after this amount of time, ¶ the results could be disastrous. First, military assets taken ¶ offline by the crisis would not be available to help with disaster relief. Second, **during an extended blackout, global ¶ military operations could be seriously compromised; this ¶ disruption would be particularly serious if the blackout ¶ was induced during major combat operations.** During the ¶ Cold War, this type of event was far less likely because the United States and Soviet Union shared the common understanding that blinding an opponent with a grid blackout could escalate to nuclear war. America’s current opponents, however, may not share this fear or be deterred ¶ by this possibility.¶ In 2008, the Defense Science Board stressed that ¶ DOD should mitigate the electrical grid’s vulnerabilities by turning military installations into “islands” of ¶ energy self-sufficiency.¶ 10¶ **The department has made efforts to do so by promoting efficiency programs** that ¶ lower power consumption on bases and by constructing ¶ renewable power generation facilities on selected bases. ¶ Unfortunately, these programs **will not come close to ¶** reaching the goal of **islanding** thevast majority of bases**. ¶ Even with** massive investment in efficiency and **renewables,** most **bases would not** be able to **function for more ¶ than a few days after the** civilian **grid went offline**. **Unlike other alternative sources of energy, small reactors have the potential to solve DOD’s vulnerability to ¶ grid outages.** **Most bases have relatively light power demands when compared to civilian towns or cities. Small ¶ reactors could easily support bases’ power demands separate from the civilian grid during crises**. In some cases, ¶ the reactors could be designed to produce enough power ¶ not only to supply the base, but also to provide critical ¶ services in surrounding towns during long-term outages.¶ Strategically, islanding bases with small reactors ¶ has another benefit. **One of the main reasons an enemy ¶ might be willing to risk reprisals by taking down the ¶ U.S. grid during a period of military hostilities would ¶ be to affect ongoing military operations. Without the ¶ lifeline of intelligence, communication, and logistics ¶ provided by U.S. domestic bases, American military operations would be compromised in almost any conceivable contingency. Making bases more resilient to ¶ civilian power outages would reduce the incentive for ¶ an opponent to attack the grid.** An opponent might ¶ still attempt to take down the grid for the sake of disrupting civilian systems, but **the powerful incentive to ¶ do so in order to win an ongoing battle or war would ¶ be greatly reduced.**

**Grid failure wrecks US critical mission operations**

**Stockton 11** Paul, assistant secretary of defense for Homeland Defense and Americas’ Security Affairs, “Ten Years After 9/11: Challenges for the Decade to Come”, <http://www.hsaj.org/?fullarticle=7.2.11>

The cyber threat to the DIB is only part of a much larger challenge to DoD. Potential adversaries are seeking asymmetric means to cripple our force projection, warfighting, and sustainment capabilities, by targeting the critical civilian and defense supporting assets (within the United States and abroad) on which our forces depend. This challenge is not limited to man-made threats; DoD must also execute its mission-essential functions in the face of disruptions caused by naturally occurring hazards.20 Threats and hazards to DoD mission execution include incidents such as earthquakes, naturally occurring pandemics, solar weather events, and industrial accidents, as well as kinetic or virtual attacks by state or non-state actors. Threats can also emanate from insiders with ties to foreign counterintelligence organizations, homegrown terrorists, or individuals with a malicious agenda. From a DoD perspective, this global convergence of unprecedented threats and hazards, and vulnerabilities and consequences, is a particularly problematic reality of the post-Cold War world. Successfully deploying and sustaining our military forces are increasingly a function of interdependent supply chains and privately owned infrastructure within the United States and abroad, including transportation networks, cyber systems, commercial corridors, communications pathways, and energy grids. This infrastructure largely falls outside DoD direct control. Adversary actions to destroy, disrupt, or manipulate this highly vulnerable homeland- and foreign-based infrastructure may be relatively easy to achieve and extremely tough to counter. Attacking such “soft,” diffuse infrastructure systems could significantly affect our military forces globally – potentially blinding them, neutering their command and control, degrading their mobility, and isolating them from their principal sources of logistics support. The Defense Critical Infrastructure Program (DCIP) under Mission Assurance seeks to improve execution of DoD assigned missions to make them more resilient. This is accomplished through the assessment of the supporting commercial infrastructure relied upon by key nodes during execution. By building resilience into the system and ensuring this support is well maintained, DoD aims to ensure it can "take a punch as well as deliver one."21 It also provides the department the means to prioritize investments across all DoD components and assigned missions to the most critical issues faced by the department through the use of risk decision packages (RDP).22 The commercial power supply on which DoD depends exemplifies both the novel challenges we face and the great progress we are making with other federal agencies and the private sector. Today’s commercial electric power grid has a great deal of resilience against the sort of disruptive events that have traditionally been factored into the grid’s design. Yet, the grid will increasingly confront threats beyond that traditional design basis. This complex risk environment includes: disruptive or deliberate attacks, either physical or cyber in nature; severe natural hazards such as geomagnetic storms and natural disasters with cascading regional and national impacts (as in NLE 11); long supply chain lead times for key replacement electric power equipment; transition to automated control systems and other smart grid technologies without robust security; and more frequent interruptions in fuel supplies to electricity-generating plants. These risks are magnified by globalization, urbanization, and the highly interconnected nature of people, economies, information, and infrastructure systems. The department is highly dependent on commercial power grids and energy sources. As the largest consumer of energy in the United States, DoD is dependent on commercial electricity sources outside its ownership and control for secure, uninterrupted power to support critical missions. In fact, approximately 99 percent of the electricity consumed by DoD facilities originates offsite, while approximately 85 percent of critical electricity infrastructure itself is commercially owned. This situation only underscores the importance of our partnership with DHS and its work to protect the nation’s critical infrastructure – a mission that serves not only the national defense but also the larger national purpose of sustaining our economic health and competitiveness. DoD has traditionally assumed that the commercial grid will be subject only to infrequent, weather-related, and short-term disruptions, and that available backup power is sufficient to meet critical mission needs. As noted in the February 2008 Report of the Defense Science Board Task Force on DoD Energy Strategy, “In most cases, neither the grid nor on-base backup power provides sufficient reliability to ensure continuity of critical national priority functions and oversight of strategic missions in the face of a long term (several months) outage.”23 Similarly, a 2009 GAO Report on Actions Needed to Improve the Identification and Management of Electrical Power Risks and Vulnerabilities to DoD Critical Assets stated that DoD mission-critical assets rely primarily on commercial electric power and are vulnerable to disruptions in electric power supplies.24 Moreover, these vulnerabilities may cascade into other critical infrastructure that uses the grid – communications, water, transportation, and pipelines – that, in turn, is needed for the normal operation of the grid, as well as its quick recovery in emergency situations. To remedy this situation, the Defense Science Board (DSB) Task Force recommended that DoD take a broad-based approach, including a focused analysis of critical functions and supporting assets, a more realistic assessment of electricity outage cause and duration, and an integrated approach to risk management that includes greater efficiency, renewable resources, distributed generation, and increased reliability. DoD Mission Assurance is designed to carry forward the DSB recommendations. Yet, for a variety of reasons – technical, financial, regulatory, and legal – DoD has limited ability to manage electrical power demand and supply on its installations. As noted above, DHS is the lead agency for critical infrastructure protection by law and pursuant to Homeland Security Presidential Directive 7. The Department of Energy (DOE) is the lead agency on energy matters. And within DoD, energy and energy security roles and responsibilities are distributed and shared, with different entities managing security against physical, nuclear, and cyber threats; cost and regulatory compliance; and the response to natural disasters. And of course, production and delivery of electric power to most DoD installations are controlled by commercial entities that are regulated by state and local utility commissions. The resulting paradox: DoD is dependent on a commercial power system over which it does not – and never will – exercise control.

**Loss of mission effectiveness causes nuclear war in every hotspot**

**Kagan and O’Hanlon 7** Frederick, resident scholar at AEI and Michael, senior fellow in foreign policy at Brookings, “The Case for Larger Ground Forces”, April 2007, http://www.aei.org/files/2007/04/24/20070424\_Kagan20070424.pdf

We live at a time when wars not only rage in nearly every region but threaten to erupt in many places where the current relative calm is tenuous. To view this as a strategic military challenge for the United States is not to espouse a specific theory of America’s role in the world or a certain political philosophy. Such an assessment flows directly from the basic bipartisan view of American foreign policy makers since World War II that overseas threats must be countered before they can directly threaten this country’s shores, that the basic stability of the international system is essential to American peace and prosperity, and that no country besides the United States is in a position to lead the way in countering major challenges to the global order. Let us highlight the threats and their consequences with a few concrete examples, emphasizing those that involve key strategic regions of the world such as the Persian Gulf and East Asia, or key potential threats to American security, such as the spread of nuclear weapons and the strengthening of the global Al Qaeda/jihadist movement. The Iranian government has rejected a series of international demands to halt its efforts at enriching uranium and submit to international inspections. What will happen if the US—or Israeli—government becomes convinced that Tehran is on the verge of fielding a nuclear weapon? North Korea, of course, has already done so, and the ripple effects are beginning to spread. Japan’s recent election to supreme power of a leader who has promised to rewrite that country’s constitution to support increased armed forces—and, possibly, even nuclear weapons— may well alter the delicate balance of fear in Northeast Asia fundamentally and rapidly. Also, in the background, at least for now, Sino Taiwanese tensions continue to flare, as do tensions between India and Pakistan, Pakistan and Afghanistan, Venezuela and the United States, and so on. Meanwhile, the world’s nonintervention in Darfur troubles consciences from Europe to America’s Bible Belt to its bastions of liberalism, yet with no serious international forces on offer, the bloodletting will probably, tragically, continue unabated. And as bad as things are in Iraq today, they could get worse. What would happen if the key Shiite figure, Ali al Sistani, were to die? If another major attack on the scale of the Golden Mosque bombing hit either side (or, perhaps, both sides at the same time)? Such deterioration might convince many Americans that the war there truly was lost—but the costs of reaching such a conclusion would be enormous. Afghanistan is somewhat more stable for the moment, although a major Taliban offensive appears to be in the offing. Sound US grand strategy must proceed from the recognition that, over the next few years and decades, the world is going to be a very unsettled and quite dangerous place, with Al Qaeda and its associated groups as a subset of a much larger set of worries. The only serious response to this international environment is to develop armed forces capable of protecting America’s vital interests throughout this dangerous time**. Doing so requires a military capable of a wide range of missions**—including not only deterrence of great power conflict in dealing with potential hotspots in Korea, the Taiwan Strait, and the Persian Gulf but also associated with a variety of Special Forces activities and stabilization operations. For today’s US military, which already excels at high technology and is increasingly focused on re-learning the lost art of counterinsurgency, this is first and foremost a question of finding the resources to field a large-enough standing Army and Marine Corps to handle personnel intensive missions such as the ones now under way in Iraq and Afghanistan. Let us hope there will be no such large-scale missions for a while. But preparing for the possibility, while doing whatever we can at this late hour to relieve the pressure on our soldiers and Marines in ongoing operations, is prudent. At worst, the only potential downside to a major program to strengthen the military is the possibility of spending a bit too much money. **Recent history shows no link between having a larger military and its overuse**; indeed, Ronald Reagan’s time in office was characterized by higher defense budgets and yet much less use of the military, an outcome for which we can hope in the coming years, but hardly guarantee. While the authors disagree between ourselves about proper increases in the size and cost of the military (with O’Hanlon preferring to hold defense to roughly 4 percent of GDP and seeing ground forces increase by a total of perhaps 100,000, and Kagan willing to devote at least 5 percent of GDP to defense as in the Reagan years and increase the Army by at least 250,000), we agree on the need to start expanding ground force capabilities by at least 25,000 a year immediately. Such a measure is not only prudent, it is also badly overdue.

#### We control empirics

Wohlforth 8—Daniel Webster Professor of Government, Dartmouth. BA in IR, MA in IR and MPhil and PhD in pol sci, Yale (William, Unipolarity, Status Competition, and Great Power War, October 2008, World Politics Vol. 61, Iss. 1; pg. 28, 31 pgs, Proquest)

Despite increasingly compelling findings concerning the importance of status seeking in human behavior, research on its connection to war waned some three decades ago.38 Yet empirical studies of the relationship between both systemic and dyadic capabilities distributions and war have continued to cumulate. If the relationships implied by the status theory run afoul of well-established patterns or general historical findings, then there is little reason to continue investigating them. **The clearest empirical implication** of the theory **is that** status **competition is unlikely to cause great power military conflict in unipolar systems**. If status competition is an important contributory cause of great power war, then, ceteris paribus, unipolar systems should be markedly less war-prone than bipolar or multipolar systems. And this appears to be the case. As Daniel Geller notes in a review of the empirical literature: "**The only polar structure that appears to influence conflict probability is unipolarity**."39 In addition, a larger number of studies at the dyadic level support the related expectation that narrow capabilities gaps and ambiguous or unstable capabilities hierarchies increase the probability of war.40 These studies are based entirely on post-sixteenth-century European history, and most are limited to the post-1815 period covered by the standard data sets. Though the systems coded as unipolar, near-unipolar, and hegemonic are all marked by a high concentration of capabilities in a single state, these studies operationalize unipolarity in a variety of ways, often very differently from the definition adopted here. An ongoing collaborative project looking at ancient interstate systems over the course of two thousand years suggests that historical systems that come closest to the definition of unipolarity used here exhibit precisely the behavioral properties implied by the theory. 41 As David C. Kang's research shows, the East Asian system between 1300 and 1900 was an unusually stratified unipolar structure, with an economic and militarily dominant China interacting with a small number of geographically proximate, clearly weaker East Asian states.42 Status politics existed, but actors were channeled by elaborate cultural understandings and interstate practices into clearly recognized ranks. Warfare was exceedingly rare, and the major outbreaks occurred precisely when the theory would predict: when China's capabilities waned, reducing the clarity of the underlying material hierarchy and increasing status dissonance for lesser powers. Much more research is needed, but initial exploration of other arguably unipolar systems-for example, Rome, Assyria, the Amarna system-appears consistent with the hypothesis.43 Status Competition and Causal Mechanisms Both theory and evidence demonstrate convincingly that competition for status is a driver of human behavior, and social identity theory and related literatures suggest the conditions under which it might come to the fore in great power relations. Both the systemic and dyadic findings presented in large-N studies are broadly consistent with the theory, but they are also consistent with power transition and other rationalist theories of hegemonic war.

**Hegemonic strategy inevitable- the only question is efficacy**

**Calleo ‘10**

Calleo, Director – European Studies Program and Professor @ SAIS, ‘10¶ (David P, “American Decline Revisited,” Survival, 52:4, 215 – 227)

The history of **the past two decades suggest**s **that adjusting to a plural world is not easy for the U**nited **S**tates. **As** its economic **strength is increasingly challenged by relative decline, it clings all the more to its peerless military prowess.** As the wars in **Iraq and Afghanistan have shown**, **that** overwhelming military power, evolved over the Cold War, is less and less effective. In many respects, **America's geopolitical imagination seems frozen in the posture of the Cold War. The** lingering **pretension to be the dominant power** everywhere **has encouraged** the United States to hazard **two** unpromising **land wars, plus a diffuse** and interminable **struggle against 'terrorism'.** Paying for these wars and the pretensions behind them confirms the United States in a new version of Cold War finance. Once more, unmanageable fiscal problems poison the currency, an old pathology that firmly reinstates the nation on its path to decline. It was the hegemonic Cold War role, after all, that put the United States so out of balance with the rest of the world economy. **In its hegemonic Cold War position, the U**nited **S**tates **found it necessary to run very large deficits and was able to finance them** simply **by creating and exporting** more and more **dollars**. The consequence is today's restless mass of accumulated global money. Hence, whereas the value of all global financial assets in 1980 was just over 100% of global output, by 2008, even after the worst of the financial implosion, that figure had exploded to just under 300%.25 Much of this is no doubt tied up in the massive but relatively inert holdings of the Chinese and Japanese. But **thanks to today's instantaneous electronic transfers**, **huge sums can be marshalled and deployed on very short notice**. It is **this excess of volatile money** that arguably fuels the world's great recurring bubbles. It can **create the semblance of vast real wealth** for a time, but can also (with little notice) sow chaos in markets, wipe out savings and dry up credit for real investment. What constitutes a morbid overstretch in the American political economy thus ends up as a threat to the world economy in general. To lead itself and the world into a more secure future the United States must put aside its old, unmeasured geopolitical ambitions paid for by unlimited cheap credit. Instead, the United States needs a more balanced view of its role in history. But **America's** post-Soviet **pundits have**, unfortunately, **proved more skilful at perpetuating outmoded dreams of past glory** **than** at **promoting** the more modest visions appropriate to **a plural future**. One can always hope that newer generations of Americans will find it easier to adjust to pluralist reality. The last administration, however, was not very encouraging in this regard. III What about Barack Obama? So far, his economic policy has shown itself probably more intelligent and certainly more articulate than his predecessor's. His thinking is less hobbled by simple-minded doctrines. It accepts government's inescapable role in regulating markets and providing a durable framework for orderly governance and societal fellowship. To be sure, the Obama administration, following in the path of the Bush administration, has carried short-term counter-cyclical stimulation to a previously unimagined level. Perhaps so radical an expansion of credit is unavoidable under present circumstances. The administration is caught between the need to rebalance by scaling back and the fear that restraint applied now will trigger a severe depression. Obama's chief aide, Rahm Emanuel, is famous for observing: 'Rule one: Never allow a crisis to go to waste. They are opportunities to do big things.'26 So far, Obama's administration has made use of its crisis to promote an unprecedented expansion of welfare spending.27 Much of the spending is doubtless good in itself and certainly serves the administration's strong counter-cyclical purposes. But at some point the need to pass from expansion to stabilisation will presumably be inescapable. Budget cuts will have to be found somewhere, and demographic trends suggest that drastic reductions in civilian welfare spending are unlikely. Elementary **prudence might suggest that today's** financial **crisis is an ideal occasion for America's** long-overdue **retreat** from geopolitical overstretch, a time for bringing America's geopolitical pretensions into harmony with its diminishing foreign possibilities and expanding domestic needs. The opportunities for geopolitical saving appear significant. According to the Congressional Budget Office (CBO), current military plans will require an average military budget of $652bn (in 2010 dollars) each year through 2028. The estimate optimistically assumes only 30,000 troops will be engaged abroad after 2013. As the CBO observes, these projections exceed the peak budgets of the Reagan administration's military build-up of the mid-1980s (about $500bn annually in 2010 dollars). This presumes a military budget consuming 3.5% of GDP through 2020.28 Comparable figures for other nations are troubling: 2.28% for the United Kingdom, 2.35% for France, 2.41% for Russia and 1.36% for China.29 Thus, while **the** financial **crisis has** certainly made Americans fear for their economic future, it does **not** yet seem to have **resulted in a more modest view of the country's place in the world,** **or a more prudent approach to military spending.** Instead**, an addiction to hegemonic status continues to blight** the **prospects** for sound fiscal policy. Financing the inevitable deficits inexorably turns the dollar into an imperial instrument that threatens the world with inflation.

### Afghan

**Afghanistan is destabilizing**

**Gartenstein-Ross 12/27**/12

[Daveed Gartenstein-Ross is the vice president of research and Bill Roggio is an adjunct fellow at the Foundation for Defense of Democracies. <http://www.defenddemocracy.org/media-hit/a-dangerous-neighbor-how-pakistans-deterioration-harms-afghanistan/> ETB]

**A critical factor behind Afghanistan's deteriorating state is the turn of events in Pakistan,** where the Taliban and al Qaeda have found a safe haven in recent years. After the October 2001 U.S. invasion of Afghanistan felled the Taliban, **most of al Qaeda's senior leadership relocated to Pakistan**'s federally administered tribal areas, the remote and mountainous regions that border Afghanistan, and set about finding allies within tribal society.¶ Pakistan's military mounted a campaign to flush al Qaeda out of the tribal areas after the group was connected to multiple assassination attempts against Pakistani president Pervez Musharraf, but the military suffered so many losses that Musharraf eventually concluded he had no choice but to deal with his would-be killers. In March and September 2006 he consummated the two halves of the Waziristan accords, peace agreements that essentially ceded Waziristan to the Taliban and al Qaeda. Musharraf also cut deals with Islamic militants in the regions of Swat, Bajaur, and Mohmand. The treaties, punctuated with frequent skirmishes, symbolized Pakistan's inability to confront its extremists.¶ The negotiation process only accelerated after a new parliamentary majority rode to power in February on a wave of anti-American sentiment. While negotiations and peace deals with militants have long been part of Pakistan's political landscape, the scale of negotiations under the new majority was unprecedented. Talks opened with virtually every militant outfit in the country, and the government has entered into seven agreements encompassing nine districts.¶ **It was easy to predict the failure of the Waziristan accords, in which the government received only unenforceable promises from extremists, and there is no reason to believe that the new accords will yield a different result. Rather, they are likely to increase the geographic areas that serve as safe havens for Pakistan's extremist groups-with predictable harm to Afghanistan.**

**Uniquely puts oil supply lines at risk**

**Gartenstein-Ross 12/27**/12

[Daveed Gartenstein-Ross is the vice president of research and Bill Roggio is an adjunct fellow at the Foundation for Defense of Democracies. <http://www.defenddemocracy.org/media-hit/a-dangerous-neighbor-how-pakistans-deterioration-harms-afghanistan/> ETB]

**In an effort to defeat NATO, the Taliban and allied groups are targeting coalition supply lines through Pakistan.** **More than 70 percent of NATO's supplies pass through the Torkham Gate in the Khyber tribal agency. The Taliban runs much of that province**, with Pakistani troops heavily patrolling the road to Afghanistan but little else. Despite this military presence, **the Taliban still periodically disrupts supply lines. In March, Taliban fighters blew up 36 parked oil tankers destined for Afghanistan** in what appeared to be a chain reaction triggered by an initial bomb blast. In July, an armed Taliban squad in Landikotal smashed the windows and punctured the tires of a NATO supply convoy. **The Taliban has distributed leaflets threatening drivers who deliver oil or other supplies to coalition forces.**

**Oil disruptions inevitable- threatens military capabilities**

**Rogers ‘12**

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**There is a lot of uncertainty in the future petroleum market that is stirring anxieties about assured access to energy**. Although technological breakthroughs in hydraulic fracturing (or “fracking”), ultradeep water offshore oil drilling and other techniques are unlocking new petroleum reserves in the western hemisphere to augment Middle East reserves, **demand for energy could** still **outpace supply** by mid-century, largely **as a result of demand from** major **developing economies** like China, Brazil, India and Turkey. As a result, **petroleum supplies could become** increasingly **tight**.¶ **The D**epartment **o**f **D**efense **increasingly faces concerns about assured access to energy resources** necessary to power the military. **Major supply disruptions** stemming from conflict in **the Persian** **Gulf** **that could close** (even if only temporarily) **the Strait of Hormuz, or a natural disaster that takes** **U.S.** domestic petroleum **refineries offline pose major challenges for the** U.S. **military** and its dependence on petroleum. And even though legislation gives the Department of Defense priority access to U.S. domestic petroleum reserves, some policymakers share concerns that a **long-term disruption could exhaust** those **supplies and put at risk the U.S. military’s ability to conduct its missions.**

**SMRs key to solve- makes forward bases in Afghanistan self-sufficient and increase force effectiveness - renewables will fail**

**Andres and Breetz ‘11**

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Operational Vulnerability. **Operational energy use** ¶ **represents a second serious vulnerability for the U.S.** ¶ **military**. In recent years, **the military has become significantly more effective by making greater use of technology in the field. The price of this improvement has been** ¶ **a vast increase in energy use**. Over the last 10 years, for ¶ instance, **the Marine Corps has more than tripled its operational use of energy.** **Energy** and water **now make up** ¶ **70 percent of the logistics burden for troops operating in** ¶ **forward locations in** the wars in **Afghanistan** and Iraq. ¶ **This burden represents a severe vulnerability** and is costing lives. In 2006, troop losses from logistics convoys became so serious that Marine Corps Major General Richard Zilmer sent the Pentagon a “Priority 1” request for ¶ renewable energy backup.¶ 11¶ This unprecedented request ¶ put fuel convoy issues on the national security agenda, ¶ triggering several high-level studies and leading to the ¶ establishment of the Power Surety Task Force, which ¶ fast-tracked energy innovations such as mobile power ¶ stations and super-insulating spray foam. Currently, the ¶ Marine Corps is considering a goal of producing all nonvehicle energy used at forward bases organically and substantially increasing the fuel efficiency of vehicles used in ¶ forward areas.¶ Nevertheless, **attempts to solve** the current energy ¶ use problem **with efficiency** measures **and renewable** ¶ **sources are unlikely to** fully **address this** vulnerability. ¶ Wind, solar, and hydro generation along with tailored ¶ cuts of energy use in the field can reduce the number ¶ of convoys needed to supply troops, but **these measures will quickly reach limits and have** their own **challenges, such as visibility,** open **exposure, and intermittency. Deploying vehicles with greater fuel efficiency will further reduce convoy vulnerability but will not** ¶ **solve the problem.**¶ **A strong consensus has been building within planning circles that small reactors have the potential to** significantly **reduce liquid fuel use and**, consequently, **the** ¶ **need for convoys to supply** power at **forward locations.** ¶ **Just over 30 percent of operational fuel used in Afghanistan today goes to generating electricity. Small reactors** ¶ **could easily generate all electricity needed to run large** ¶ **forward operating bases. This** innovation **would,** for instance, **allow** the Marine Corps to meet its goal of **selfsufficient bases. Mobile reactors also have the potential** ¶ **to make the Corps** significantly **lighter and more mobile** ¶ **by reducing its logistics tail.**

**Supply line vulnerability is a choke point that threatens all US operations in Afghanistan- reducing oil dependence is a key force multiplier that allows for effective counter-insurgency operations**

**Rogers ‘12**

[Will Rogers is the Bacevich Fellow at the Center for a New American Security (CNAS), a nonpartisan national security and defense policy think tank in Washington. At CNAS, Mr. Rogers leads the Natural Security program, which focuses on the national security and foreign policy implications of energy and natural resource consumption, and climate change. <http://www.consumerenergyreport.com/2012/06/07/the-operational-and-strategic-rationale-behind-the-u-s-militarys-energy-efforts/> ETB]

**There are clear operational advantages to reducing the fuel required by military personnel in theater**. In particular, **reducing fuel consumption** also **curbs the demand for petroleum that has to be trucked across dangerous territory where** the fuel and the **soldiers** and contractors **transporting it are vulnerable to** insurgent **attack.**¶According to a 2009 Army Environmental Policy Institute study, for every 24 fuel convoys deployed in Afghanistan, one U.S soldier is wounded or killed. Those casualty counts are even more striking in the aggregate: the most recent estimates from the Department of Defense found that between 2003 and 2007, more **than 3,000 Army personnel and private contractors were wounded or killed by insurgents attacking fuel** and water **convoys in Iraq and Afghanistan.**¶And besides the need to reduce unnecessary causalities, **curbing the amount of fuel that has to be transported into a combat zone can act as a force multiplier, enabling soldiers that would otherwise be guarding convoys to reenter the fight.**¶There are also financial advantages to reducing operational energy requirements that are becoming increasingly relevant in a fiscally constrained budget environment. In general, **reducing total energy consumption can help insulate the D**epartment **o**f **D**efense **from** dramatic **energy price spikes**. The Department of Defense estimates that every $1 increase in a barrel of oil adds approximately $130 million to the military’s energy bill. Moreover, **fuel consumed in combat zones is by its nature more expensive due to the fully burdened cost of fuel** — that is, the total cost from acquiring the fuel from a supplier to delivering it to troops at the tactical edge in countries like Afghanistan. The personnel and transportation costs of delivering fuel by jet, truck or helicopter add to the initial $2 a gallon cost of fuel. Although the fully burdened cost of fuel has been suggested by some to top $400 a gallon, the Marine Energy Assessment Team, or MEAT, offers a more conservative assessment. According to the findings from a 2009 visit to Afghanistan, DOD’s Defense Energy Support Center paid $2.19 per gallon for fuel. When the fuel was delivered to the operational level — a forward operating base — in Afghanistan, the price increased to $6.39 a gallon. The MEAT then estimated that it cost $11.70 per gallon at the tactical edge — for those military units deployed outside the wire, presumably at remote outposts.¶ The uniqueness of each war often makes it difficult for defense planners to develop lessons learned from one conflict and apply them directly to the next one — except when it comes to operational energy. **The experiences of fueling the force** during the wars **in** Iraq and **Afghanistan** **have revealed a critical choke point that the U.S. military can address: the delivery of fuel to troops in combat.** The Department of Defense is leading efforts today **to reduce fuel requirements** and — where possible — plug in renewable energy technologies in lieu of diesel generators and other systems requiring loads of fuel, **enabl**ing **the U.S. military to be more effective war fighters by managing the risks of delivering fuel in conflict**. At the end of the day it is about reducing the amount of petroleum needed to fuel the force.

**Instability spills over to Pakistan- triggers nuclear war**

**Foust ‘9**

[Joshua Foust, associate editor for Current Intelligence, The Case for Afghanistan: Strategic Considerations, 2009, http://www.registan.net/index.php/2009/08/27/the-case-for-afghanistan-strategic-considerations/]

And lest anyone think it is appropriate to write off the India-Pakistan conflict as somebody else’s problem, it is never somebody else’s problem when nuclear weapons are involved. As Jari Lindholm reminded, India and Pakistan have come a hair’s breadth from nuclear conflict twice over Kashmir. And like it or not, it is a compelling and vital American interest **to prevent nuclear conflict in South Asia**—which **makes “fixing” Afghanistan** in some way also a **vital American interest.** Regional security is one of those topics that gets mentioned casually by many pundits but never really articulated. It is by far Ahmed Rashid’s most convincing argument, that supporting stability in Central and South Asia is a compelling interest not just for the U.S., but for the West in general. **When it comes to Pakistan**, the big danger is not in a Taliban takeover, or even in the Taliban seizure of nuclear weapons—I have never believed that the ISI could be that monumentally stupid (though they are incredibly stupid for letting things get this far out of hand). **The big danger,** as it has been since 1999, **is that insurgents, bored or underutilized in Afghanistan, will spark another confrontation between India and Pakistan, and that that confrontation will spillover into nuclear conflict.** That is worth blood and treasure to prevent.

**Afghanistan failure causes great power war**

**Fox 2011** (Robert Fox, international reporter and associate at the Corriere della Sera in Milan, July 12, 2011, “Afghanistan: If we’re not careful, WW3 is imminent,” The Week, http://goo.gl/PlUTV)

**There are growing fears that** a speedy **withdrawal** of western troops **from Afghanistan**, accompanied by a fudged deal to bring the Taliban back into power in some sort of coalition, **could trigger** another dreadful round of **civil war.** And, **given** the **meddling** already undertaken **by** neighbours such as **Pakistan and Iran, this** **civil war could quickly become a regional war. This** in turn **could morph into a contest** of global significance **between India and China and their proxies and allies.** In short, **welcome to the Third World War** in the 21st century. There is a list of concerns which suggest this might happen. First there is the endemic corruption in Kabul under President Karzai. This is about to be highlighted by the IMF's attempt to sort out the crash of the Kabul Bank, with a loss of some $700 million. The problem is not just the Kabul bank, but banks in general across Afghanistan, which the kleptocrats of Kabul seem to regard as their personal piggy banks. Then there is Karzai himself, who seems to be trying to bend or break the constitution so he can run for a third term in two years' time – banned under the present rules. The armed services and police are also a concern. Though recruiting and training have made huge strides, with more than 250,000 under arms now, there are worries about the continuing imbalance between the different ethnic groups, with the Tajiks and Hazara over-represented, and the recruiting of southern Pashtuns still limping. **The danger is that the** Afghan **army will split on ethnic lines when Afghanistan gains** full **control of its security in 2015.** In a civil war, the southern Pashtuns would turn to the Pakistan army and ISI intelligence service, who are more deeply involved in backing Islamist militants than previously thought, according to some devastating reports for the New York Times by Carlotta Gall.

### China

#### Global SMR development’s inevitable – only a question of whether the US leads

Hiruo 10  
(Elaine, Managing Editor of Platts, "SMR technology gives US chance at market leadership, vendors say," 9-2-10, Lexis)

**The US** **nuclear industry lost its leadership** position **in the global market for large reactors and now has the opportunity to secure that role for s**mall **m**odular **r**eactor**s,** some SMR vendors told a subcommittee of the Blue Ribbon Commission on America's Nuclear Future August 30.¶ But they stressed their **companies will need the federal government's help to beat foreign competitors to the market.**¶ **"We're at a unique crossroads right now**," Christofer Mowry, president of Babcock and Wilcox Nuclear Energy, told the reactor and fuel cycle technology subcommittee during its two-day meeting in Washington. B&W is one of several US companies — including Hyperion Power Generation, NuScale and Westinghouse — developing an SMR design.¶ "Other countries want a technology that has been built in the host country first," Paul Lorenzini, CEO of NuScale, told the panel. "**There are lots of** small reactor **designs out there,**" he said. Both the Koreans and Japanese have SMR programs, according to industry executives on the speakers panel. **The question is**, Mowry said, **who enters the** global **market first with a reactor already operating on its home turf.**

#### Delaying commercialization allows China to solidify their lead

Wheeler 12  
(Brian, editor of Power Engineering magazine, "Developing Small Modular Reactor Designs in the U.S," 4-1-12, <http://www.power-eng.com/articles/npi/print/volume-5/issue-2/nucleus/developing-small-modular-reactor-designs-in-the-us.html>)

The development of small modular reactors in the U.S. continues to gain support as the country searches for clean energy options. Although concepts are still being designed, **the U.S. D**epartment **o**f **E**nergy **gave the sector a boost** in March **when it released** **a** Funding Opportunity Announcement to establish **cost-shared agreements** **to support the design and licensing of SMRs.** A total of $450 million will be made available to support two SMRs over five years.¶ "America's choice is clear," said Energy Secretary Steven Chu. "We can either develop the next generation of clean energy technologies, which will help create thousands of jobs and export opportunities here in America, or we can wait for other countries to take the lead."¶ The Energy Department said SMRs are about one-third the size of current nuclear power plants and are designed to offer a host of safety, siting, construction and economic benefits. The size, according to DOE, makes SMRs ideal for small electric grids and locations that cannot support large reactors. Also, the reduced cost due to factory production may make the SMR more attractive to utilities seeking to add a smaller amount of power.¶ "We really see a market right now that includes utilities that don't have a large financial base and that are interested in clean, sustainable power. They are looking at the SMR as an investment of a billion dollars versus several billion dollars for large nuclear," said John Goossen, vice president of Innovation and SMR Development at Westinghouse. "These utilities, in most cases, do not need large chunks of power and are looking to add power incrementally as part of their plans for growth." In February, the Electric Power Research Institute and the Oak Ridge National Laboratory released a study that stated the U.S. has the potential to generate 201 GW from SMRs. For their study, a small modular reactor was labeled as 350 MWe or less. The DOE defines an SMR as 300 MWe or less. The study stated that "350 MWe was considered a reasonable bounding estimate of an initial SMR installation."¶ **The U.S. is leading the world in the amount of SMR designs, but China could be the first country to have a SMR design operational.** Launched in 2011, **a** 200 MWe HTR-PM **reactor is under construction with the support of China Huaneng Group, China Nuclear Engineering and Construction, and Tsinghua University's INET,** according to the World Nuclear Association.¶ "**The U.S. needs to move faster if we are going to compete with the** South Koreans, the **Chinese** and the Russians," said Bob Prince, vice chairman and CEO, Gen4 Energy.

#### SMR commercialization recovers leadership lost to china

Rosner and Goldberg 11

(Robert Rosner, astrophysicist and founding director of the Energy Policy Institute at Chicago. He was the director of Argonne National Laboratory from 2005 to 2009, Stephen Goldberg, Special Assistant to the Director, Argonne National Laboratory ¶ Senior Fellow, Energy Policy Institute at Chicago¶ Research Coordinator, Global Nuclear Future Initiative ¶ American Academy of Arts and Sciences, “Small Modular Reactors – Key to Future Nuclear Power ¶ Generation in the U.S.” Energy Policy Institute at Chicago, <http://csis.org/files/attachments/111129_SMR_White_Paper.pdf>, SEH)

As stated earlier, SMRs have the potential to achieve significant greenhouse gas emission¶ reductions. They could provide alternative baseload power generation to facilitate the retirement¶ of older, smaller, and less efficient coal generation plants that would, otherwise, not be good¶ candidates for retrofitting carbon capture and storage technology. They could be deployed in¶ regions of the U.S. and the world that have less potential for other forms of carbon-free¶ electricity, such as solar or wind energy. There may be technical or market constraints, such as¶ projected electricity demand growth and transmission capacity, which would support SMR¶ deployment but not GW-scale LWRs. From the on-shore manufacturing perspective, a key point¶ is that the manufacturing base needed for SMRs can be developed domestically. Thus, while the¶ large commercial LWR industry is seeking to transplant portions of its supply chain from current¶ foreign sources to the U.S., **the SMR industry offers the potential to establish a large domestic¶ manufacturing base building upon already existing U.S. manufacturing infrastructure and¶ capability,** **including the Naval shipbuilding and underutilized domestic nuclear component and¶ equipment plants**. The study team learned that a number of sustainable domestic jobs could be¶ created – that is, the full panoply of design, manufacturing, supplier, and construction activities –¶ if the U.S. can establish itself as a credible and substantial designer and manufacturer of SMRs.¶ While many SMR technologies are being studied around the world, a **strong U.S.¶ commercialization** program **can enable U.S. industry to be first to market SMRs,** thereby **serving¶ as a fulcrum for** export growth as well as a lever in **influencing international decisions on¶ deploying both** nuclear **reactor and** nuclear **fuel cycle tech**nology. **A** viable **U.S.-centric SMR¶ industry would** enablethe U.S. to **recapture** technological **leadership in** commercial **nuclear¶ tech**nology, **which has been lost to** suppliers in France, Japan, Korea, Russia, and, now rapidly¶ emerging, **China**.

**Ceding nuclear leadership to China leads to unchecked Chinese hege in Asia – kills US regional leadership**

**Cullinane ‘11**

[Scott Cullinane is a graduate student at the Institute of World Politics in Washington, D.C <http://www.ensec.org/index.php?option=com_content&view=article&id=319:america-falling-behind-the-strategic-dimensions-of-chinese-commercial-nuclear-energy&catid=118:content&Itemid=376> ETB]

Due to a confluence of events the United States has recently focused more attention on nuclear weapons policy than it has in previous years; however, the proliferation of commercial nuclear technology and its implications for America’s strategic position have been largely ignored. While the Unites States is currently a participant in the international commercial nuclear energy trade, **America’s** own **domestic construction of nuclear power plants has atrophied severely and the US risks losing its competitive edge in** the **nuclear energy** arena.¶ Simultaneously, the People’s Republic of **China** (PRC) **has made great strides in closing the nuclear** energy **development gap with America**. **Through a combination of importing technology, research from within China itself, and a disciplined policy approach the PRC is increasingly able to leverage the export of commercial nuclear power as part of its national strategy**. **Disturbingly, China does not share America’s commitment to stability, transparency, and responsibility when exporting nuclear technology**. This is a growing strategic weakness and risk for the United States**. To remain competitive and to be in a position to offset the PRC when required the American government should encourage** the **domestic** use of **nuclear power and spur** the forces of **tech**nological **innovation**.¶ History has recorded well American wartime nuclear developments which culminated in the July 1945 Trinity Test, but what happened near Arco, Idaho six years later has been overlooked. In 1951, scientists for the first time produced usable electricity from an experimental nuclear reactor. Once this barrier was conquered the atom was harnessed to generate electricity and permitted America to move into the field of commercial nuclear power. In the next five years alone the United States signed over 20 nuclear cooperation agreements with various countries. Not only did the US build dozens of power plants domestically during the 1960s and 1970s, the US Export-Import Bank also distributed $7.1 billion dollars in loans and guarantees for the international sale of 49 reactors. American built and designed reactors were exported around the world during those years. Even today, more than 60% of the world’s 440 operating reactors are based on technology developed in the United States. The growth of the US civilian nuclear power sector stagnated after the Three Mile Island incident in 1979 – the most serious accident in American civilian nuclear power history. Three Mile Island shook America’s confidence in nuclear power and provided the anti-nuclear lobby ample fuel to oppose the further construction of any nuclear power plants. In the following decade, 42 planned domestic nuclear power plants were cancelled, and in the 30 years since the Three Mile Island incident the American nuclear power industry has survived only through foreign sales and merging operations with companies in Asia and Europe. Westinghouse sold its nuclear division to Toshiba and General Electric joined with Hitachi. Even the highest levels of the American government came to cast nuclear power aside. President Bill Clinton bragged in his 1993 State of the Union Address that “we are eliminating programs that are no longer needed, such as nuclear power research and development.” ¶ **America’s slow pace of reactor construction over the past three decades has stymied innovation and caused the nuclear sector and its industrial base to shrivel**. While some aspects of America’s nuclear infrastructure still operate effectively, **many critical areas have atrophied.** For example, one capability that America has entirely lost is the means to cast ultra heavy forgings in the range of 350,000 – 600,000 pounds, which impacts the construction of containment vessels, turbine rotors, and steam generators. In contrast, Japan, China, and Russia all possess an ultra heavy forging capacity and South Korea and India plan to build forges in this range. Likewise, the dominance America enjoyed in uranium enrichment until the 1970s is gone. The current standard centrifuge method for uranium enrichment was not invented in America and today 40% of the enriched uranium US power plants use is processed overseas and imported. Another measure of how much the US nuclear industry has shrunk is evident in the number of companies certified to handle nuclear material. In the 1980s the United States had 400 nuclear suppliers and 900 holders of N-stamp certificates (N-stamps are the international nuclear rating certificates issued by the American Society of Mechanical Engineers). By 2008 that number had reduced itself to 80 suppliers and 200 N-stamp holders. A recent Government Accountability Office report, which examined data from between 1994 and 2009, found the US to have a declining share of the global commercial nuclear trade. However, during that same period over 60 reactors were built worldwide. Nuclear power plants are being built in the world increasingly by non-American companies.¶ The American nuclear industry entered the 1960s in a strong position, yet over the past 30 years other countries have closed the development gap with America. **The implications of this change go beyond economics or prestige to include national security. These changes would be less threatening if friendly allies were the ones moving forward with developing a nuclear export industry; however, the quick advancement of the PRC in nuclear energy changes the strategic calculus for America.**¶ The shifting strategic landscape¶ **While America’s nuclear industry has languished, current changes in the world’s strategic layout no longer allow America the option of maintaining the status quo without being surpassed.** The drive for research, development, and scientific progress that grew out of the Cold War propelled America forward, but those priorities have long since been downgraded by the US government. **The economic development of formerly impoverished countries means that the US cannot assume continued dominance by default**. **The rapidly industrializing PRC is seeking its own place among the major powers of the world and is vying for hegemony in Asia; nuclear power is an example of their larger efforts to marshal their scientific and economic forces as instruments of national power.**¶ The rise of China is a phrase that connotes images of a backwards country getting rich off of exporting cheap goods at great social and environmental costs. Yet, this understanding of the PRC has lead many in the United States to underestimate China’s capabilities. The Communist Party of China (**CPC) has undertaken a comprehensive long-term strategy to transition from a weak state that lags behind the West to a country that is a peer-competitor to the United States. Nuclear technology provides a clear example of this.** ¶ In 1978, General Secretary Deng Xiaoping began to move China out of the destructive Mao era with his policies of 'reform and opening.' As part of these changes during the 1980s, the CPC began a concerted and ongoing effort to modernize the PRC and acquire advanced technology including nuclear technology from abroad. This effort was named Program 863 and included both legal methods and espionage. By doing this, the PRC has managed to rapidly catch up to the West on some fronts. In order to eventually surpass the West in scientific development the PRC launched the follow-on Program 973 to build the foundations of basic scientific research within China to meet the nation’s major strategic needs. These steps have brought China to the cusp of the next stage of technological development, a stage known as “indigenous innovation.”¶ ¶ In 2006 the PRC published their science and technology plan out to 2020 and defined indigenous innovation as enhancing original innovation, integrated innovation, and re-innovation based on assimilation and absorption of imported technology in order improve national innovation capability. The Chinese seek to internalize and understand technological developments from around the world so that they can copy the equipment and use it as a point to build off in their own research. This is a step beyond merely copying and reverse engineering a piece of technology. The PRC sees this process of absorbing foreign technology coupled with indigenous innovation as a way of leapfrogging forward in development to gain the upper hand over the West. **The PRC’s official statement on energy policy lists nuclear power as one of their target fields. When viewed within this context, the full range of implications from China’s development of nuclear technology becomes evident**. **The PRC is** now **competing with the U**nited **St**ates **in the areas of innovation and high-technology, two fields that have driven American power since World War Two**. **China’s economic appeal** is no longer merely the fact that it has cheap labor, but **is expanding its economic power in a purposeful way that directly challenges America’s position in the world**.¶ ¶ **The CPC uses the market to their advantage to attract nuclear technology and intellectual capital to China**. The PRC has incentivized the process and encouraged new domestic nuclear power plant construction with the goal of having 20 nuclear power plants operational by 2020. The Chinese Ministry of Electrical Power has described PRC policy to reach this goal as encouraging joint investment between State Owned Corporations and foreign companies. 13 reactors are already operating in China, 25 more are under construction and even more reactors are in the planning stages. ¶ In line with this economic policy, China has bought nuclear reactors from Westinghouse and Areva and is cooperating with a Russian company to build nuclear power plants in Taiwan. By stipulating that Chinese companies and personnel be involved in the construction process, China is building up its own domestic capabilities and expects to become self-sufficient. **China’s** State Nuclear Power Technology Corporation has **partnered with Westinghouse to build a new and larger reactor** based on the existing Westinghouse AP 1000 reactor. **This will give the PRC a reactor design of its own to then export**. **If the CPC is able to combine their control over raw materials, growing technical know-how, and manufacturing base, China will not only be a powerful economy, but be able to leverage this power to service its foreign policy goals as well.**¶ Even though the PRC is still working to master third generation technology, their scientists are already working on what they think will be the nuclear reactor of the future. China is developing Fourth Generation Fast Neutron Reactors and wants to have one operational by 2030. Additionally, a Chinese nuclear development company has announced its intentions to build the “world’s first high-temperature, gas-cooled reactor” in Shandong province which offers to possibility of a reactor that is nearly meltdown proof. A design, which if proved successful, could potentially redefine the commercial nuclear energy trade.¶ The risk to America¶ **The international trade of nuclear material is hazardous in that every sale and transfer increases the chances for an accident or for willful misuse of the material. Nuclear commerce must be kept safe in order for the benefits of nuclear power generation to be realized. Yet, China has a record of sharing dangerous weapons and nuclear material with unfit countries**. **It is a risk for America to allow China to become a nuclear exporting country with a competitive technical and scientific edge. In order to limit Chinese influence and the relative attractiveness of what they can offer, America must ensure its continuing and substantive lead in reactor technology.**¶ ¶ The PRC’s record of exporting risky items is well documented. It is known that during the 1980s **the Chinese shared nuclear weapon designs with Pakistan and continues to proliferate WMD-related material.** According to the Office of the Director of National Intelligence to Congress, **China sells technologies and components in the Middle East and South Asia that are dual use and could support WMD and missile programs.** Jane’s Intelligence Review reported in 2006 that China,¶ Despite a 1997 promise to Washington to halt its nuclear technology sales to Iran, such assistance is likely to continue. In 2005, Iranian resistance groups accused China of selling Iran beryllium, which is useful for making nuclear triggers and maraging steel (twice as hard as stainless steel), which is critical for fabricating centrifuges needed to reprocess uranium into bomb-grade material. ¶ **China sells dangerous materials in order to secure its geopolitical objectives, regardless if those actions harm world stability. There is little reason to believe China will treat the sale of nuclear reactors any differently. Even if the PRC provides public assurances that it will behave differently in the future, the CPC has not been truthful for decades about its nuclear material and weapons sales and hence lacks credibility**. For example, in 1983 Chinese Vice Premier Li Peng said that China does not encourage or support nuclear proliferation. In fact, it was that same year that China contracted with Algeria, then a non-NPT [Non-Proliferation Treaty] state, to construct a large, unsafeguarded plutonium production reactor. In 1991 a Chinese Embassy official wrote in a letter to the The Washington Post that 'China has struck no nuclear deal with Iran.' In reality, China had provided Iran with a research reactor capable of producing plutonium and a calutron, a technology that can be used to enrich uranium to weapons-grade. It has been reported that even after United Nation sanctions were put on Iran, Chinese companies were discovered selling “high-quality carbon fiber” and “pressure gauges” to Iran for use in improving their centrifuges.¶ In 2004 the PRC joined the Nuclear Suppliers Groups (NSG), gaining international recognition of their growing power in the nuclear field. In spite of this opportunity for China to demonstrate its responsibility with nuclear energy, it has not fulfilled it NSG obligations. The PRC has kept the terms of its nuclear reactor sale to Pakistan secret and used a questionable legal technicality to justify forgoing obtaining a NSG waiver for the deal. Additionally, China chose to forgo incorporating new safety measures into the reactors in order to avoid possible complications.¶ A further consequence of China exporting reactors is that these countries may wish to control the fuel cycle which provides the uranium to power their new reactors. The spread of fuel cycle technology comes with two risks: enrichment and reprocessing. Uranium can be enriched to between 3% and 5% for reactor use, but the process can be modified to produce 90% enriched uranium which is weapons-grade. Even if a country only produces low enriched uranium they could easily begin enriching at a higher level if they so choose**. Every new country that nuclear technology or information is spread to exponentially increases the risk of material being stolen, given to a third party or being used as the launching point for a weapons program**. **China’s history of proliferation and willingness to engage economically with very unsavory governments seems likely to increase the risks involving nuclear material.**

#### China will risk open conflict by asserting hegemony in the South China Sea- US leadership key to solve

Hung December ‘12

[Nguyen Manh Hung is associate professor of government and international politics, and faculty associate of the Center of Global Studies, George Mason University. <http://www.globalasia.org/V7N4_Winter_2012/Nguyen_Manh_Hung.html> ETB]¶

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| By 2009-2010, the heightened tension between China and the ASEAN claimants over the contested islands led to an internationalization of the conflict, with the US and other powers beginning to express a view on the disputes. That’s understandable, given that the South China Sea is the world’s second-busiest sea-lane, with more than half of the world’s super tankers and $5.3 trillion in annual trade passing through the area (US trade alone accounts for $1.2 trillion of that figure). The concern over China’s claims and assertive behavior, coupled with China’s lack of transparency in its military modernization program, have created an arms race in Southeast Asia and elicited strong reactions from major powers worried about the situation. India and Japan, for their part, are also concerned over freedom of navigation. Both countries have advocated peaceful resolution of the disputes, but have also increased their diplomatic, economic and naval presence in the area. The US, meanwhile, is in the midst of a policy pivot to the Asia-Pacific, committing 60 percent of its naval assets to the Pacific Ocean, and taking actions to strengthen and modernize “historic alliances” with Japan, South Korea, Australia, the Philippines and Thailand, as well as building “robust partnerships” throughout the region.4 Russia has also begun to voice its concern over the issue of freedom of navigation and “outside meddling” in the South China Sea. In May 2009, as the deadline for claims based on the United Nations Convention on the Law of the Sea (UNCLOS) approached, China was forced to put its cards on the table and Beijing officially presented its nine-dashed-line map, claiming control over 80 percent of the South China Sea and encroaching on territories claimed by other Southeast Asian countries. Almost immediately, the US Senate held a hearing on the South China Sea and in June unanimously passed a resolution “deploring China’s use of force in the South China Sea and supporting the continuation of operations by US armed forces in support of freedom of navigation rights in international water and air space in the South China Sea.” In June 2010, at the Shangri-La Dialogue in Singapore, heated exchanges over the South China Sea took place between China and the US, joined by other ASEAN countries. A month earlier, at the Strategic and Economic Dialogue between the US and China in Beijing, Chinese officials, in a move viewed as raising the stakes in the conflict, declared the country’s claims in the South China Sea to be a “core interest.”5 Influential elites in China view the South China Sea as “blue territory” — that is, as much a part of China’s sovereign territory as Tibet, Xinjiang or Taiwan.6 The US response came in the form of a speech by US Secretary of State Hillary Clinton at the ASEAN Regional Forum (ARF) in Hanoi in July, in which she made it clear that “The United States has a national interest in freedom of navigation, open access to Asia’s maritime commons and respect for international law in the South China Sea.” Significantly, American and Chinese understandings of “freedom of navigation” differ. The US believes it includes the right to conduct military exercises and collect intelligence and militarily useful data, while China wants foreign naval ships and aircraft to seek China’s permission before entering its “internal waters” in the South China Sea.7 Since conflicts of national interests between major world powers can easily lead to friction and war, the escalating tensions between China and the US over these maritime disputes should be a serious cause for concern. The Systemic Conflict From a systemic perspective, the US-China conflict over the South China Sea may be seen as conflict between a rising power and a status quo power. For decades the US, through its Seventh Fleet and its Pacific Command, was the undisputed naval power in the Pacific. The American defeat in Vietnam in the 1970s and its later involvement in the wars in Afghanistan and Iraq have changed the situation. While the US reduced its military presence in Asia and got bogged down in two costly and draining wars, China’s economy was growing and its military modernization program was gaining momentum; Beijing, as a result, has become a dominant regional power economically, politically and militarily. Chinese leaders departed from Deng Xiaoping’s famous dictum to “hide your intention, bide for time,” and began to flex China’s muscles, particularly over the South China Sea. China’s assertion of its “historical right” to claim the sea is weak and doesn’t conform to either UNCLOS or customary international law. What China has been doing represents nothing less than an attempt to rewrite international law and impose its will on the region, shape global political realities and influence the “rules of the road” for the international order.8 The US, in both words and deeds, has signaled that it does not accept this. It has strengthened its military presence in Asia, revitalized its strategic relations with old allies and helped improve the defense capabilities of small countries in the region. In July 2012, when China created a prefectural-level city at Sansha, a small island in the South China Sea, and established a military garrison there to “exercise sovereignty over all land features inside the South China Sea,” the US State Department reacted by publicly denouncing China’s action as “counter to collaborative diplomatic efforts to resolve differences and risks further escalating tensions in the region,” while Congressman Howard Berman, a leading member of the House Committee on Foreign Relations, confirmed that the administration of US President Barack Obama had “repeatedly made clear to Beijing that the US will not allow China to assert hegemony over the region.”9 Conflicts of interests between rising powers and status quo powers have in the past accelerated arms races and led to war. The key questions are, can such a collision course be altered, and can the core conflicts between the two powers be resolved? **Possible End Games** There are a number of possible scenarios for resolving the South China Sea disputes. The first is that China moderates its excessive claims and strikes a deal with other coastal nations, with third-party arbitration or adjudication if necessary, based on recognized international law on territorial seas, exclusive economic zones and continental shelves. Before adopting its nine-dashed line, China had drawn an eleven-dashed line map, two lines of which were in the Gulf of Tonkin.10 This, however, did not prevent China and Vietnam from achieving an agreement on the demarcation of sea borders in that gulf. Moreover, Chinese officials have repeatedly denied that China has officially declared the South China Sea its “core interest,” leaving open the possibility of coming to an understanding regarding conflicting claims. Some Chinese scholars and experts working in government think tanks have privately acknowledged “the problematic nature of China’s policy in the South China Sea,” particularly with regard to “the status of the nine-dotted line.” These analysts and strategic thinkers have expressed concern that the tense situation in the South China Sea could sidetrack China’s “course of reform.”11 This leaves the door open for discussion and provides the space in which China might entertain possible concessions that would avoid embroiling China and its Southeast Asian neighbors in a long argument over China’s excessive claims. The second scenario is one in which China, taking advantage of the differential in power between it and other rival claimants, relies on a combination of unilateral actions, brinkmanship, piecemeal advances and divide-and-conquer tactics to gradually and steadily establish actual control of the sea area within the nine-dashed line. The standoff between China and the Philippines at Scarborough Shoal was a perfect example of how this possible scenario might unfold. The Scarborough Shoal standoff began in May 2012 when a Philippine Navy frigate was sent to investigate the area and boarded Chinese fishing boats in an area it claimed belonged to the Philippines’ EEZ. China responded by sending two unarmed China Maritime Surveillance vessels to interpose themselves between the frigate and the fishing boats and let them escape. Both sides sent in reinforcements. At the height of the standoff, there were a handful of Philippine boats facing almost 100 Chinese vessels. Faced with the overwhelming number of Chinese ships and without international support, the Philippine had to cut a deal in which both sides withdrew their ships. But after all the Philippine boats had withdrawn, China roped off the entrance to the shoal, effectively establishing its de facto control over the contested area. With that fait accompli, a new status quo in favor of China was established. This tactic of resorting to low-grade pressure to create a series of new “facts” may lead to what Toshi Yoshihara termed “strategic fatigue,” which could, in the long run, weaken resistance by rival claimants and lead to a grudging acceptance by the US of China’s claims.12 With this achieved, China would have effective control of navigation in the South China Sea and could dictate the use of that important sea-lane of communication. This approach is being resisted by ASEAN claimants and by other major powers that share the Pacific Ocean. Its success or failure will depend on two things: 1) whether China succeeds in its “divide-and-conquer” approach to ASEAN; and 2) whether ASEAN can summon the determination and capacity to act with a united front to resist China’s pressure and involve other major powers, especially the US. China’s current aggressive approach has caused friction and tension and, if unrestrained, may lead to military conflicts.13 In the long run, it will push many Asian countries closer to the US and may lead to a new kind of Cold War and containment, pitting a bloc of countries supporting the American vision of an Asian regional order against a group supporting the Chinese vision of an Asian regional order. This scenario is a nightmare for Southeast Asian countries that have worked so hard to strengthen ASEAN solidarity and promote the concept of ASEAN centrality, in order to avoid being caught up in the rivalry between the US and China. The third scenario is that China reaches an accommodation with the US, based on American recognition of China as an undisputed leader in the South China Sea, and a peaceful transition of leadership in the Asia-Pacific area from the US to China occurs. If this were to happen, it would unsettle all other Asian nations, big and small, but once the US began the accommodation process, other countries would simply have to fall in line. This process, however, would be dangerous globally and regionally. There is no guarantee, however, that if China were to dominate Asia, she would stop there. In response to the reality of a spectacularly rising China and an America burdened with economic problems and a dysfunctional government, scholars such as Adam Quinn have focused on the beginning of a power transition from the US, a declining power, to China, a rising power.14 Chinese strategic thinkers have not missed the possibility that the current contest over the South China Sea may represent the first steps toward this transition. Ding Gang, a senior editor at the Communist Party’s People’s Daily, commented: “It’s still unknown if the US plans to input equally massive manpower and financial resources as China has injected into this region. It’s very likely that the US lacks the motivation to do this in the long run. And China may become the strongest economic, political and military power in Asia.”15 The problem with this scenario is that it neglects the extent to which the two key players involved in this transition — China and the US — are regimes that represent incompatible visions of the future of the region and the world. A peaceful transition of power took place from the British Empire to the American Empire, largely because it was a case of one democracy replacing another, trading roles as the sentinels of shared regional interests. The British were willing to relinquish their dominance and were assured that, with another democracy taking the helm, its security and wellbeing were not threatened. But the clash between undemocratic revisionist powers (Germany, Italy and Japan) and democratic powers in the 1930s led to the Second World War. Regionally, this scenario would be most undesirable for smaller ASEAN countries and is unlikely to occur so long as the US has the capacity and the determination to maintain its supremacy in the Asia-Pacific region, a determination that has been strongly restated by US leaders, from the president to the secretaries of defense and state as well as by leading members of Congress.16 Aaron Friedberg points out that the ideological gap between China and the US is too great and the level of trust too low to facilitate an accommodation. He makes the case that China’s ultimate goal of regional hegemony would run counter to the US “grand strategy, which has remained constant for decades: to prevent the domination of either end of the Eurasian landmass by one or more potentially hostile powers.”17 |

**Territorial disputes snowball - causes nuclear conflict**

**Chakraborty 10**

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The first ASEAN Defence Ministers Meeting Plus Eight (China, India, Japan, South Korea, Australia, New Zealand, Russia and the USA) was held on the 12th of October. When this frame work of ADMM Plus Eight came into news for the first time it was seen as a development which could be the initiating step to a much needed security architecture in the Asia Pacific. Asia Pacific is fast emerging as the economic center of the world, consequently securing of vulnerable economic assets has becomes mandatory. The source of threat to economic assets is basically unconventional in nature like natural disasters, terrorism and maritime piracy. This coupled with the conventional security threats and **flashpoints** **based on territorial disputes** and political differences **are** very much a part of the region posing **a major security challenge.¶** As mentioned ADMM Plus Eight can be seen as the first initiative on such a large scale where the security concerns of the region can be discussed and areas of cooperation can be explored to keep the threats at bay. The defence ministers of the ten ASEAN nations and the eight extra regional countries (Plus Eight) during the meeting have committed to cooperation and dialogue to counter insecurity in the region. One of the major reasons for initiation of such a framework has been the new face of threat which is non-conventional and transnational which makes it very difficult for an actor to deal with it in isolation. Threats related to violent extremism, maritime security, vulnerability of SLOCs, transnational crimes have a direct and indirect bearing on the path of economic growth. Apart from this the existence of **territorial** **disputes** especially **on the maritime** **front** **plus** **the** issues related to political differences, **rise of China** and dispute on the Korean Peninsula **has aggravated the security dilemma** in the region **giving rise to** areas of **potential** **conflict**. This can be seen as a more of a conventional threat to the region.¶ The question here is that how far this ADMM Plus Eight can go to address the conventional security threats or is it an initiative which would be confined to meetings and passing resolution and playing second fiddle to the ASEAN summit. It is very important to realize that when one is talking about effective security architecture for the Asia Pacific one has to talk in terms of addressing the conventional issues like the **territorial** and political **disputes**. These issues **serve as bigger flashpoint which can snowball into** a major conflict which has the possibility of turning into a **nuclear conflict.**

#### India gets drawn in to SCS disputes- causes Sino-Indian conflict

Reuters 12/3

<http://www.cnbc.com/id/100272629> ETB

India has declared itself ready to deploy naval vessels to the South China Sea to protect its oil-exploration interests there, a potential new escalation of tensions in a disputed area where fears of armed conflict have been growing steadily.¶ India's naval chief made the statement on Monday just as Vietnam's state oil and gas company, Petrovietnam, accused Chinese boats of sabotaging an exploration operation by cutting a seismic cable being towed behind a Vietnamese vessel.¶ Petrovietnam said the seismic vessel, Binh Minh 02, had been operating outside the Gulf of Tonkin when the cable was severed on Friday. It had earlier been surveying the Nam Con Son basin further south - an area where Indian state-run explorer Oil and Natural Gas Corp (ONGC) has a stake in a Vietnamese gas field.¶ Indian Navy Chief Admiral D.K Joshi said that, while India was not a territorial claimant in the South China Sea, it was prepared to act, if necessary, to protect its maritime and economic interests in the region.¶ "When the requirement is there, for example, in situations where our country's interests are involved, for example ONGC ... we will be required to go there and we are prepared for that," Joshi told a news conference.¶ "Now, are we preparing for it? Are we having exercises of that nature? The short answer is yes," he said.¶ Petrovietnam posted on its website comments made by the deputy head of exploration, Pham Viet Dung, to a journalist from Vietnam's Petrotimes that the seismic cable was quickly repaired and the survey resumed the following day.¶ "The blatant violation of Vietnamese waters by Chinese fishing vessels not only violates the sovereignty ... of Vietnam but also interferes in the normal operations of Vietnamese fishermen and affects the maritime activities of Petrovietnam," Dung was quoted as saying.¶ Tensions have simmered in the South China Sea for many years but have escalated this year as an increasingly powerful China, which sees virtually the entire sea as its territory, begins to assert its long-standing offshore claims more vigorously.¶ Parts of the South China Sea are also claimed by the Philippines, Vietnam, Brunei, Malaysia and Taiwan. The region, Asia's biggest potential military troublespot, is believed to be rich in oil and gas - and more than half the world's oil-tanker traffic passes through it.¶ Last week, Chinese state media said police in southern Hainan province would board and search ships which illegally entered what China considers its territory in the sea - a move that immediately raised fears for the free passage of international shipping and the possibility of a naval clash.¶ Collision Course?¶ India is not the only non-claimant nation concerned about disruption to shipping or oil exploration in the South China Sea. The United States, a close ally to several of the Southeast Asian claimants, has also voiced concern at the prospect of China stopping international ships in contested waters.¶ India has sparred diplomatically with China in the past over its gas and oil exploration block off the coast of Vietnam.¶ Any display of naval assertiveness by India in the South China Sea would likely fuel concern that the navies of the two rapidly growing Asian giants could be on a collision course as they seek to protect trade routes and lock in the supply of coal, minerals and other raw material from foreign sources.

**Sino-Indian military disputes spiral and go nuclear**

**Caryl ‘10**

(CHRISTIAN CARYL “Nuclear arms race between China and India” JULY 13, 2010http://www.defence.pk/forums/indian-defence/65480-nuclear-arms-race-between-china-india.html, TSW)

Europeans and Americans, who have dominated world affairs for so long, are understandably fascinated by the recent rise of China and India. **It's obvious that the rapid economic resurgence of these two great Asian powers fundamentally alters the global rules of the game**.¶ China and India have built up a $60-billion-per-year trading relationship, and for years they've insisted that they want to work more closely on a variety of fronts. **Yet** **that expressed desire for collaboration co-exists uneasily with a long-running strategic rivalry**. **Parts of their mutual border remain in dispute. China has long supported Pakistan, India's main enemy**, **while the Indians have often befriended competitors of the Chinese** (**be it Moscow or Washington**). Lately Beijing has been cultivating relationships among countries in Southeast Asia and the Indian Ocean -- including Bangladesh, Myanmar, and Sri Lanka -- to protect the flow of commerce and access to supplies of natural resources. That has the Indians fearing encirclement. ¶ Lately, though, another **element is threatening to complicate the strategic calculus: the nuclear factor.** In themselves, of course, nuclear weapons are nothing new to either country. China has been a nuclear power for decades, while India conducted its first nuclear test in 1974 (though most outsiders tend to think of 1998, when New Delhi conducted a series of underground explosions designed to establish its bona fides as a genuine nuclear power). **Although both countries have sworn off first use, both have built up formidable deterrents designed to retaliate against any attackers.**¶ So what's new? A lot. **Concurrent with their rising economic might, China and India have set about modernizing their militaries to lend extra muscle to their growing strategic ambitions** -- and **given their complicated history, that can't help but spark worries**. "**China has the most active and diverse ballistic missile development program in the world**," noted one U.S. report. "**China's ballistic missile force is expanding in both size and types of missiles**." China's Dongfeng long-range missiles boast independently controlled multiple warheads, mobility, and solid fuel (meaning that they can be fired with little notice). That's just one of many areas in which the Chinese have demonstrated their advanced technological capabilities. In January China shot down one of its own satellites with a missile -- once again demonstrating, as it did with a previous test in 2007, that it's well down the path toward a ballistic missile defense system.¶ **That test unnerved the Indians, who saw the prospect of Chinese space weapons as a potential threat to the credibility of their own nuclear deterrent**. The **Indians**, meanwhile, **have been hard at work on a new generation of long-range missiles of their own.** The Agni-5, which is set for a test flight by the end of this year, has a projected range of 5,000 to 6,000 kilometers -- meaning that it would be able to hit even the northernmost of China's cities. The Indians are also conducting sea trials of their first ballistic missile submarine, the Arihant, which could be ready for deployment within another year or two.¶ It is undoubtedly true that the two countries mainly have other potential enemies in mind. China is primarily concerned about deterring potential attacks by the world's leading nuclear power, the United States, while India's strategic calculations focus on the threat from Pakistan. **Yet strategic logic is creating the potential for direct friction between Beijing and New Delhi on several fronts**. **The two countries are already engaged in a naval arms race** as **they jockey for influence in the waters around South Asia**. **Tensions have also been mounting over the two countries' border disputes** -- **especially the one involving the disputed area of Arunachal Pradesh (which is controlled by the Indians)**. The **Indians complain of a rising number of Chinese incursions into the area**; a remark by the Chinese ambassador to India a few years ago, when he claimed the territory as China's, stirred up public outrage. The Chinese, who regard Arunachal Pradesh as part of Tibet, worry in turn about a buildup of Indian troops in the region.¶ Rajeswari Pillai Rajagopalan of the Observer Research Foundation in New Delhi notes one concern. Starting in 2007, the Chinese military began a major upgrade of its missile base near the city of Delingha in Qinghai province, next to Tibet. **In addition to the intermediate-range missiles already stationed in the region, Rajagopalan says there are indications the Chinese** may **have beefed up the force** with long-range DF-31s and DF-31As -- **thus threatening not only northern India, including Delhi, but targets in the south as well.** It's entirely possible, she acknowledges in a 2007 paper, that the Chinese move could be aimed primarily at countering Russian missiles stationed in Siberia, but warns that "what the Chinese may consider a routine exercise may send a wrong signal and have serious implications." For his part, former U.S. diplomat Charles Freeman says that he regards Indian fears of a Chinese nuclear buildup as exaggerated, but worries thatafateful **mismatch of perceptions could already be spur**ring both countries toward **a** genuine **nuclear arms race**.¶ **The extent to which the two militaries are getting on each other's nerves became apparent in a bit of high-ranking trash-talking earlier this year**. **India's chief military science office**r, V.K. Saraswat, **declared that new advances in his country's ballistic missile technology meant that "**as far as cities in China and Pakistan are concerned, **there will be no target that we want to hit but can't hit**." **That prompted a retort from Rear Adm. Zhang Zhaozhong of China's National Defense University, who pointedly derided the "low level" of Indian technology**. "In developing its military technology," Zhang said, "China has never taken India as a strategic rival, and none of its weapons were specifically designed to contain India." **If that was meant to console anyone south of the border, it doesn't seem to have worked**.¶ **The best time to talk about an arms race, of course, is before it really gathers steam.** Krishnaswami Subrahmanyam, former chairman of India's National Security Advisory Board, says that China and India should take their nuclear concerns to the Conference on Disarmament, a multilateral negotiating forum at the United Nations. **But that, of course, would require the Chinese to acknowledge that there's a problem, which they might not be willing to do.** Rajagopalan notes that India and Pakistan have managed to set up some effective confidence-building measures on their common border, but that India and China have yet to do the same (aside from a few stillborn efforts in the early 1990s). Instituting mechanisms to warn each other of pending missile tests might be a start. "I think there's a great need for that," she says. "**Otherwise these kinds of tensions can spiral out of control." You can say that again.**

**Sino-India conflict is most probable nuclear war scenario due to lack of early warning, short flight times, and historical tensions**

**Wilson ’99**

(Nicholas Wilsona public¶ health physician and an independent consultant¶ to health organizations in Wellington, New¶ Zealand. “Regional Nuclear War ¶ in South Asia: ¶ Effects on Surrounding Countries” Medicine & Global Survival, August 1999; Vol. 6, No. 1 <http://www.ippnw.org/pdf/mgs/6-1-wilson.pdf>, TSW)

D¶ uring May 1998 both India and¶ Pakistan undertook a series of nuclear¶ weapons tests that dramatically¶ demonstrated their nuclear weapon¶ capabilities [1]. The current military situation¶ between these countries is relatively unstable¶ as there is major asymmetry in the size of¶ their nuclear arsenals, along with asymmetry¶ in conventional military power. The **absence**¶ **of sophisticated early warning systems and**¶ **the very short warning times involved also**¶ **raise the risk of surprise first strike attacks**. In¶ **the last half of this century India has had**¶ three **major wars with** Pakistan and one with¶ **China** [see Mian, Z., “The Politics of South¶ Asia’s Nuclear Crisis,” M&GS 1998;5:78-85];¶ current border disputes between India and¶ these other countries remain unresolved; and¶ both India and Pakistan have increased military spending [2]. **Given this situation, it is**¶ **likely that this region poses the highest risk**¶ **of a future nuclear war in the world.** Indeed,¶ the Bulletin of the Atomic Scientists considered¶ the developments in India and Pakistan as a¶ reason for moving the hands of their symbolic doomsday clock forward to nine minutes to midnight [3]. Methodology¶ The following two nuclear war scenarios¶ are considered here (direct and indirect physical effects are based on scaling from the 1985¶ and 1986 SCOPE studies [4,5]) :¶ ß An India-Pakistan war in¶ which 25 15-kiloton (kt) Hiroshimasized warheads are exploded on¶ Pakistani targets and nine similar¶ warheads are exploded on Indian¶ targets, 0.27 megaton (Mt) as airbursts, 0.24 Mt as surface bursts.¶ ß **A China-India war** involving¶ 25 Hiroshima-sized explosions on¶ Chinese targets and 75 explosions on¶ Indian targets (an even mix of 100 kt¶ and 300 kt weapons; 7.5 Mt as airbursts, 7.9 Mt as surface bursts).¶ Arsenals and Delivery Systems¶ These scenarios represent around half¶ the Indian strategic arsenal (assumed to contain 50 strategic nuclear weapons) and¶ around three-quarters of the Pakistani arsenal (assumed to contain around 12 strategic¶ weapons [6]). **There is significant uncertainty**¶ **surrounding the size of the weapons in these**¶ **arsenals given the seismological data from**¶ **recent weapons tests suggesting much smaller yields (less than Hiroshima-size) than the**¶ **official information released by the Indian**¶ **and Pakistani Governments** [7]. **China was**¶ **assumed to use 30% of its 250 strategic**¶ **nuclear weapons**, which range from 100 kt to¶ 300 kt for most long-range missiles (an average of 200 kt was used) [8]. **The delivery systems assumed were aircraft for Indian and**¶Pakistani **weapons** and aircraft **and** **ballistic**¶ **missiles for Chinese weapon**s [6].¶ As in a number of previous nuclear war¶ scenarios [4], this study assumed an equal¶ mix of air and surface nuclear explosions. In¶ addition to the scenarios developed, the¶ effect of the destruction of all of India’s 10¶ nuclear reactors (with a generating capacity¶ of 1,695 MWE [9]) was considered in terms of¶ its contribution to global fallout (based on a¶ previous reactor attack model [4]).¶ Fallout¶ The levels and distribution of global fallout were based on scaling from the GLODEP¶ [2] model used in the study by the Scientific¶ Committee on Problems of the Environment¶ (SCOPE) [4]. This model produced doses¶ integrated over 50 years without assuming¶ anything about weathering or sheltering. A¶ 50% fission fraction was assumed (as in the¶ scenario used by SCOPE) and the standard¶ risk factor for cancer mortality of 5% per sievert was used for estimating the radiationinduced cancer burden [10].¶ Results ¶ An India-Pakistan War¶ Nuclear explosions of 15 kt over Indian¶ and Pakistani cities in this scenario would¶ probably kill far more people per city than¶ the 120,000 killed at Hiroshima [11]. This is¶ because of the larger and denser populations¶ of modern Asian cities and the higher level of¶ combustible materials and fossil fuels, which¶ increase the risk of firestorms. One estimate¶ for a 15-kt attack on Bombay suggested that¶ 150,000 to 800,000 deaths would occur within¶ a few weeks [12]. Therefore, it is likely that¶ many millions of citizens in both countries¶ would die in the short term from the 34¶ explosions occurring in this scenario.¶ The destruction of many major cities in¶ the attacked countries would also be likely to¶ lead to social and political chaos disrupting¶ food production and distribution. This could¶ lead to famines, which may not be alleviated¶ by international aid measures in a turbulent¶ post-war international environment. Also, the¶ destruction of water and sewage systems¶ could increase the risk of disease epidemics¶ among the survivors. These indirect effects¶ could ultimately cause far more mortality¶ than the short-term effects, as has been previously predicted for larger nuclear wars [5].¶ Such e**ffects could have an impact on neighboring countries, especially if there were large**¶ **migrations of refugees crossing country borders to escape famine, social chaos, or environments contaminated with radioactivity**.¶ This nuclear war could cause immediate¶ deaths from radiation exposure in neighboring countries—depending on meteorological¶ conditions, which vary by season. Other¶ impacts on the neighboring countries couldarise from exposure to sub-lethal local fallout¶ (increased long-term cancer risk), the disruption in cross-border trade of critical products¶ such as food, floods from destroyed dams,¶ and the movements of refugees across borders. Bangladesh would be particularly vulnerable to the consequences of a nuclear¶ attack on Calcutta, and Nepal would suffer¶ from attacks on northern Indian coastal cities.¶ Due to the relatively small size of the¶ nuclear weapons used in this scenario, there¶ would not be significant injection of radioactivity into the stratosphere. Hence this war¶ would not contribute significantly to global¶ radioactive fallout. **A China-India War**¶ **In this scenario the devastation on Indian**¶ **cities by the higher yield Chinese weapons**¶ **would be substantially**¶ **greater**. For example, a 150-kt¶ attack on Bombay would be¶ likely to cause between two¶ and six million deaths [12].¶ Surface level nuclear explosions in this scenario would¶ contaminate even larger areas¶ of India than would be affected in an India-Pakistan¶ exchange. Short term deaths¶ in non-combatant countries¶ such as Nepal and Bangladesh would also occur from¶ nuclear attacks on Indian¶ cities. For example, a surface¶ burst explosion of 300 kt produces a 300-square-km fallout¶ plume that delivers a 48-hour¶ whole-body dose of 450¶ centiGray. This would be¶ lethal to half the exposed adult population¶ [13]. Depending on wind speed and direction,¶ plumes could extend from explosions on¶ Delhi and Calcutta into the territories of¶ Nepal and Bangladesh respectively (e.g., with¶ the predominant southwesterly winds which¶ occur mid-year). By comparison, an estimated 53% of the total person-sievert exposure of¶ radioactivity from Chernobyl affected those¶ living in European countries outside the¶ Soviet Union where the disaster occurred [14].¶ In this scenario, which involves¶ weapons of 100 kt and larger, a proportion of¶ the fallout would be injected into the stratosphere and hence circulate the globe and¶ even cross the hemispheres. The global external gamma ray dose was estimated to peak at¶ 4.6 milliGray (mGy) (at latitude 20 to 40¶ degrees North) in the Northern Hemisphere¶ and 0.003 mGy (at latitude 30 to 50 degrees¶ South) in the Southern Hemisphere. These¶ levels of radiation would be expected to¶ cause 230 fatal cancers per million population¶ in the latitude bands of the Northern¶ Hemisphere and 0.2 in the Southern¶ Hemisphere. For the 20 to 40 degree North¶ latitude, with a population of approximately¶ 2.5 billion people, there would be an estimated 0.6 million radiation-induced cancer¶ deaths. However, only around 12% of this¶ dose would be delivered in the first 20 years,¶ with the rest being delivered over thousands¶ of years (based on the experience of atmospheric tests and the importance of carbon-14¶ as a radionuclide from these explosions [5]). ¶ These levels of global fallout would only¶ be marginally increased if Chinese weapons¶ vaporised the contents of all India’s 10¶ nuclear reactors (i.e., adding an estimated 1.5¶ mGy to gamma ray doses from lower latitude¶ Northern Hemisphere fallout). Bombing¶ nuclear reactors, however, would dramatically increase the area contaminated with hazardous local fallout within the attacked country. For example, the explosion of a onemegaton bomb on a one-gigawatt reactor has¶ been estimated to cause a fallout plume¶ delivering total external gamma-ray doses of¶ 100 centiGray per year around 530 km long¶ and up to 70 km wide [4]. ¶ Discussion ¶ **This analysis indicates that plausible**¶ **types of nuclear wars involving** Pakistan,¶ **India, and China would have catastrophic**¶ **impacts** **on these countries that would rival**¶ **the previous worst disasters they have experienced**. These include the 1876-1877 famine¶ in India that affected 20 million and killed 3.5¶ million [15] and the 1958-1961 famine in¶ China that caused an estimated 30 million¶ premature deaths [16**].**¶ **The global fallout distribution model**¶ **used in this analysis has a number of limitations, including being based on limited data**¶ **on Northern Hemisphere explosions in midlatitudes** [4]. The assumptions that there¶ would be no weathering and no sheltering¶ lead to an over-estimation of the exposure¶ level since weathering is important in most¶ environments and a majority of humans¶ spend most of their lives indoors. These estimates of radiation exposure are probably¶ conservative, however, since the effects of¶ internal radiation dosage are not included¶ and since these would probably be more¶ important than external radiation in the long¶ term [7]. Moreover, low-level radiation exposure might be significantly more hazardous¶ than the estimate used in this analysis [17,18]. ¶ If the nuclear arsenals of these countries¶ increase in size and in average weapon yield¶ in the future, then multiple attacks on cities¶ would become more likely in future war sce-narios. This would further increase the risk of¶ firestorms in cities suffering nuclear attack,¶ which would increase the probability of toxic¶ and radioactive debris reaching adjacent¶ countries. It would also pose greater risks of¶ regional climatic disturbances arising from¶ nuclear war. ¶ Adverse economic effects on neighboring countries would arise from disruption in¶ cross-border trade, floods from destroyed¶ dams, and the movements of refugees across¶ borders. These impacts could be further exacerbated if there were cross-border radioactive¶ contamination of primary agricultural products produced for export. Such impacts could¶ damage trade for many years into the postwar period.¶ The use of weapons of mass destruction¶ is the very worst way for nations to solve¶ international disputes. Moreover, most forms¶ of nuclear weapons use are likely to be illegal¶ under international law [19] and damage to¶ non-combatant countries in war breaches¶ international law [20]. There is an urgent need¶ for nuclear disarmament to lower the risk of¶ such catastrophic nuclear wars. Progress¶ toward disarmament is unlikely, however,¶ without strong leadership by the United¶ States and Russia towards a verifiable and¶ enforceable Nuclear Weapons Convention. [21]

### Solvency

#### DoD acquisition of SMR’s ensures rapid military adoption and commercialization, and prevents unfavorable tech lock-in

**Andres and Breetz 11**

Richard Andres, Professor of National Security Strategy at the National War College and a Senior Fellow and Energy and Environmental Security and Policy Chair in the Center for Strategic Research, Institute for National Strategic Studies, at the National Defense University, and Hanna Breetz, doctoral candidate in the Department of Political Science at The Massachusetts Institute of Technology, Small Nuclear Reactorsfor Military Installations:Capabilities, Costs, andTechnological Implications, [www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf](http://www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf)

Thus far, this paper has reviewed two of DOD’s most pressing energy vulnerabilities—grid insecurity and fuel convoys—and explored how they could be addressed by small reactors. We acknowledge that there are many uncertainties and risks associated with these reactors. On the other hand, **failing to pursue these technologies raises its own set of risks for DOD,** which we review in this section: first, **small reactors may fail to be commercialized in the U**nited **S**tates; second, **the designs that get locked in by the private market may not be optimal for DOD’s needs**; and third, **expertise on small reactors may become concentrated in foreign countries**. **By taking an early “first mover” role in the small reactor market, DOD could mitigate these risks and secure the long-term availability and appropriateness of these technologies for U.S. military applications.** The “Valley of Death.” Given the promise that small reactors hold for military installations and mobility, **DOD has a compelling interest in ensuring that they make the leap from paper to production**. However, **if DOD does not provide an initial** demonstration and **market, there is a chance that the U.S. small reactor industry may never get off the ground**. **The leap from the laboratory to the marketplace is so difficult to bridge that it is widely referred to as the “Valley of Death.”** **Many promising technologies are never commercialized due to a variety of market failures**— **including technical and financial uncertainties**, information asymmetries, **capital market imperfections, transaction costs**, and environmental and security externalities— **that impede financing and early adoption** **and can lock innovative technologies out of the marketplace**. 28 In such cases, **the Government can help a worthy technology to bridge the Valley of Death by accepting the first mover costs and demonstrating the technology’s scientific and economic viability**.29 [FOOTNOTE 29: **There are** numerous **actions that the Federal Government could take**, such as conducting or funding research and development, stimulating private investment, demonstrating technology, mandating adoption, and guaranteeing markets. **Military procurement** is thus only one option, but it has often **played a decisive role in technology development and is likely to be the catalyst for the U.S. small reactor industry.** See Vernon W. Ruttan, Is War Necessary for Economic Growth? (New York: Oxford University Press, 2006); Kira R. Fabrizio and David C. Mowery, “The Federal Role in Financing Major Inventions: Information Technology during the Postwar Period,” in Financing Innovation in the United States, 1870 to the Present, ed. Naomi R. Lamoreaux and Kenneth L. Sokoloff (Cambridge, MA: The MIT Press, 2007), 283–316.] Historically, **nuclear power has been “the most clear-cut example . . . of an important general-purpose technology that in the absence of military** and defense related **procurement would not have been developed at all.”**30 **Government involvement is likely to be crucial for innovative, next-generation nuclear technology** as well. Despite the widespread revival of interest in nuclear energy, Daniel Ingersoll has argued that radically innovative **designs face an uphill battle, as “the high capital cost of nuclear plants and the painful lessons learned during the first nuclear era have created a prevailing fear of first-of-a-kind designs**.”31 In addition, **M**assachusetts **I**nstitute of **T**echnology reports on the Future of Nuclear Power **called for the Government to provide modest “first mover” assistance to the private sector due to several barriers that have hindered the nuclear renaissance**, such as securing high up-front costs of site-banking, gaining NRC certification for new technologies, and demonstrating technical viability.32 It is possible, of course, that small reactors will achieve commercialization without DOD assistance. As discussed above, they have garnered increasing attention in the energy community. Several analysts have even argued that small reactors could play a key role in the second nuclear era, given that they may be the only reactors within the means of many U.S. utilities and developing countries.33 However, **given the tremendous regulatory hurdles and technical and financial uncertainties, it appears far from certain that the U.S. small reactor industry will take off. If DOD wants to ensure that small reactors are available in the future, then it should pursue a leadership role now.** Technological Lock-in. **A second risk is that if small reactors do reach the market without DOD assistance, the designs that succeed may not be optimal for DOD’s applications**. **Due to a variety of positive feedback and increasing returns to adoption** (including demonstration effects, technological interdependence, network and learning effects, and economies of scale), **the designs that are initially developed can become “locked in.”**34 **Competing designs**—even if they are superior in some respects or better for certain market segments— **can face barriers to entry that lock them out of the market. If DOD wants to ensure that its preferred designs are not locked out, then it should take a first mover role on small reactors.** It is far too early to gauge whether the private market and DOD have aligned interests in reactor designs. On one hand, Matthew Bunn and Martin Malin argue that what the world needs is cheaper, safer, more secure, and more proliferation-resistant nuclear reactors; presumably, many of the same broad qualities would be favored by DOD.35 **There are many varied market niches that could be filled by small reactors, because there are many different applications** and settings in which they can be used, and it is quite possible that some of those niches will be compatible with DOD’s interests.36 On the other hand, **DOD may have specific needs** (transportability, for instance) **that would not be a high priority for any other market segment.** Moreover, while DOD has unique technical and organizational capabilities that could enable it to pursue more radically innovative reactor lines, DOE has indicated that it will focus its initial small reactor deployment efforts on LWR designs.37 **If DOD wants to ensure that its preferred reactors are developed and available in the future, it should take a leadership role now. Taking a first mover role does not** necessarily **mean that DOD would be “picking a winner” among small reactors**, as the market will probably pursue multiple types of small reactors. **Nevertheless, DOD leadership would likely have a profound effect on the industry’s timeline and trajectory.** Domestic Nuclear Expertise. From the perspective of larger national security issues, **if DOD does not catalyze the small reactor industry, there is a risk that expertise in small reactors could become dominated by foreign companies**. A 2008 Defense Intelligence Agency report warned that the United States will become totally dependent on foreign governments for future commercial nuclear power unless the military acts as the prime mover to reinvigorate this critical energy technology with small, distributed power reactors.38 **Several of the most prominent small reactor concepts rely on technologies perfected at Federally funded laboratories and research programs**, including the Hyperion Power Module (Los Alamos National Laboratory), NuScale (DOE-sponsored research at Oregon State University), IRIS (initiated as a DOE-sponsored project), Small and Transportable Reactor (Lawrence Livermore National Laboratory), and Small, Sealed, Transportable, Autonomous Reactor (developed by a team including the Argonne, Lawrence Livermore, and Los Alamos National Laboratories). **However, there are scores of competing designs under development from over a dozen countries. If DOD does not act early to support the U.S. small reactor industry, there is a chance that the industry could be dominated by foreign companies**. Along with other negative consequences, **the decline of the U.S. nuclear industry decreases the NRC’s influence on the technology that supplies the world’s rapidly expanding demand for nuclear energy. Unless U.S. companies begin to retake global market share, in coming decades France, China, South Korea, and Russia will dictate standards on nuclear reactor reliability, performance, and proliferation resistance**.

**Alternative financing cuts costs and supercharges commercialization**

**Fitzpatrick 11**

Ryan Fitzpatrick, Senior Policy Advisor for Clean Energy at Third Way, Josh Freed, Vice President for Clean Energy at Third Way, and Mieke Eoyan, Director for National Security at Third Way, June 2011, Fighting for Innovation: How DoD Can Advance CleanEnergy Technology... And Why It Has To, content.thirdway.org/publications/414/Third\_Way\_Idea\_Brief\_-\_Fighting\_for\_Innovation.pdf

The DoD has over $400 billion in annual purchasing power, **which means the Pentagon could provide a sizeable market for new technologies**. **This can increase a technology’s scale of production, bringing down costs, and making the product more likely to successfully reach commercial markets**. **Unfortunately**, many potentially significant clean energy **innovations never get to the marketplace, due to a lack of capital during** the development and **demonstration stages. As a result, technologies that could help the military** meet its clean energy security and cost goals **are being abandoned or co-opted by competetors like China** before they are commercially viable here in the U.S. **By focusing its purchasing power on innovative products that will** help **meet its energy goals, DoD can provide** more **secure** and **cost-effective energy to the military—producing tremendous long-term savings**, while also **bringing** potentially **revolutionary technologies to the public**. Currently, many of these **technologies are passed over during** the **procurement** process **because of** higher **upfront costs—even if these technologies can reduce life-cycle costs** to DoD. The Department has only recently begun to consider life-cycle costs and the “fullyburdened cost of fuel” (FBCF) when making acquisition decisions. However, initial reports from within DoD suggest that the methodology for determining the actual FBCF needs to be refined and made more consistent before it can be successfully used in the acquisition process.32 The Department should fast-track this process to better maximize taxpayer dollars. Congressional appropriators— and the Congressional Budget Office—should also recognize the **savings that can be achieved by procuring advanced technologies to promote DoD’s energy goals**, even if these procurements come with higher upfront costs. **Even if the Pentagon makes procurement of emerging clean energy technologies a higher priority, it still faces real roadblocks in developing relationships with the companies that make them. Many clean energy innovations are developed by small businesses or companies that have no previous experience working with military procurement officers. Conversely, many procurement officers do not know the clean energy sector and are not incentivized to develop relationships with emerging clean energy companies**. Given the stakes in developing domestic technologies that would help reduce costs and improve mission success, the Pentagon should develop a program to encourage a better flow of information between procurement officers and clean energy companies—especially small businesses. Leverage Savings From Efficiency and Alternative Financing to Pay for Innovation. **In an age of government-wide austerity and tight** Pentagon **budgets**, current congressional **appropriations are simply not sufficient** to fund clean energy innovation. **Until Congress decides to direct additional resources** for this purpose, the **Defense** Department **must leverage** the money and other **tools it already has** to help develop clean energy. This can take two forms: repurposing money that was saved through energy efficiency programs for innovation and using alternative methods of financing to reduce the cost to the Pentagon of deploying clean energy. For several decades **the military has made** modest **use alternative financing** **mechanisms to fund** clean **energy** and efficiency **projects when appropriated funds were insufficient**. In a 2010 report, GAO found that while only 18% of renewable energy projects on DoD lands used alternative financing, these projects account for 86% of all renewable energy produced on the Department’s property.33 This indicates that **alternative financing can be particularly helpful to DoD in terms of bringing larger and more expensive projects to fruition**. One advanced financing tool available to DoD is **the energy savings performance contract** (ESPC). These agreements **allow DoD to contract a private firm to make upgrades to a building or other facility that result in energy savings, reducing overall energy costs without appropriated funds**. **The firm finances the cost, maintenance and operation of these upgrades and recovers a profit over the life of the contract**. While mobile applications consume 75% of the Department’s energy,34 DoD is only authorized to enter an ESPC for energy improvements done at stationary sites. As such, Congress should allow DoD to conduct pilot programs in which ESPCs are used to enhance mobile components like aircraft and vehicle engines. This could accelerate the needed replacement or updating of aging equipment and a significant reduction of energy with no upfront cost. To maximize the potential benefits of ESPCs, DoD should work with the Department of Energy to develop additional training and best practices to ensure that terms are carefully negotiated and provide benefits for the federal government throughout the term of the contract.35 This effort could possibly be achieved through the existing memorandum of understanding between these two departments.36 The Pentagon should also consider using any long-term savings realized by these contracts for other energy purposes, including the promotion of innovative technologies to further reduce demand or increase general energy security. In addition to ESPCs, **the Pentagon** also **can enter into** extended agreements with utilities to use DoD land to generate electricity, or for the **long-term purchase of energy**. **These** **innovative financing mechanisms**, known respectively as enhanced use leases (EULs) and power purchase agreements (PPAs), **provide a valuable degree of certainty to third party generators**. In exchange, the **Department can leverage its existing resources**—either its land or its purchasing power—**to negotiate lower electricity rates** and dedicated sources of locallyproduced power with its utility partners. **DoD has unique authority among federal agencies to enter extended 30-year PPAs**, **but only for geothermal energy projects and only with direct approval from the Secretary of Defense**. Again, limiting incentives for clean energy generation to just geothermal power inhibits the tremendous potential of other clean energy sources to help meet DoD’s energy goals. **Congress should consider opening this incentive up to other forms of clean energy generation**, including the production of advanced fuels. Also, given procurement officials’ lack of familiarity with these extended agreements and the cumbersome nature of such a high-level approval process, the unique authority to enter into extended 30-year PPAs is very rarely used.37 DoD should provide officials with additional policy guidance for using extended PPAs and Congress should simplify the process by allowing the secretary of each service to approve these contracts. Congress should also investigate options for encouraging regulated utility markets to permit PPA use by DoD. Finally, when entering these agreements, the Department should make every effort to promote the use of innovative and fledgling technologies in the terms of its EULs and PPAs. CON C L U S ION **The Defense Department is in a unique position to foster and deploy innovation in clean energy technologies**. This has two enormous benefits for our military: it will make our troops and our facilities more secure and it will reduce the amount of money the Pentagon spends on energy, freeing it up for other mission critical needs. If the right steps are taken by Congress and the Pentagon, the military will be able to put its resources to work developing technologies that will lead to a stronger fighting force, a safer nation, and a critical emerging sector of the American economy. **The Defense Department has helped give birth to technologies and new economic sectors dozens of times before**. For its own sake and the sake of the economy, **it should make clean energy innovation its newest priority**.

**DoD key- avoids regulations**

Glen **Butler**, Lt. Col., 20**11**, Not Green Enough, [www.mca-marines.org/gazette/not-green-enough](http://www.mca-marines.org/gazette/not-green-enough)

**SMRs have relatively low plant cost**, can replace aging fossil plants, and do not emit greenhouse gasses. Some are as small as a “hot tub” and can be stored underground, dramatically increasing safety and security from terrorist threats.25 Encouragingly, in fiscal year 2010 (FY10) the **DoE allocated** $0 to **the U.S. SMR Program**; in FY11, they’ve requested $38.9 million. This **funding is to support** two main activities—**public/private partnerships to advance** SMR **designs and research** **and** development and **demonstrations**. According to the DoE’s website, one of the planned program accomplishments for FY11 is to “collaborate with the Department of Defense (DoD) . . . to assess the feasibility of SMR designs for energy resources at DoD installations.”26 The Marine Corps should vigorously seek the opportunity to be a DoD entity providing one platform for this feasibility assessment.27 Fourth, **SMR** technology **offers** the Marine Corps **a**nother **unique means to lead from the front**—not just of the other Services but also of **the Nation, and** even **the world**.28 **This** potential Pete Ellis **moment should be seized**. There are simple steps we could take, and others stand ready to lead if we are not.30 But **the temptation to “wait and see” and “let the others do it; then we’ll adopt it” mentality is not** always **best**. **Energy security demands boldness**, not timidity. To be fair, nuclear technology comes with challenges, of course, and with questions that have been kicked around for decades. An April 1990 Popular Science article asked, “Next Generation Nuclear Reactors—Dare we build them?” and included some of the same verbiage heard in similar discussions today.31 Compliance with National Environment Policy Act requirements necessitates lengthy and detailed preaction analyses, critical community support must be earned, and disposal challenges remain. Still, none of these hurdles are insurmountable. Yet despite the advances in safety, security, and efficiency in recent years, nuclear in the energy equation remains the new “n-word” for most military circles. And despite the fact that the FY10 National Defense Authorization Act called on the DoD to “conduct a study [of] the feasibility of nuclear plants on military installations,” the Office of the Secretary of Defense has yet to fund the study. Fifth**, the** **cumbersome, bureaucratic certification** **process** **of** **the** Nuclear Regulatory Commission (**NRC**), often **enough to scare away potential entrepreneurs and investors, is not** **necessarily** **a roadblock to success**. The NRC is “responsible for licensing and regulating the operation of commercial nuclear power plants in the United States.” **Military installations offer unique platforms that** could likely **bypass** an extended **certification** process. **With established expertise and a long safety record in nuclear reactor certification**, operations, training, and maintenance, the Naval Nuclear Propulsion Program comprises the civilian and military personnel who: . . . design, build, operate, maintain, and manage the nuclear-powered ships and the many facilities that support the U.S. nuclear-powered naval fleet.”34 **Bypassing the NRC and initiating SMR experimentation** under ADM Hyman Rickover’s legacy umbrella of naval reactors **could shorten the process to a reasonable level for** Marine and naval **installations**.35

#### They have the personnel and expertise

Robitaille 12

(George, Department of Army Civilian, United States Army War College, “Small Modular Reactors: The Army’s Secure Source of Energy?” 21-03-2012, Strategy Research Project)

Section 332 of the FY2010 National Defense Authorization Act (NDAA), “Extension and Expansion of Reporting Requirements Regarding Department of Defense Energy Efficiency Programs,” requires the Secretary of Defense to evaluate the cost and feasibility of a policy that would require new power generation projects established on installations to be able to provide power for military operations in the event of a commercial grid outage.28 A potential solution to meet this national security requirement, as well as the critical needs of nearby towns, is for DoD to evaluate SMRs as a possible source for safe and secure electricity. **Military facilities depend on reliable sources of energy to operate, train, and support national security missions. The power demand for most military facilities is not very high, and could easily be met by a SMR.** Table 1 provides the itemized description of the annual energy requirements in megawatt of electricity (MWe) required for the three hundred seventy four DoD installations.29 DoD History with SMRs **The concept of small reactors for electrical power generation is not new**. In fact, **the DoD built and operated small reactors for applications on land and at sea**. **The U.S. Army operated eight nuclear power plants from 1954 to 1977. Six out of the eight reactors built by the Army produced operationally useful power for an extended period, including the first nuclear reactor to be connected and provide electricity to the commercial grid**. 30 The Army program that built and operated compact nuclear reactors was ended after 1966, not because of any safety issues, but strictly as a result of funding cuts in military long range research and development programs. In essence, it was determined that the program costs could only be justified if there was a unique DoD specific requirement. At the time there were none.31 Although it has been many years since these Army reactors were operational, the independent source of energy they provided at the time is exactly what is needed again to serve as a secure source of energy today. Many of the nuclear power plant designs used by the Army were based on United States Naval reactors. Although the Army stopped developing SMRs, **the Navy as well as the private sector has continued to research, develop, and implement improved designs** to improve the safety and efficiency of these alternative energy sources. The U.S. Navy nuclear program developed twenty seven different power plant systems and almost all of them have been based on a light water reactor design.32 This design focus can be attributed to the inherent safety and the ability of this design to handle the pitch and roll climate expected on a ship at sea. **To date, the U. S Navy operated five hundred twenty six reactor cores in two hundred nineteen nuclear powered ships, accumulated the equivalent of over six thousand two hundred reactor years of operation and safely steamed one hundred forty nine million miles**. **The U.S. Navy has never experienced a reactor accident**.33 All of the modern Navy reactors are design to use fuel that is enriched to ninety three percent Uranium 235 (U235) versus the approximate three percent U235 used in commercial light water reactors. The use of highly enriched U235 in Navy vessels has two primary benefits, long core lives and small reactor cores.34 The power generation capability for naval reactors ranges from two hundred MWe (megawatts of electricity) for submarines to five hundred MWe for an aircraft carrier. A Naval reactor can expect to operate for at least ten years before refueling and the core has a fifty year operational life for a carrier or thirty to forty years for a submarine.35 As an example, the world’s first nuclear carrier, the USS Enterprise, which is still operating, celebrated fifty years of operations in 2011.36 The Navy nuclear program has set a precedent for safely harnessing the energy associated with the nuclear fission reaction. In addition, **the Navy collaborates with the private sector to build their reactors and then uses government trained personnel to serve as operators**. **Implementing the use of SMRs as a secure source of energy for our critical military facilities will leverage this knowledge and experience**.

**SMRs are cost-effective, safe, can be quickly deployed, and solve waste**

**Szondy 12**

David, freelance writer based in Monroe, Washington. An award-winning playwright, he has contributed to Charged and iQ magazine and is the author of the website Tales of Future Past, February 16, "Feature: Small modular nuclear reactors - the future of energy?", [www.gizmag.com/small-modular-nuclear-reactors/20860/](http://www.gizmag.com/small-modular-nuclear-reactors/20860/)

One way of getting around many of these problems is through the development of small modular reactors (**SMR**). These **are** reactors **capable of generating** about **300 megawatts** of power or less, **which is enough to run 45,000** US **homes**. Though small, SMRs are proper reactors. They are quite different from the radio-thermal generators (RTG) used in spacecraft and remote lighthouses in Siberia. Nuclear reactors such as **SMRs use controlled nuclear fission to generate power while RTGs use** natural **radioactive decay to power a** relatively simple **thermoelectric generator that can only produce**, at most, about **two kilowatts.¶** In terms of power, RTGs are the equivalent of batteries while small nuclear reactors are only "small" when compared to conventional reactors. They are hardly the sort that you would keep in the garage. In reality, SMR power plants would cover the area of a small shopping mall. Still, such an installation is not very large as power plants go and a reactor that only produces 300 megawatts may not seem worth the investment, but the US Department of Energy is offering US$452 million in matching grants to develop SMRs and private investors like the Bill Gates Foundation and the company of Babcock and Wilcox are putting up money for their own modular reactor projects.¶ The 60-year old breakthrough¶ **One reason for government and private industry to take an interest in SMRs is that they've** **been successfully employed for much longer than most people realize.** In fact, **hundreds have been steaming around the world inside** the hulls **of nuclear submarines and other warships for sixty years. They've also been used in merchant ships, icebreakers and as research and medical isotope reactors** at universities. There was even one installed in the Antarctic at McMurdo Station from 1962 to 1972. Now they're being considered for domestic use.¶ The case for SMRs¶ SMRs have a number of advantages over conventional reactors. For one thing, **SMRs are cheaper to construct and run.** This makes them very attractive to poorer, energy-starved countries; small, growing communities that don't require a full-scale plant; and remote locations such as mines or desalination plants. Part of the reason for this is simply that the reactors are smaller. Another is that, not needing to be custom designed in each case, the **reactors can be standardized and some types built in factories that are able to employ economies of scale.** The factory-built aspect is also important because **a factory is more efficient than on-site construction by as much as eight to one in terms of building time.** **Factory construction also allows SMRs to be built, delivered to the site, and then returned to the factory for dismantling** at the end of their service lives - **eliminating a major problem with old** conventional **reactors, i.e. how to dispose of them.¶** **SMRs** also **enjoy** a good deal of **design flexibility. Conventional reactors are** usually **cooled by water** - a great deal of water - **which means that the reactors need to be situated near rivers or coastlines. SMRs**, on the other hand, **can be cooled by air, gas, low-melting point metals or salt.** This means that **SMRs can be placed in remote**, inland **areas** where it isn't possible to site conventional reactors.¶ Safety¶ This cooling system is often passive. In other words, it relies more on the natural circulation of the cooling medium within the reactor's containment flask than on pumps. This passive cooling is one of the ways that **SMRs can improve safety**. Because modular reactors are smaller than conventional ones, **they contain less fuel**. This means that **there's less of a mass to be affected if an accident occurs.** If one does happen, **there's less radioactive material that can be released** into the environment and makes it easier to design emergency systems. Since they are smaller and use less fuel, **they are easier to cool effectively, which** greatly **reduces the likelihood of a catastrophic accident or meltdown** in the first place.¶ This also means that **accidents proceed much slower in modular reactors** than in conventional ones. **Where the latter need accident responses in** a matter of hours or **minutes**, **SMRs can be responded to in** hours or **days**, which reduces the chances of an accident resulting in major damage to the reactor elements.¶ **The SMR designs that reject water cooling in favor of gas, metal or salt have their own safety advantages**. Unlike water-cooled reactors, **these media operate at a lower pressure.** **One of the hazards of water cooling is that a cracked pipe or a damaged seal can blow radioactive gases out** like anti-freeze out of an overheated car radiator**. With low-pressure media, there's less force to push gases out and there's less stress placed on the containment vessel. It** also **eliminates one of the** frightening **episodes of the Fukushima accident where the water in the vessel broke down into hydrogen and oxygen and then exploded.¶** Another advantage of modular design is that some **SMRs are small enough to be installed below ground.** That is cheaper, faster to construct and less invasive than building a reinforced concrete containment dome. There is also the point that **putting a reactor in the ground makes it less vulnerable to earthquakes. Underground installations make modular reactors easier to secure and install** in a much smaller footprint. **This makes SMRs particularly attractive to military customers who need to build power plants for bases quickly.** **Underground installation also enhances security** with fewer sophisticated systems needed, which also helps bring down costs.¶ **SMRs can help with proliferation, nuclear waste and fuel supply issues because, while some modular reactors are based on conventional pressurized water reactors and burn enhanced uranium, others use less conventional fuels. Some**, for example, can **generate power from** what is now regarded as "**waste", burning depleted uranium and plutonium left over** from conventional reactors. **Depleted uranium is** basically U-238 from which the fissible U-235 has been consumed. It's also much **more abundant** in nature than U-235, **which has the potential of providing the world with energy for thousands of years. Other reactor design**s don't even use uranium. Instead, they **use thorium**. This fuel is also incredibly abundant, is easy to process for use as fuel and has the added bonus of being utterly useless for making weapons, so it can provide power even to areas where security concerns have been raised.¶ But there's still the sticking point that modular reactors are, by definition, small. That may be fine for a submarine or the South Pole, but what about places that need more? Is the alternative conventional nuclear plants? It turns out that the answer is no. **Modular reactors don't need to be used singly. They can be set up in batteries of five or six** or even more, **providing as much power as an area needs.** And if one unit needs to be taken off line for repairs or even replacement, it needn't interfere with the operation of the others.

**Nuclear power is inevitable**

IAEA applications

Middle class

Population growth

Urbanization

Warming

Desal

**Ebinger and Squassoni 11**

Charles K Ebinger and Sharon Squassoni 11, Charles is senior fellow and director of the Energy Security Initiative at the Brookings Institution, Sharon is senior fellow and director of the Proliferation Prevention Program at the Center for Strategic and International Studies, “Industry and Emerging Nuclear Energy Markets” in “Business and Nonproliferation”, googlebooks

As mentioned previously, **a notable feature of the nuclear renaissance is the widespread interest in nuclear power, especially in countries without a commercial nuclear infrastructure. According to the** International Atomic Energy Agency (**IAEA**), at least **sixty-five countries have expressed** such **interest**, most from outside the industrialized economies of the Organization of Economic Cooperation and Development (OECD), the main locus of nuclear power capacity at present. **Most of the capacity growth up to 2030 is expected to occur in the Middle East, South Asia, Southeast Asia, and the Far East**. As part of this growth, **eleven developing countries are serious candidates for first reactors**, although progress in carrying out their plans varies widely (see table 4-1). **These countries are drawing new suppliers into the nuclear market** (notably China, India, and South Korea) **and sparking activity among existing suppliers** such as Russia and Japan. Overall, however, many countries will not be able to follow through on growth plans owing to cost, limited grid capacity, and perhaps public resistance. **Countries are moving toward nuclear energy**, not the mention other sources of primary fuel, in large part **because of mounting demand: between 2008 and 2035 global electricity consumption is expected to increase 80 percent, and 80 percent of that growth will take place in non-OECD countries**. **Underlying this large increase in electricity demand are population growth, urbanization, concerns about CO2 emissions from fossil fuel combustion, energy security, and pressure from a growing middle class for goods and services using or produced by electricity**. **Over this period, global population will rise from 6.7 billion to 8.5 billion, with 7.2 billion of the total living in non-OECD countries**. **Most of this increase will take place in China, India, and the Middle East**, with the balance in the rest of the developing world, while the share of the global population in the OECD and Russia will decline. Today nearly 1.4 billion people have no electricity, a figure that may well increase with further population growth, despite movement into the modern energy economy. **Urbanization will undoubtedly push demand up as well**. For the first time in history, a majority of the world’s population is living in urban areas, a trend likely to continue, especially in developing countries. **With the movement of hundreds of millions of people from rural areas to cities, more communities will turn from traditional** and often free **fuels** (wood, forest residues, agricultural wastes, bagasse, and dung) **to modern fuels such as electricity, natural gas, and petroleum products**. **The dramatic growth of the middle class in a number of emerging market nations is also having a large impact on energy consumption. The World Bank predicts that by 2030 the middle class in these nations will jump to 1.2 billion from 430 million in 2000**. It is estimated that in India alone, a country that before Fukushima was developing plans for nuclear power, the number of households with an annual disposal income of $5,000-$15,000 will increase from 36 percent of the population in 2010 to more than 58 percent by 2020. **Climate change**, too, **will have some of its largest impact in developing countries**, which, according to the International Energy Agency (IEA), will be responsible for nearly all of the projected global increase in CO2 emissions by 2035. In large part, the cause of this rise is coal-fired power in China and India. **The urgency of finding alternatives to coal is recognized by** others as well, including **Indonesia, Pakistan, Poland, South Africa, and Russia**. Compared with developed countries, developing nations rely far more on imported fossil fuels, especially oil, to generate power. When the price of oil on the world market rose to $147 a barrel in 2008, it became clear that dependence on imported fossil fuels for electricity generation can destroy a nation’s economy and that fuel diversification is vital for energy security. As prices climbed beyond $100 a barrel, Jordan, a country committed to introducing civilian nuclear energy, was particularly hard hit: 99 percent of its electricity is generated from either oil or gas, 96 percent of which is imported. **Developing countries also see nuclear energy as a possible source of power for desalination plants, especially in the** Gulf Cooperation Council (**GCC**) **countries and elsewhere in the Middle East**. **As the demand for freshwater supplies increases** – along with the emphasis on limited the use of fossil fuels to generates electricity because of the impact of emissions, price volatility, and supply disruptions – **the nuclear option will be considered even more viable**. Moreover, some **countries with large resources of oil or gas**, **such as the** United Arab Emirates (**UAE**) **and Saudi Arabia**, **are hoping nuclear power will help reduce their domestic use of these fuels in generating power and will boost the financial benefits of exporting them**. **For some developing countries, status and geopolitics are undoubtedly important factors in considering the development or expansion of a civilian nuclear energy program**. **In the view of Turkey’s energy minister** Hilmi Guler, for instance, **nuclear technology is a requirement for a seat at the table with the ten most developed countries in the world**.

**Natural gas isn’t a solvency take out**

**Lamonica 12**

Martin Lamonica is a senior writer covering green tech and cutting-edge technologies [August 9, 2012, “A Glut of Natural Gas Leaves Nuclear Power Stalled,” http://www.technologyreview.com/news/428737/a-glut-of-natural-gas-leaves-nuclear-power/]

**Outside the U**nited **S**tates, it's a different story. Unconventional sources of **natural gas also threaten the expansion of nuclear, although the potential impact is less clear-cut. Around the world, there are 70 plants now under construction, but shale gas also looms as a key factor in planning for the future. Prices for natural gas are already higher in Asia and Europe, and shale gas resources are not as fully developed as they are the U**nited **S**tates.¶ **Some countries are** also **blocking the development of** new **natural gas resources**. France, for instance, which has a strong commitment to nuclear, has banned fracking in shale gas exploration because of concerns over the environmental impact.¶ Fast-growing **China, meanwhile, needs all the energy sources available and is building nuclear power plants as fast as possible**.¶ **Even in** **U**nited **S**tates, of course, **super cheap natural gas will not last forever.** **With supply exceeding demand, some drillers are said to be losing money on natural gas, which could push prices back up.** **Prices will also be pushed upward by utilities, as they come to rely on more natural gas for power generation**, says James.¶ Ali **Azad, the chief business development officer at** energy company **Babcock & Wilcox, thinks the answer is making nuclear power smaller**, cheaper, and faster. His is one of a handful of companies developing **s**mall **m**odular **r**eactor**s** that **can be built in three years, rather than 10 or more, for a fraction of the cost of gigawatt-size reactors.** Although this technology is not yet commercially proven, the company has a customer in the Tennessee Valley Authority, which expects to have its first unit online in 2021 (see "A Preassembled Nuclear Reactor").¶ "When we arrive, **we will have a level cost of energy on the grid, which competes** favorably **with a brand-new combined-cycle natural gas plants** when gas prices are between $6 to $8," said Azad. **He sees strong demand in power-hungry China and places such as Saudia Arabia, where power is needed for desalination.¶ Even if natural gas remains cheaper, utilities don't want to find themselves with an overreliance on gas, which has been volatile on price in the past, so nuclear power will still contribute to the energy mix.** "[**Utilities**] **still continue** [**with nuclear**] **but with a lower level of enthusiasm—it's a hedging strategy," says** Hans-Holger **Rogner from** the Planning and Economics Studies section of **the I**nternational **A**tomic **E**nergy **A**gency. "**They don't want to pull all their eggs in one basket** because of the new kid on the block called shale gas."¶

## 2AC

### Security/Biopower

#### Our interp is that debate should be about weighing the implementation of the plan vs the implementation of a competing alternative- role of the ballot is to decide is best. This is best for debate

#### Creates a race to the middle because we get to weigh case and they still get to run their epistemology and ontology arguments as long as the link them to plan implementation.

#### Any other framework is infinitely regressive, moots the 1ac, and kills clash.

#### Voting issue for fairness and education

#### Alt cant result in plan action- otherwise it moots the 1ac, forces us to debate against ourselves, and kills clash- voter for fairness and education

#### Perm- do plan and the alt

**Problem-solution impact is backwards---acting with a flawed epistemology allows us to change that epistemology.**

**Harris 7** (Graham, Adjunct Prf. @ Centre for Environment University of Tasmania, Seeking Sustainability in an age of complexity p. 9-10)

1 am not going to address the global 'litany' at length here. The arguments have been well made by others, especially and most elegantly by E. O. Wilson. What 1 wish to address here is the question: 'Can we grasp the complexity of it all and, if so, what do we do about it?' Given the fundamental nature of the problem the destruction of the biosphere and its ecosystem ser- vices together with the huge changes going on in human societies and cultures driven by globalisation and technological change the precautionary principle would suggest that even if the epistemology is flawed, the data are partial and the evidence is shaky, we should pay attention to the little we know and do whatever is possible to mitigate the situation even if we fundamentally disagree about the means and the ends. The only ethical course of action is, as John Ral- ston Saul writes," based on 'a sense of the other and of inclusive responsibility'. We know enough to act. Ethics is about uncertainty, doubt, system thinking and balancing difficult choices. It is about confronting the evidence**.** Over the past two or three decades, as there has been an increasing appre- ciation of the importance of good environmental management, and as western societies have become more open and the ICT revolution has made informa- tion much more widely available there has been a growing debate between the worlds of science, industry, government and the community around environ- mental ethics and environmental issues and their management. During this period new knowledge has been gained, ideas have changed (sometimes quite fundamentally) and there have been huge changes in government and social institutions and policies. We are all on a recursive journey together: we are lit- erally 'making it up as we go along'. This is not easy and there are no optimal solutions. This is an adaptive process requiring feedback from all parts of the system. Yes, there will be surprises. This is why it is so important that when we act we constantly reflect on what we know and what we are doing about it and where it is all going. As we reach the physical limits of the global biosphere the values we place on things are changing and must change further. A new environmental ethic is required, one that is less instrumental and more embracing. Traditionally there has tended to be a schism between those who take an anthropocentric view (that the world is there for us to use) and those who take the non-anthropocentric view (those who value nature in its own right). Orthodox anthropocentrisni dictates that non-human value is instrumental to human needs and interests. In contrast, non-anthropocentrics take an objectivist view and value nature intrinsically; some may consider the source of value in non-human nature to be independent of human consciousness.45 What is required is a more complex and systems view of ethics which finds a middle ground between the instrumentalist and objectivist views. Norton '46 for example, proposes an alternative and more complex theory of value - a universal Earth ethic - which values processes and dynamics as well as entities and takes an adaptive management view of changing system properties. For sustainable development to occur, choices about values will remain within the human sphere but we should no longer regard human preferences as the only criterion of moral significance. 'Humans and the planet have entwined destinies"' and this will be increasingly true in many and complex ways as we move forward. There are calls for an Earth ethic beyond the land ethic of Aldo Leopold.45 The science of ecology is being drawn into the web .49 Ecologists are becoming more socially and culturally aware and engaged" and the 'very doing' of ecology is becoming more ethical.tm' Some scientists are beginning to see themselves more as agents in relationships with society and less as observers.

**Paradigm wars are useless – combining epistemologies is key to intellectual and political progress. Only the perm solves.**

David A. **Lake. 2011**. Jerri-Ann and Gary E. Jacobs Professor of Social Sciences and Distinguished Professor of Political Science at the University of California, San Diego. Why “isms” are Evil: Theory, Epistemology, and Academic Sects as Impediments to Understanding and Progress. International Studies Quarterly 55, 465-480.

As I began, our task as scholars is to understand better the world in which we live. Our privileged position as scholars in society rests upon this goal, or at least its pursuit. **We do not produce understanding by ﬁghting theological wars between ourselves at either the theoretical or epistemological levels.** Rather, **we achieve understanding by asking questions about important phenomena that we do not now understand well, employing appropriate theories to answer these questions, and then being honest with ourselves and others about the strengths and weaknesses of the evidence we have been able to bring to bear**. Today, **no single theoretical or epistemological approach deserves hegemony. Diversity of theory and method is necessary, at least at this stage of our intellectual development**. Intellectual monocultures are rightfully feared. But the current cacophony is not what we should aspire to. **Rather than useful debate we have turned inward to self-contained research traditions and epistemologies** and, in turn, we focus on ﬁrst principles. **Intellectual progress does not come from proclaiming ever more loudly the superiority of one’s approach to audiences who have stopped listening. Let’s end the theological crusades and seek progress in understanding real problems of world politics**. Perhaps then we will earn the privileges society has accorded us.

#### Perm- do the alt

#### Case impacts prove why security logic is good- key to prevent multiple scenarios for extinction- aff is an impact turn to the K. Outweighs- prefer proximate short-term extinction scenarios over their vacuous impact claims.

#### War makes alt impossible- policy makers would default to security paradigm because it’s the most familiar

**Life should be valued as apriori – it precedes the ability to value anything else**

Amien **Kacou. 2008**. WHY EVEN MIND? On The A Priori Value Of “Life”, Cosmos and History: The Journal of Natural and Social Philosophy, Vol 4, No 1-2 (2008) cosmosandhistory.org/index.php/journal/article/view/92/184

Furthermore, that manner of **finding things good** that is in pleasure **can certainly not exist in any world without consciousness (i.e., without “life,”** as we now understand the word)—slight analogies put aside. In fact, we can begin to develop a more sophisticated definition of the concept of “pleasure,” in the broadest possible sense of the word, as follows: it is the common psychological element in all psychological experience of goodness (be it in joy, admiration, or whatever else). In this sense, pleasure can always be pictured to “mediate” all awareness or perception or judgment of goodness: there is pleasure in all consciousness of things good; pleasure is the common element of all conscious satisfaction. In short, it is simply the very experience of liking things, or the liking of experience, in general. In this sense, **pleasure is, not only uniquely characteristic of life but also, the core expression of goodness in life—the most general sign or phenomenon for favorable conscious valuation**, in other words. This does not mean that “good” is absolutely synonymous with “pleasant”—what we value may well go beyond pleasure. (The fact that we value things needs not be reduced to the experience of liking things.) However, what we value beyond pleasure remains a matter of speculation or theory. Moreover, we note that a variety of things that may seem otherwise unrelated are correlated with pleasure—some more strongly than others. In other words, there are many things the experience of which we like. For example: the admiration of others; sex; or rock-paper-scissors. But, again, what they are is irrelevant in an inquiry on a priori value—what gives us pleasure is a matter for empirical investigation. Thus, we can see now that, in general, **something primitively valuable is attainable in living—that is, pleasure itself.** And it seems equally clear that we have a priori logical reason to pay attention to the world in any world where pleasure exists. Moreover, **we can now also articulate a foundation for a security interest in our life: since the good of pleasure can be found in living** (to the extent pleasure remains attainable),[17] **and only in living, therefore, a priori, life ought to be continuously (and indefinitely) pursued at least for the sake of preserving the possibility of finding that good.** However, this platitude about the value that can be found in life turns out to be, at this point, insufficient for our purposes. It seems to amount to very little more than recognizing that our subjective desire for life in and of itself shows that life has some objective value. For what difference is there between saying, “living is unique in benefiting something I value (namely, my pleasure); therefore, I should desire to go on living,” and saying, “I have a unique desire to go on living; therefore I should have a desire to go on living,” whereas the latter proposition immediately seems senseless? In other words, “life gives me pleasure,” says little more than, “I like life.” Thus, we seem to have arrived at the conclusion that **the fact that we already have some (subjective) desire for life shows life to have some (objective) value.** But, if that is the most we can say, then it seems our enterprise of justification was quite superficial, and the subjective/objective distinction was useless—for all we have really done is highlight the correspondence between value and desire. Perhaps, our inquiry should be a bit more complex.

**The alt results in more securitization and intervention**

Tara **McCormack, 2010**, is Lecturer in International Politics at the University of Leicester and has a PhD in International Relations from the University of Westminster. 2010, (Critique, Security and Power: The political limits to emancipatory approaches, page 127-129)

The following section will briefly raise some questions about the rejection of the old security framework as it has been taken up by the most powerful institutions and states. Here we can begin to see the political limits to critical and emancipatory frameworks. In an international system which is marked by great power inequalities between states, the **rejection of the** old narrow national interest-based **security framework** by major international institutions, and the adoption of ostensibly emancipatory policies and policy rhetoric, **has the consequence of problematising weak or unstable states and allowing international institutions or major states a more interventionary role, yet without establishing mechanisms by which the citizens of states being intervened in might have any control over the agents or agencies of their emancipation**. Whatever the problems associated with the pluralist security framework **there were at least formal and clear demarcations. This has the consequence of entrenching international power inequalities and allowing for a shift towards a hierarchical international order in which the citizens in weak or unstable states may arguably have even less freedom or power than before**. Radical critics of contemporary security policies, such as human security and humanitarian intervention, argue that we see an assertion of Western power and the creation of liberal subjectivities in the developing world. For example, see Mark Duffield’s important and insightful contribution to the ongoing debates about contemporary international security and development. Duffield attempts to provide a coherent empirical engagement with, and theoretical explanation of, these shifts. Whilst these shifts, away from a focus on state security, and the so-called merging of security and development are often portrayed as positive and progressive shifts that have come about because of the end of the Cold War, Duffield argues convincingly that these shifts are highly problematic and unprogressive. For example, the rejection of sovereignty as formal international equality and a presumption of nonintervention has eroded the division between the international and domestic spheres and led to an international environment in which Western NGOs and powerful states have a major role in the governance of third world states. Whilst for supporters of humanitarian intervention this is a good development, Duffield points out the depoliticising implications, drawing on examples in Mozambique and Afghanistan. Duffield also draws out the problems of the retreat from modernisation that is represented by sustainable development. The Western world has moved away from the development policies of the Cold War, which aimed to develop third world states industrially. Duffield describes this in terms of a new division of human life into uninsured and insured life. Whilst we in the West are ‘insured’ – that is we no longer have to be entirely self-reliant, we have welfare systems, a modern division of labour and so on – sustainable development aims to teach populations in poor states how to survive in the absence of any of this. **Third world populations must be taught to be self-reliant, they will remain uninsured. Self-reliance of course means the condemnation of millions to a barbarous life of inhuman bare survival.** Ironically, although sustainable development is celebrated by many on the left today, by leaving people to fend for themselves rather than developing a society wide system which can support people, sustainable development actually leads to a less human and humane system than that developed in modern capitalist states. Duffield also describes how many of these problematic shifts are embodied in the contemporary concept of human security. For Duffield, we can understand these shifts in terms of Foucauldian biopolitical framework, which can be understood as a regulatory power that seeks to support life through intervening in the biological, social and economic processes that constitute a human population (2007: 16). Sustainable development and human security are for Duffield technologies of security which aim to *create* self-managing and self-reliant subjectivities in the third world, which can then survive in a situation of serious underdevelopment (or being uninsured as Duffield terms it) without causing security problems for the developed world. For Duffield this is all driven by a neoliberal project which seeks to control and manage uninsured populations globally. Radical critic Costas Douzinas (2007) also criticises new forms of cosmopolitanism such as human rights and interventions for human rights as a triumph of American hegemony. Whilst we are in agreement with critics such as Douzinas and Duffield that **these new security frameworks cannot be empowering, and ultimately lead to more power for powerful states,** we need to understand why these frameworks have the effect that they do. We can understand that these frameworks have political limitations without having to look for a specific plan on the part of current powerful states. **In new security frameworks such as human security we can see the political limits of the framework proposed by critical and emancipatory theoretical approaches**.

**Prefer specific scenarios – even if we invoke some security logic, the fact that others will securitize means that we have to make worst-case assessments to avoid escalation**

Ole **Waever**, Senior Research Fellow – Copenhagen Peace Research Inst., **2K**

(I. R. Theory & the Politics of European Integration, ed Kelstrup/Williams p. 282-285)

The other main possibility is to stress responsibility. Particularly **in a field like security one has to make choices and deal with the challenges and risks that one confronts** – and not shy away into long-range or principled transformations. The meta-political line risks (despite the theoretical commitment to the concrete other) implying that politics can be contained within large ‘systemic’ questions. In line with the classical revolutionary tradition, after the change (now no longer the revolution but the meta-physical transformation), there will be no more problems whereas in our situation (until the change) we should not deal with the ‘small questions’ of politics, only with the large one (cf. Rorty 1996). However, the ethical demand in post-structuralism (e.g. Derrida’s ‘justice’) is of a kind that can never be instantiated in any concrete political order – it is an experience of the undecidable that exceeds any concrete solution and re-inserts politics. Therefore, politics can never be reduced to meta-questions; there is no way to erase the small, particular, banal conflicts and controversies. In contrast to the quasi-institutionalist formula of radical democracy which one finds in the ‘opening’ oriented version of deconstruction, we could with Derrida stress the singularity of the event. To take a position, take part, and ‘produce events’ (Derrida 1994: 89) means to get involved in specific struggles. Politics takes place ‘in the singular event of engagement’ (Derrida 1996: 83). Derrida’s politics is focused on the calls that demand response/responsibility in words like justice, Europe and emancipation. Should we treat security in this manner? No, security is not that kind of call. ‘Security’ is not a way to open (or keep open) an ethical horizon. **Security** is a much more situational concept oriented to the handling of specifics. It **belongs to the sphere of how to handle challenges – and avoid ‘the worst’** (Derrida 1991). Here enters again the possible pessimism hich for the security analyst might be occupational or structural. The infinitude of responsibility (Derrida 1996: 86) or the tragic nature of politics (Morgenthau 1946, Chapter 7) means that one can never feel reassured that by some ‘good deed’, ‘I have assumed my responsibilities’ (Derrida 1996: 86). If I conduct myself particularly well with regard to someone, I know that it is to the detriment of an other; of one nation to the detriment of another nation, of one family to the detriment of another family, of my friends to the detriment of other friends or non-friends, etc. This is the infinitude that inscribes itself within responsibility; otherwise there would be no ethical problems or decisions. (ibid.; and parallel argumentation in Morgenthau 1946; Chapters 6 and 7) Because of this there will remain conflicts and risks – and the question of how to handle them. Should developments be securitized (and if so, in what terms)? Often our reply will be to aim for de-securitization and then politics meet meta-politics; but **occasionally** the underlying **pessimism** regarding the prospects for orderliness and compatibility among human aspirations **will point to** **scenarios sufficiently worrisome that** **responsibility will entail securitization in order to block the worst. As a security/securitization analyst, this means accepting the task of trying to manage and avoid spirals and accelerating security concerns, to try to assist in shaping the continent in a way that creates the least insecurity and violence – even if this occasionally means invoking/producing ‘structures’ or even using the dubious instrument of securitization**. In the case of current European configuration, the above analysis suggests the use of securitization at the level of European scenarios with the aim of preempting and avoiding numerous instances of local securitization that could lead to security dilemmas and escalations, violence and mutual vilification.

**Threats are not socially constructed- decision makers use the most objective, rational, and accurate assessments possible- there are no bureaucratic or ideological motivations to invent threats.**

**Ravenal ‘9**

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Quite expectedly, the more doctrinaire of the non-interventionists take pains to deny any straightforward, and therefore legitimate, security motive in American foreign and military policy. In fact, this denial leads to a more sweeping rejection of any recognizably rational basis for American foreign policy, and, even, sometimes (among the more theoretical of the non-interventionists), a preference for non-rational accounts, or “models,” of virtually any nation’s foreign policy-making.4 One could call this tendency among anti-imperialists “motive displacement.” More specifically, in the cases under review here, one notes a receptivity to any reworking of history, and any current analysis of geopolitics, that denigrates “the threat”; and, along with this, a positing of “imperialism” (the almost self-referential and primitive impulse) as a sufficient explanation for the often strenuous and risky actions of great powers such as the United States. Thus, not only is “empire” taken to be a sufficient and, in some cases, a necessary condition in bringing about foreign “threats”; but, by minimizing the extent and seriousness of these threats, the anti-imperialists put themselves into the position of lacking a rational explanation for the derivation of the (pointless at best, counter-productive at worst) policies that they designate as imperialistic. A pungent example of this threat denigration and motive displacement is Eland’s account of American intervention in the Korean and Vietnam wars:¶ After North Korea invaded, the Truman administration intervened merely for the purpose of a demonstration to friends and foes alike. Likewise, according to eminent cold war historians, the United States did not inter- vene in Vietnam because it feared communism, which was fragmented, or the Soviet Union, which wanted détente with the West, or China, which was weak, but because it did not want to appear timid to the world. The behavior of the United States in both Korea and Vietnam is typical of imperial powers, which are always concerned about their reputation, pres- tige, and perceived resolve. (Eland 2004, 64)¶ Of course, the motive of “reputation,” to the extent that it exists in any particular instance, is a part of the complex of motives that characterize a great power that is drawn toward the role of hegemon (not the same thing as “empire”). Reputation is also a component of the power projec- tion that is designed to serve the interest of national security. Rummaging through the concomitants of “imperialism,” Eland (2004, 65) discovers the thesis of “threat inflation” (in this case, virtual threat invention): Obviously, much higher spending for the military, homeland security, and foreign aid are required for a policy of global intervention than for a policy of merely defending the republic. For example, after the cold war, the security bureaucracies began looking for new enemies to justify keeping defense and intelligence budgets high. Similarly, Eland (ibid., 183), in a section entitled “Imperial Wars Spike Corporate Welfare,” attributes a large portion of the U.S. defense budget—particularly the procurement of major weapons systems, such as “Virginia-class submarines . . . aircraft carriers . . . F-22 fighters . . . [and] Osprey tilt-rotor transport aircraft”—not to the systemically derived requirement for certain kinds of military capabilities, but, rather, to the imperatives of corporate pork. He opines that such weapons have no stra- tegic or operational justification; that “the American empire, militarily more dominant than any empire in world history, can fight brushfire wars against terrorists and their ‘rogue’ state sponsors without those gold- plated white elephants.”¶ The underlying notion of “the security bureaucracies . . . looking for new enemies” is a threadbare concept that has somehow taken hold across the political spectrum, from the radical left (viz. Michael Klare [1981], who refers to a “threat bank”), to the liberal center (viz. Robert H. Johnson [1997], who dismisses most alleged “threats” as “improbable dangers”), to libertarians (viz. Ted Galen Carpenter [1992], Vice President for Foreign and Defense Policy of the Cato Institute, who wrote a book entitled A Search for Enemies). What is missing from most analysts’ claims of “threat inflation,” however, is a convincing theory of why, say, the American government significantly (not merely in excusable rhetoric) might magnify and even invent threats (and, more seriously, act on such inflated threat estimates). In a few places, Eland (2004, 185) suggests that such behavior might stem from military or national security bureaucrats’ attempts to enhance their personal status and organizational budgets, or even from the influence and dominance of “the military-industrial complex”; viz.: “Maintaining the empire and retaliating for the blowback from that empire keeps what President Eisenhower called the military-industrial complex fat and happy.” Or, in the same section:¶ In the nation’s capital, vested interests, such as the law enforcement bureaucracies . . . routinely take advantage of “crises”to satisfy parochial desires. Similarly, many corporations use crises to get pet projects— a.k.a. pork—funded by the government. And national security crises, because of people’s fears, are especially ripe opportunities to grab largesse. (Ibid., 182)¶ Thus, “bureaucratic-politics” theory, which once made several reputa- tions (such as those of Richard Neustadt, Morton Halperin, and Graham Allison) in defense-intellectual circles, and spawned an entire sub-industry within the field of international relations,5 is put into the service of dismissing putative security threats as imaginary. So, too, can a surprisingly cognate theory, “public choice,”6 which can be considered the right-wing analog of the “bureaucratic-politics” model, and is a preferred interpretation of governmental decision- making among libertarian observers. As Eland (2004, 203) summarizes:¶ Public-choice theory argues [that] the government itself can develop sepa- rate interests from its citizens. The government reflects the interests of powerful pressure groups and the interests of the bureaucracies and the bureaucrats in them. Although this problem occurs in both foreign and domestic policy, it may be more severe in foreign policy because citizens pay less attention to policies that affect them less directly.¶ There is, in this statement of public-choice theory, a certain ambiguity, and a certain degree of contradiction: Bureaucrats are supposedly, at the same time, subservient to societal interest groups and autonomous from society in general.¶ This journal has pioneered the argument that state autonomy is a likely consequence of the public’s ignorance of most areas of state activity (e.g., Somin 1998; DeCanio 2000a, 2000b, 2006, 2007; Ravenal 2000a). But state autonomy does not necessarily mean that bureaucrats substitute their own interests for those of what could be called the “national society” that they ostensibly serve. I have argued (Ravenal 2000a) that, precisely because of the public-ignorance and elite-expertise factors, and especially because the opportunities—at least for bureaucrats (a few notable post-government lobbyist cases nonwithstanding)—for lucrative self-dealing are stringently fewer in the defense and diplomatic areas of government than they are in some of the contract-dispensing and more under-the-radar-screen agencies of government, the “public-choice” imputation of self-dealing, rather than working toward the national interest (which, however may not be synonymous with the interests, perceived or expressed, of citizens!) is less likely to hold. In short, state autonomy is likely to mean, in the derivation of foreign policy, that “state elites” are using rational judgment, in insulation from self-promoting interest groups—about what strategies, forces, and weapons are required for national defense.¶ Ironically, “public choice”—not even a species of economics, but rather a kind of political interpretation—is not even about “public” choice, since, like the bureaucratic-politics model, it repudiates the very notion that bureaucrats make truly “public” choices; rather, they are held, axiomatically, to exhibit “rent-seeking” behavior, wherein they abuse their public positions in order to amass private gains, or at least to build personal empires within their ostensibly official niches. Such sub- rational models actually explain very little of what they purport to observe. Of course, there is some truth in them, regarding the “behavior” of some people, at some times, in some circumstances, under some conditions of incentive and motivation. But the factors that they posit operate mostly as constraints on the otherwise rational optimization of objectives that, if for no other reason than the playing out of official roles, transcends merely personal or parochial imperatives.¶ My treatment of “role” differs from that of the bureaucratic-politics theorists, whose model of the derivation of foreign policy depends heavily, and acknowledgedly, on a narrow and specific identification of the role- playing of organizationally situated individuals in a partly conflictual “pulling and hauling” process that “results in” some policy outcome. Even here, bureaucratic-politics theorists Graham Allison and Philip Zelikow (1999, 311) allow that “some players are not able to articulate [sic] the governmental politics game because their conception of their job does not legitimate such activity.” This is a crucial admission, and one that points— empirically—to the need for a broader and generic treatment of role.¶ Roles (all theorists state) give rise to “expectations” of performance. My point is that virtually every governmental role, and especially national-security roles, and particularly the roles of the uniformed mili- tary, embody expectations of devotion to the “national interest”; rational- ity in the derivation of policy at every functional level; and objectivity in the treatment of parameters, especially external parameters such as “threats” and the power and capabilities of other nations.¶ Sub-rational models (such as “public choice”) fail to take into account even a partial dedication to the “national” interest (or even the possibility that the national interest may be honestly misconceived in more paro- chial terms). In contrast, an official’s role connects the individual to the (state-level) process, and moderates the (perhaps otherwise) self-seeking impulses of the individual. Role-derived behavior tends to be formalized and codified; relatively transparent and at least peer-reviewed, so as to be consistent with expectations; surviving the particular individual and trans- mitted to successors and ancillaries; measured against a standard and thus corrigible; defined in terms of the performed function and therefore derived from the state function; and uncorrrupt, because personal cheating and even egregious aggrandizement are conspicuously discouraged.¶ My own direct observation suggests that defense decision-makers attempt to “frame” the structure of the problems that they try to solve on the basis of the most accurate intelligence. They make it their business to know where the threats come from. Thus, threats are not “socially constructed” (even though, of course, some values are).¶ A major reason for the rationality, and the objectivity, of the process is that much security planning is done, not in vaguely undefined circum- stances that offer scope for idiosyncratic, subjective behavior, but rather in structured and reviewed organizational frameworks. Non-rationalities (which are bad for understanding and prediction) tend to get filtered out. People are fired for presenting skewed analysis and for making bad predictions. This is because something important is riding on the causal analysis and the contingent prediction. For these reasons, “public choice” does not have the “feel” of reality to many critics who have participated in the structure of defense decision-making. In that structure, obvious, and even not-so-obvious, “rent-seeking” would not only be shameful; it would present a severe risk of career termination. And, as mentioned, the defense bureaucracy is hardly a productive place for truly talented rent-seekers to operate, compared to opportunities for personal profit in the commercial world. A bureaucrat’s very self-placement in these reaches of government testifies either to a sincere commitment to the national interest or to a lack of sufficient imagination to exploit opportunities for personal profit.

**Rejecting security allows private forces to fill in the security vacuum left by the state resulting in more violent forms of securitization**

**Loader and Walker 07** <Ian and Neil, professor of criminology and Director of the center for Criminology at Oxford Professor of European Law European University Institute Florence , *Civilizing Security*, pg 22-25)

**Today it cannot be assumed that the state remains pre-eminent in either authorizing or delivering** policing and **security**. **Other non-state actors now lay claim to authority and competence in this field**. In defence of the contention that what Johnston and Shearing (2003) call the ‘governance of security’ is conducted by a multiplicity of institutions, one can point to the following: • **Private security has become big business across the world.** In Britain, the USA, Canada, South Africa and beyond it has long been acknowledged that those employed by commercial security outfits outstrip the total number of public police officers. Private security operatives are hired by corporations, national and local governments, and private citizens to guard office complexes, airports, universities, housing estates, schools, hospitals, shopping centres, civic buildings, courts, even police stations. People’s access to, and conduct within, large tracts of urban space is regulated by private security guards, employed by commercial companies, enforcing property rather than criminal law. Such guards also, in some settings, engage in ‘front-line’ law enforcement and order maintenance policework (Rigakos 2002). 1 Anxious citizens, in turn, rely on the security market for an array of protective hardware (alarms, gates, locks, CCTV systems), as well as resorting to forms of self-policing — often encouraged by insurance companies and neo-liberal governments. Some have formed ‘private residential associations’ or sought security inside ‘gated communities’, withdrawing their demand and support for public provision (including policing provision) in the process. In response, the public police increasingly act as market players, contracting-out non-core ‘business’, eliciting corporate sponsorship, and marketing or even selling their services to a public disaggregated into individual ‘customers’. • **All this is happening in societies with strong, established states**. In those with weak or failing states, or undergoing political transition, the public police are not the only or main security actor, nor can they lay claim to a monopoly over legitimate force inside their territory. **Across many parts of the globe today** — in Italy, Colombia, Brazil, Northern Ireland, Russia, Afghanistan, the impacted ghettos of US and European cities **one finds alternative power centres contesting state authority, ‘shadow sovereigns’** (Nordstrom 2000) operating their own codes of behaviour and mechanisms of enforcement (Gambetta 1993; Varese 2001). In these contexts, those who can afford to have, once more, fled behind walls, venturing from their residential enclosures only to make passage to other protected work and leisure domains. **The dispossessed by contrast are left at the mercy not only of militarized, partisan police forces, but also criminal gangs, hired ‘rent-a-cops’ and urban vigilantes.** Alternatively, in some isolated pockets parts of South Africa and Argentina for instance — poor communities are striving to put in place non-violent, local capacity-building forms of non-state security governance. • Nor are these developments confined within the borders of modern states. ‘**Security’ has also become a multinational business, one that crosses territorial boundaries and further erodes the internal/external security distinction.** Several private security enterprises now trade their wares across the globe (Johnston 2006). They sell security advice, equipment and personnel to anxious citizens and warring factions in weak and failed states. They claim to be filling the ‘security gaps’ left by the fall of communist rule in the former Soviet Union and eastern Europe. And they offer to serve and protect the interests of multinationals operating in disordered, crime-ridden locations. To this, one can add the ‘privatization of violence’ occurring in many conflict and post-conflict zones around the world, as ‘private military firms’ such as MPRI and Dyncorp — dubbed by Peter Singer (2003) ‘corporate warriors’ — promote and sell military ‘know-how’, equipment and intervention to beleaguered governments and other armed groups (Avant 2005). It is a telling symbol of these trends that one of the fastest-growing industries in post- invasion Iraq is private security. **These examples** too we will flesh out in more detail below. What they serve for the moment to **illustrate** is **the existence of a pluralized — market-driven — environment where the state exists alongside, sponsors and competes against a plethora of non-state actors in a bid to promise security to citizens**. It is a field where the state is not only less and less involved in delivering policing and security on the ground — what Osborne and Gaebler (1992) call ‘rowing’ — but also often lacks the effective regulatory capacity to ‘steer’. It is a field constituted by new sites of rule and authority beyond the state, one where market power or communal ordering escapes from the forms of public will- formation that only the democratic state can supply. **Against this backdrop, the project of civilizing security is faced not only** (or even mainly) **with the task of controlling the arbitrary, discriminatory exercise of sovereign force, or with the excesses of state power. It is confronted, rather more, with a notable absence of political institutions with the capacity and legitimacy required to prevent those with ‘the loudest voices and the largest pockets’** (Johnston and Shearing 2003: 144) **from organizing their own ‘security’ in ways that impose unjustifiable burdens of insecurity upon others**. Or, to put the same point more widely: **These days, the main obstacle to social justice is not the invasive intentions or proclivities of the state, but its growing impotence,** aided and abetted daily by the officially adopted ‘there is no alternative’ creed. I suppose that **the danger we will have to fight back in the coming century won’t be totalitarian coercion, the main preoccupation of the century just ended, but the falling apart of ‘totalities’ capable of securing the autonomy of human society.** (Bauman and Tester 2001: 139)

**Security sustains a form of democratic citizenship necessary to enhance standards of living and ensure rights**

**Loader and Walker 07** <Ian and Neil, professor of criminology and Director of the center for Criminology at Oxford Professor of European Law European University Institute Florence , *Civilizing Security*, pg 7-8)

By invoking this phrase we have in mind two ideas, both of which we develop in the course of the book. The first, which is relatively familiar if not uncontroversial, is that security needs civilizing. States — even those that claim with some justification to be ‘liberal’ or ‘democratic’ — have a capacity when self-consciously pursuing a condition called ‘security’ to act in a fashion injurious to it. So too do non-state ‘security’ actors, a point we return to below and throughout the book. They proceed in ways that trample over the basic liberties of citizens; that forge security for some groups while imposing illegitimate burdens of insecurity upon others, or that extend the coercive reach of the state — and security discourse — over social and political life. As monopoly holders of the means of legitimate physical and symbolic violence, modern states possess a built-in, paradoxical tendency to undermine the very liberties and security they are constituted to protect. Under conditions of fear such as obtain across many parts of the globe today, states and their police forces are prone to deploying their power in precisely such uncivil, insecurity- instilling ways. If the state is to perform the ordering and solidarity- nourishing work that we argue is vital to the production of secure political communities then it must, consequently, be connected to forms of discursive contestation, democratic scrutiny and constitutional control. The state is a great civilizing force, a necessary and virtuous component of the good society. But if it is to take on this role, the state must itself be civilized — made safe by and for democracy. But our title also has another; less familiar meaning — the idea that **security is civilizing. Individuals who live, objectively or subjectively, in a state of anxiety do not make good democratic citizens**, as European theorists reflecting upon the dark days of the 1930s and 1940s knew well (Neumann 1957). **Fearful citizens tend to be inattentive to, unconcerned about, even enthusiasts for; the erosion of basic freedoms. They often lack openness or sympathy towards others, especially those they apprehend as posing a danger to them.** They privilege the known over the unknown, us over them, here over there. They often retreat from public life, seeking refuge in private security ‘solutions’ while at the same time screaming anxiously and angrily from the sidelines for the firm hand of authority — for tough ‘security’ measures against crime, or disorder, or terror. **Prolonged episodes of violence, in particular, can erode or destroy people’s will and capacity to exercise political judgement and act in solidarity with others** (Keane 2004: 122—3). **Fear, in all these ways, is the breeding ground, as well as the stock-in-trade, of authoritarian, uncivil government.** But there is more to it than that. Security is also civilizing in a further, more positive sense. **Security**, we shall argue, is **in a sociological sense a ‘thick’ public good, one whose production has irreducibly social dimensions, a good that helps to constitute the very idea of ‘public- ness’**. Security, in other words, is simultaneously the producer and product of forms of trust and abstract solidarity between intimates and strangers that are prerequisite to democratic political communities. The state, moreover; performs vital cultural and ordering work in fashioning the good of security conceived of in this sense. **It can**, under the right conditions, **create inclusive communities of practice and attachment, while ensuring that these remain rights-regarding, diversity- respecting entities.** In a world where the state’s pre-eminence in governing security is being questioned by private-sector interests, practices of local communal ordering and transnational policing networks, the constitution of old- and new-fashioned forms of democratic political authority is, we shall argue, indispensable to cultivating and sustaining the civilizing effects of security.

**Worst-case scenarios calculate for the sake of responsibility – mobilization is key to effective to political movements that prevent the worst forms of their impact**

Michael **Williams**, Professor of International Politics – U. Wales, Aberystwyth**, ‘5**

(*The Realist Tradition and the Limits of International Relations* p. 165-7)

Moreover, the links between sceptical realism and prevalent post-modern themes go more deeply than this, particularly as they apply to attempts by post-structural thinking to reopen questions of responsibility and ethics.80 In part, the goals of post-structural approaches can be usefully charactised, to borrow Stephen White’s illuminating contrast, as expressions of ‘responsibility to otherness’ which question and challenge modernist equations of responsibility with a ‘responsibility to act’. A responsibility to otherness seeks to reveal and open the constitutive processes and claims of subjects and subjectivities that a foundational modernism has effaced in its narrow identification of responsibility with a ‘responsibility to act’.81 Deconstruction can from this perspective be seen as a principled stance unwilling to succeumb to modernist essentialism which in the name of responsibility assumes and reifies subjects and structures, obscures forms of power and violence which are constitutive of them, and at the same time forecloses a consideration of alternative possibilities and practices. Yet it is my claim that **the willful Realist tradition does not lack** understanding of the **contingency** of practice or a vision of responsibility to otherness. On the contrary, **its strategy of objectification is precisely an attempt to bring together a responsibility to otherness and a responsibility to act within a wilfully liberal vision. The construction** of a realm of objectivity and **calculation** is not just a consequence of a need to act – the framing of an epistemic context for successful calculation. It **is** a form of **responsibility to otherness**, **an attempt to allow for diversity and irreconcilability** precisely **by** – at least initially – **reducing the self and** the **other to** a **structure of material calculation in order to allow a structure of mutual intelligibility, mediation, and stability**. It is, in short, a strategy of *limitation*: a wilful attempt to construct a subject and a social world limited – both epistemically and politically – **in the name of a politics of toleration**: a liberal strategy that John Gray has recently characterized as one of *modus vivendi*.82 If this is the case, then the deconstructive move that gains some of its weight by contrasting itself to a non- or apolitical objectivism must engage with the more complex contrast to a sceptical Realist tradition that is itself a constructed, ethical practice. This issue becomes even more acute if one considers Iver Neumann’s incisive questions concerning postmodern constructions of identity, action, and responsibility.83 As Neumann points out, **the insight that identities are** inescapably contingent and relationally **constructed**, and even the claim that identities are inescapably *indebted* to otherness, **do** **not in themselves provide a foundation for practice**, particularly **in situations where identities are** **‘sedimented’ and conflictually defined**. In these cases, **deconstruction alone will not suffice unless it can demonstrate a capacity to counter in practice and not just in philosophic practice** the essentialist dynamics it confronts.84 Here, a responsibility to act must go **beyond** **deconstruction** **to consider viable alternatives and counter-practices**. To take **this** critique seriously **is not** necessarily **to be subjec**t yet again t**o the** straightforward **‘blackmail of the Englightenment** and a narrow ‘modernist’ vision of responsibility.85 While an unwillingness to move beyond a deconstructive ethic of responsibility to otherness for fear that an essentialist stance is the only (or most likely) alternative expresses a legitimate concern, it should not license a retreat from such questions or their practical demands. Rather, such **situations demand** also an evaluation of the **structures** (of identity and institutions) **that might viably be mobilized** in order **to offset the worst implications** of violently exclusionary identities. **It requires**, as Neumann nicely puts it, the generation of **compelling ‘as if’ stories around which** counter-subjectivities **and political practices can coalesce.** Wilful Realism, I submit, arises out of an appreciation of these issues, and comprises an attempt to craft precisely such ‘stories’ within a broader intellectual and sociological analysis of their conditions of production, possibilities of success, and likely consequences. The question is, to what extent are these limits capable of success, and to what extent might they be limits upon their own aspirations toward responsibility? These are crucial questions, but they will not be addressed by retreating yet again into further reversals of the same old dicohotomies.

**Imperialism is key to stop war, terrorism and disease spread**

Niall **Ferguson. 2004**. Historian @ NYU, COLLOSSAS: THE PRICE OF AMERICA’S EMPIRE, pp. 24-5

Unlike the majority of European writers who have written on this subject, I am fundamentally in favor of empire. Indeed, I believe that **empire is more necessary in the twenty-first century than ever before**. The threats we face are not in themselves new ones. But advances in technology make them more dangerous than ever before**. Thanks to the speed and regularity of modern air travel, infectious diseases can be transmitted to us with terrifying swiftness.** And **thanks to the relative cheapness and destructive­ness of modern weaponry, tyrants and terrorists can realistically think of devastating our cities.** The old, post-1945 system of sovereign states, bound loosely together by an evolving system of international law, cannot easily deal with these threats because there are too many nation-states where the writ of the "international community" simply does not run. **What is required is an agency capable of intervening in the affairs of such states to contain epidemics, depose tyrants, end local wars and eradicate terrorist or­ganizations. This is the self-interested argument for empire**. But **there is also a complementary altruistic argument. Even if they did not pose a direct threat to the security of the United States, the economic and social conditions in a number of countries in the world would justify some kind of intervention**. The poverty of a country like Liberia is explicable not in terms of resource endowment; otherwise (for example) Botswana would be just as poor."' The problem in Liberia, as in so many sub-Saharan African states, is simply misgovernment: corrupt and lawless dictators whose con­duct makes economic development impossible and encourages political opposition to take the form of civil wars **Countries in this condition will not correct themselves. They require the imposition of some kind of external authority.**

**Biopower is necessary to preserve value to life**

**Ojakangas 2005.** Mika Ojakangas, Helsinki Collegium for Advanced Studies, FOUCAULT STUDIES, 2005, p. http://www.foucault-studies.com/no2/ojakangas1.pdf

In fact, the history of modern Western societies would be quite incomprehensible without taking into account that there exists a form of power which refrains from killing but which nevertheless is capable of directing people’s lives. The effectiveness of biopower can be seen lying precisely in that it refrains and withdraws before every demand of killing, even though these demands would derive from the demand of justice. In biopolitical societies, according to Foucault, capital punishment could not be maintained except by invoking less the enormity of the crime itself than the monstrosity of the criminal: "One had the right to kill those who represented a kind of biological danger to others." However, given that the "right to kill" is precisely a sovereign right, it can be argued that the biopolitical societies analyzed by Foucault were not entirely biopolitical. Perhaps, there neither has been nor can be a society that is entirely biopolitical. Nevertheless, the fact is that present day European societies have abolished capital punishment. In them, there are no longer exceptions. It is the very "right to kill" that has been called into question. However, it is not called into question because of enlightened moral sentiments, but rather because of the deployment of biopolitical thinking and practice. For all these reasons, Agamben’s thesis, according to which the concentration camp is the fundamental biopolitical paradigm of the West, has to be corrected. **The biopolitical paradigm of the West is not the concentration camp, but, rather, the presentday welfare society** and, **instead of homo-sacer, the paradigmatic figure of the biopolitical society can be seen,** for example**, in the middle class Swedish social democrat**. Although this figure is an object – and a product of the huge biopolitical machinery, it does not mean that he is permitted to kill without committing homicide. Actually, the fact that he eventually dies, seems to be his greatest "crime" against the machinery. (In biopolitical societies, death is not only "something to be hidden away," but, also, as Foucault stresses, the most "shameful thing of all.") Therefore**, he is not exposed to an unconditional threat of death, but rather to an unconditional retreat of all dying**. In fact, **the biopolitical machinery does not want to threaten him, but to encourage him, with all its material and spiritual capacities, to live healthily, to live long and to live happily – even when, in biological terms, he "should have been dead long ago". This is because bio power is not bloody power over bare life for its own sake but pure power over all life for the sake of the living. It is not power but the living, the condition of all life – individual as well as collective – that is the measure of the success of biopower.**

**Biopower is key to nuclear deterrence**

**Bogard 1991**. William Bogard, professor at Whitman College, 1991 [Social Science Journal, Vol. 28 Issue 3 p. 325]

Although there are many places in the History of Sexuality that might indicate what Foucault had in mind was indeed what we commonly mean by “**deterrence**,” the general context remains one of discipline, **expanded to encompass the issues of bio-power and the control over life**. But there are a number of reasons to believe that such developments raise problems for the economy of power relations that, while related to those of discipline, are nonetheless conceptually distinct. The following appear to me to be the most relevant of those distinctions. With discipline, **the problem of power is that of producing and finalizing functions within a human multiplicity, to maximize utility through the strategic ordering of spatial and temporal relations, ultimately to foster or disallow life itself. With deterrence**, on the other hand, **we might say that the problem is one of reintroducing an asymmetry between opposing forces which have evolved too close to a point of equivalence or parity, or to a saturation point where it is no longer possible to increase their respective utilities**. <continued…> Where discipline sets forces in motion, deterrence indefinitely postpones the equivalence of forces. Here again, the case of nuclear deterrence serves as a paradigm, but this is only because it is the most concentrated and extreme form of a whole multiplicity of tactical maneuvers—of postponement, disinclination, destabilization, etc.—that, like the disciplines in the 1 8th century, have evolved into a general mechanism of domination, and which today pervades the most diverse institutional settings.

**Attempts to move away from nuclear deterrence ensures WMD attacks against the United States**

**Schneider** **2009** [Mark. Fellow @ National Institute for Public Policy. “Prevention Through Strength: Is Nuclear Superiority Enough” Comparative Strategy, April 2009. EBSCO]

Western nuclear powers—the United States, Britain, and France—vastly outgun the rogue states in every measurable respect. However, this alone may not be enough to ensure deterrence. The problem, as Dr. Keith B. Payne has observed, is that, “**Effective deterrence threats must be credible to the opponents. Unfortunately, leaders of terrorist states and tyrants who recognize the appropriate priority we place on avoiding civilian casualties may not believe U.S. deterrent threats that would produce the high yields and moderate accuracies of the remaining Cold War arsenal.”**36 The problem is complicated by the ceaseless efforts of the political left to delegitimize nuclear deterrence. In the pre–World War II era, or even during the late Cold War, the use of chemical and biological agents by a minor nation against a great power would have been suicidal. Today, however, **we have to take the threat of WMD attacks, even by a much weaker nation, very seriously in significant part because of the delegitimization of nuclear deterrence in the Western world.** In my view, **the delegitimization of nuclear deterrence by the political left is one of the most serious problems we face in dealing with WMD proliferation**. The left-wing view of nuclear weapons in the United States has moved, to some degree, into the mainstream. Distinguished former American leaders such a George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, despite the manifest failure of arms control to constrain the WMD threat, call for “A world free of Nuclear Weapons” because “ . . . the United States can address almost all of its military objectives by non-nuclear means.”37 This view ignores the complete lack of plausibility of creating a verification regime involving the abolition of nuclear weapons with acceptable risk, the consequences of cheating and the lack of any credible response option if it is actually discovered that an authoritarian regime had retained a sizable nuclear stockpile, and the military implication of the other types of weapons of mass destruction—chemical and biological (CBW) attack, including the advanced agents now available to potential enemies of the United States and our allies. **A credible U.S. nuclear deterrent is necessary to deal with existing threats to the very survival of the U.S., its allies, and its armed forces if they are subject to an attack using WMD**. As former Secretary of Defense Harold Brown and former Deputy Secretary of Defense John Deutch wrote in The Wall Street Journal, “However, the goal, even the aspirational goal, of eliminating all nuclear weapons is counterproductive. It will not advance substantive progress on nonproliferation; and it risks compromising the value that nuclear weapons continue to contribute, through deterrence, to U.S. security and international stability.”38 **If WMD attacks were actually made against Western cities, the reaction to them by civilian populations would likely be extreme but it would be too late to impact deterrence. There would likely be overwhelming demand by the affected populations to make the attacks stop.** The U.S. National Strategy for Combating the Proliferation of Weapons of Mass Destruction recognized that we must respond to WMD attack rapidly and that, “The primary objective of a response is to disrupt an imminent attack or an attack in progress, and eliminate the threat of future attacks.”39 In the words of Dr. William Graham, Chairman of the Congressional Electromagnetic Pulse (EMP) Commission: Failure to provide a credible deterrent will result in a wave of nuclear proliferation with serious national security implications. **When dealing with the rogue states the issue is not the size of the U.S. nuclear deterrent but the credibility of its use in response to chemical or biological weapons use and its ability to conduct low collateral damage nuclear attacks against WMD capabilities and delivery systems including very hard underground facilities for purposes of damage limitation. We must also have the capability to respond promptly. The United States nuclear guarantee is a major deterrent to proliferation. If we do not honor that guarantee, or devalue it, many more nations will obtain nuclear weapons**.40 There are only two ways to achieve a rapid end to a conflict: surrender or, alternatively, prompt and effective counterforce strikes designed to limit damage by destroying the adversary’s offensive capability. In such a charged atmosphere there likely would be demands in many states for massive retaliation against the attacker. Prewar debates about nuclear strategy, proportionality, and international law may vanish once the scope of the tragedy was fully appreciated.

**Biopower does not result in genocide – it must be combined with racism and sovereign exceptionalism**

Mika **Ojakangas, 2005** - PhD in Social Science and Academy research fellow @ the Helsinki Collegium for Advanced Studies @ University of Helsinki, “The Impossible Dialogue on Biopower: Foucault and Agamben,” May, Foucault Studies, No. 2, http://wlt-studies.com/no2/ojakangas1.pdf

It is the logic of racism, according to Foucault, that makes killing acceptable in modern biopolitical societies. This is not to say, however, that biopolitical societies are necessarily more racist than other societies. It is to say that in the era of biopolitics, only racism, because it is a determination immanent to life, can “justify the murderous function of the State”.89 However, racism can only justify killing – **killing that does not follow from the logic of biopower but from the logic of the sovereign power. Racism is**, in other words, **the only way the sovereign power, the right to kill, can be maintained in biopolitical societies:** “Racism is bound up with workings of a State that is obliged to use race, the elimination of races and the purification of the race, to exercise its sovereign power.”90 Racism is, in other words, a discourse – “quite compatible”91 with biopolitics – through which biopower can be most smoothly transformed into the form of sovereign power. Such transformation, however, changes everything. A biopolitical society that wishes to “exercise the old sovereign right to kill”, even in the name of race, ceases to be a mere biopolitical society, practicing merely biopolitics. It becomes a “demonic combination” of sovereign power and biopower, exercising sovereign means for biopolitical ends. In its most monstrous form, it becomes the Third Reich. For this reason, I cannot subscribe to Agamben’s thesis, according to which biopolitics is absolutized in the Third Reich.93 To be sure, the Third Reich used biopolitical means – it was a state in which “insurance and reassurance were universal”94 – and aimed for biopolitical ends in order to improve the living conditions of the German people -- but so did many other nations in the 1930s. What distinguishes the Third Reich from those other nations is the fact that, alongside its biopolitical apparatus, it erected a massive machinery of death. It became a society that “unleashed murderous power, or in other words, the old sovereign right to take life” throughout the “entire social body”, as Foucault puts it.95 **It is not, therefore, biopolitics that was absolutized in the Third Reich – as a matter of fact, biopolitical measures in the Nazi Germany were, although harsh, relatively modest in scale compared to some present day welfare states – but rather the sovereign power: “This power to kill, which ran through the entire social body of Nazi society, was first manifested when the power to take life, the power of life and death, was granted not only to the State but to a whole series of individuals, to a considerable number of people** (such as the SA, the SS, and so on). Ultimately, everyone in the Nazi State had the power of life and death over his or her neighbours, if only because of the practice of informing, which effectively meant doing away with the people next door, or having them done away with.96” **The only thing that the Third Reich actually absolutizes is,** in other words, **the sovereignty of power and therefore, the nakedness of bare life – at least if sovereignty is defined in the Agambenian manner: “The sovereign is the one with respect to whom all men are potentially homines sacri**, and homo sacer is the one with respect to whom all men act as sovereigns.”97

**War fuels structural violence, not the other way around**

**Goldstein 2001**. IR professor at American University (Joshua, War and Gender, p. 412, Google Books)

First, peace activists face a dilemma in thinking about causes of war and working for peace. **Many peace scholars and activists support the approach, “if you want peace, work for justice.”** Then, if one believes that sexism contributes to war, one can work for gender justice specifically (perhaps. among others) in order to pursue peace. This approach brings strategic allies to the peace movement (women, labor, minorities), but rests on the assumption that injustices cause war. The evidence in this book suggests that **causality runs at least as strongly the other way. War is not a product of capitalism, imperialism, gender, innate aggression, or any other single cause, although all of these influence wars’ outbreaks and outcomes. Rather, war has in part fueled and sustained these and other injustices**.9 So, “if you want peace, work for peace.” Indeed, if you want justice (gender and others), work for peace. **Causality does not run just upward through the levels of analysis, from types of individuals, societies, and governments up to war. It runs downward too**. Enloe suggests that changes in attitudes towards war and the military may be the most important way to “reverse women’s oppression.” The dilemma is that peace work focused on justice brings to the peace movement energy, allies, and moral grounding, yet, in light of this book’s evidence, **the emphasis on injustice as the main cause of war seems to be empirically inadequate**.

### Fiat K

#### Some form of roleplaying in debate is inevitable – roleplaying as government officials is more productive for activism and education than speaking from personal experience – their fw sponsors cooption and inaction

Alan H. Coverstone, 2005 – masters in communication from Wake Forest and longtime debate coach. “Acting on Activism: Realizing the Vision of Debate with Pro-social Impact,” Paper presented at the National Communication Association Annual Conference, 11/17/05.

However, contest debate teaches students to combine personal experience with the language of political power. Powerful personal narratives unconnected to political power are regularly co-opted by those who do learn the language of power. One need look no further than the annual state of the Union Address where personal story after personal story is used to support the political agenda of those in power. The so-called role-playing that public policy contest debates encourage promotes active learning of the vocabulary and levers of power in America. Imagining the ability to use our own arguments to influence government action is one of the great virtues of academic debate. Gerald Graff (2003) analyzed the decline of argumentation in academic discourse and found a source of student antipathy to public argument in an interesting place.¶ I’m up against…their aversion to the role of public spokesperson that formal writing presupposes. It’s as if such students can’t imagine any rewards for being a public actor or even imagining themselves in such a role. This lack of interest in the public sphere may in turn reflect a loss of confidence in the possibility that the arguments we make in public will have an effect on the world. Today’s students’ lack of faith in the power of persuasion reflects the waning of the ideal of civic participation that led educators for centuries to place rhetorical and argumentative training at the center of the school and college curriculum. (Graff, 2003, p. 57)¶ The power to imagine public advocacy that actually makes a difference is one of the great virtues of the traditional notion of fiat that critics deride as mere simulation. Simulation of success in the public realm is far more empowering to students than completely abandoning all notions of personal power in the face of governmental hegemony by teaching students that “nothing they can do in a contest debate can ever make any difference in public policy.” Contest debating is well suited to rewarding public activism if it stops accepting as an article of faith that personal agency is somehow undermined by the so-called role playing in debate. Debate is role-playing whether we imagine government action or imagine individual action. Imagining myself starting a socialist revolution in America is no less of a fantasy than imagining myself making a difference on Capitol Hill. Furthermore, both fantasies influenced my personal and political development virtually ensuring a life of active, pro-social, political participation. Neither fantasy reduced the likelihood that I would spend my life trying to make the difference I imagined. One fantasy actually does make a greater difference: the one that speaks the language of political power. The other fantasy disables action by making one a laughingstock to those who wield the language of power. Fantasy motivates and role-playing trains through visualization. Until we can imagine it, we cannot really do it. Role-playing without question teaches students to be comfortable with the language of power, and that language paves the way for genuine and effective political activism.¶ Debates over the relative efficacy of political strategies for pro-social change must confront governmental power at some point. There is a fallacy in arguing that movements represent a better political strategy than voting and person-to-person advocacy. Sure, a full-scale movement would be better than the limited voice I have as a participating citizen going from door to door in a campaign, but so would full-scale government action. Unfortunately, the gap between my individual decision to pursue movement politics and the emergence of a full-scale movement is at least as great as the gap between my vote and democratic change. They both represent utopian fiat. Invocation of Mitchell to support utopian movement fiat is simply not supported by his work, and too often, such invocation discourages the concrete actions he argues for in favor of the personal rejectionism that under girds the political cynicism that is a fundamental cause of voter and participatory abstention in America today.

#### Roleplaying in debates increases education about agency and sponsors ideological becoming

Thorkild Hanghøj. 2008. ¶ Since this PhD project began in 2004, the present author has been affiliated with DREAM (Danish¶ Research Centre on Education and Advanced Media Materials), which is located at the Institute of¶ Literature, Media and Cultural Studies at the University of Southern Denmark. Research visits have¶ taken place at the Centre for Learning, Knowledge, and Interactive Technologies (L-KIT), the¶ Institute of Education at the University of Bristol and the institute formerly known as Learning Lab¶ Denmark at the School of Education, University of Aarhus, where I currently work as an assistant¶ professor. http://static.sdu.dk/mediafiles/Files/Information\_til/Studerende\_ved\_SDU/Din\_uddannelse/phd\_hum/afhandlinger/2009/ThorkilHanghoej.pdf¶, Copenhagen, 2008

Thus, debate games require teachers to balance the centripetal/centrifugal forces of gaming and teaching, to be able to reconfigure their discursive authority, and to orchestrate the multiple voices of a dialogical game space in relation to particular goals. These Bakhtinian perspectives provide a valuable analytical framework for describing the discursive interplay between different practices and knowledge aspects when enacting (debate) game scenarios. In addition to this, Bakhtin’s dialogical philosophy also offers an explanation of why debate games (and other game types) may be valuable within an educational context. One of the central features of multi-player games is that players are expected to experience a simultaneously real and imagined scenario both in relation to an insider’s (participant) perspective and to an outsider’s (co-participant) perspective. According to Bakhtin, the outsider’s perspective reflects a fundamental aspect of human understanding: In order to understand, it is immensely important for the person who understands to be located outside the object of his or her creative understanding – in time, in space, in culture. For one cannot even really see one's own exterior and comprehend it as a whole, and no mirrors or photographs can help; our real exterior can be seen and understood only by other people, because they are located outside us in space, and because they are others (Bakhtin, 1986: 7). As the quote suggests, every person is influenced by others in an inescapably intertwined way, and consequently no voice can be said to be isolated. Thus, it is in the interaction with other voices that individuals are able to reach understanding and find their own voice. Bakhtin also refers to the ontological process of finding a voice as “ideological becoming”, which represents “the process of selectively assimilating the words of others” (Bakhtin, 1981: 341). Thus, by teaching and playing debate scenarios, it is possible to support students in their process of becoming not only themselves, but also in becoming articulate and responsive citizens in a democratic society.

**Roleplaying and switch side debate sponsor better ethical decision-making by enhancing understanding of different standpoints**

Patricia **Roberts-Miller, 2002**, “Fighting without Hatred: Hannah Arendt’s Agonistic Rhetoric”, jac, 22.3 http://www.jaconlinejournal.com/archives/vol22.3/miller-fighting.pdf

By "thought" Arendt does not mean eremitic contemplation; in fact, she has great contempt for what she calls "professional thinkers," refusing herself to become a philosopher or to call her work philosophy. Young-Bruehl, Benhabib, and Pitkin have each said that Heidegger represented just such a professional thinker for Arendt, and his embrace of Nazism epitomized the genuine dangers such "thinking" can pose (see Arendt's "Heidegger"). "Thinking" is not typified by the isolated contemplation of philosophers; it requires the arguments of others and close attention to the truth. It is easy to overstate either part of that harmony. **One must consider carefully the arguments and viewpoints of others: Political thought is representative. I form an opinion by considering a given issue from different viewpoints, by making present to my mind the standpoints of those who are absent; that is, I represent them. This process of representation does not blindly adopt the actual views of those who stand somewhere else, and hence look upon the world from a different perspective; this is a question neither of empathy,** as though I tried to be **or to feel like somebody else**, nor of counting noses and joining a **majority but of being and thinking in my own identity where actually I am not. The more people's standpoints I have present in my mind while I am pondering a given issue, and the better I can imagine how I would feel and think if I were in their place, the stronger will be my capacity for representative thinking and the more valid my final conclusions, my opinion**. ("Truth" 241) There are two points to emphasize in this wonderful passage. First, one does not get these standpoints in one's mind through imagining them, but through listening to them; thus, good thinking requires that one hear the arguments of other people. Hence, as Arendt says, "critical thinking, while still a solitary business, does not cut itself off from 'all others.'" Thinking is, in this view, necessarily public discourse: critical thinking is possible "only where the standpoints of all others are open to inspection" (Lectures 43). Yet, it is not a discourse in which one simply announces one's stance; participants are interlocutors and not just speakers: they must listen. Unlike many current versions of public discourse, this view presumes that speech matters. It is not asymmetric manipulation of others, nor merely an economic exchange; it must be a world into which one enters and by which one might be changed.

**Policy focused debates are necessary to promote more accountable policymaking and increase the educational value of debate – radical activism results in social disengagement and failed intervention**

David **Chandler. 2007**. Professor of International Relations at the Department of Politics and International Relations, University of Westminster –

“The Attraction of Post-Territorial Politics: Ethics and Activism in the International Sphere” – Inaugural Lecture – May – available at: http://www.davidchandler.org/pdf/short\_articles/Inaugural%20lecture.pdf)

However, politics is no less important to many of us today. Politics still gives us a sense of social connection and social rootedness and gives meaning to many of our lives. It is just that the nature and practices of this politics are different. We are less likely to engage in the formal politics of representation - of elections and governments - but in post-territorial politics, a politics where there is much less division between the private sphere and the public one and much less division between national, territorial, concerns and global ones. This type of politics is on the one hand ‘global’ but, on the other, highly individualised: it is very much the politics of our everyday lives – the sense of meaning we get from thinking about global warming when we turn off the taps when we brush our teeth, take our rubbish out for recycling or cut back on our car use - we might also do global politics in deriving meaning from the ethical or social value of our work, or in our subscription or support for good causes from Oxfam to Greenpeace and Christian Aid. I want to suggest that when we do ‘politics’ nowadays it is less the ‘old’ politics, of self-interest, political parties, and concern for governmental power, than the ‘new’ politics of global ethical concerns. I further want to suggest that the forms and content of this new global approach to the political are more akin to religious beliefs and practices than to the forms of our social political engagement in the past. Global politics is similar to religious approaches in three vital respects: 1) global post-territorial politics are no longer concerned with power, its’ concerns are free-floating and in many ways, existential, about how we live our lives; 2) global politics revolve around practices with are private and individualised, they are about us as individuals and our ethical choices; 3) the practice of global politics tends to be non-instrumental, we do not subordinate ourselves to collective associations or parties and are more likely to give value to our aspirations, acts, or the fact of our awareness of an issue, as an end in-itself. It is as if we are upholding our goodness or ethicality in the face of an increasingly confusing, problematic and alienating world – our politics in this sense are an expression or voice, in Marx’s words, of ‘the heart in a heartless world’ or ‘the soul of a soulless condition’. The practice of ‘doing politics’ as a form of religiosity is a highly conservative one. As Marx argued, religion was the ‘opium of the people’ - this is politics as a sedative or pacifier: it feeds an illusory view of change at the expense of genuine social engagement and transformation. I want to argue that **global ethical politics reflects and institutionalises our sense of disconnection and social atomisation and results in irrational and unaccountable government policy making.** I want to illustrate my points by briefly looking at the practices of global ethics in three spheres, those of radical political activism, government policy making and academia. Radical activism **People often argue that there is nothing passive or conservative about radical political activist protests, such as the 2003 anti-war march, anti-capitalism and anti-globalisation protests**, the huge march to Make Poverty History at the end of 2005, involvement in the World Social Forums or the radical jihad of Al-Qaeda. **I disagree; these new forms of protest are highly individualised and personal ones - there is no attempt to build a social or collective movement. It appears that theatrical suicide, demonstrating, badge and bracelet wearing are ethical acts in themselves: personal statements of awareness, rather than attempts to engage politically with society**. **This is illustrated by the ‘celebration of differences’ at marches, protests and social forums. It is as if people are more concerned with the creation of a sense of community through differences than with any political debate, shared agreement or collective purpose**. It seems to me that **if someone was really concerned with ending war or with ending poverty or with overthrowing capitalism**, that **political views and political differences would be quite important**. Is war caused by capitalism, by human nature, or by the existence of guns and other weapons? It would seem important to debate reasons, causes and solutions, **it would also seem necessary to give those political differences an organisational expression if there was a serious project of social change. Rather than a political engagement with the world, it seems that radical political activism today is a form of social disengagement** – expressed in the anti-war marchers’ slogan of ‘Not in My Name’**, or the assumption that wearing a plastic bracelet or setting up an internet blog diary is the same as engaging in political debate.** In fact, it seems that **political activism is a practice which isolates individuals who think that demonstrating a personal commitment or awareness of problems is preferable to engaging with other people who are often dismissed as uncaring or brain-washed by consumerism.** **The narcissistic aspects of the practice of this type of global politics are expressed clearly** by individuals who are obsessed with reducing their carbon footprint, deriving their idealised sense of social connection from an ever increasing awareness of themselves and **by giving ‘political’ meaning to every personal action**. Global ethics appear to be in demand because they offer us a sense of social connection and meaning while at the same time giving us the freedom to construct the meaning for ourselves, to pick our causes of concern, and enabling us to be free of responsibilities for acting as part of a collective association, for winning an argument or for success at the ballot-box. **While the appeal of global ethical politics is an individualistic one, the lack of success or impact of radical activism is also reflected in its rejection of any form of social movement or organisation**. Strange as it may seem, **the only people who are keener on global ethics than radical activists are political elites**. Since the end of the Cold War, global ethics have formed the core of foreign policy and foreign policy has tended to dominate domestic politics. **Global ethics are at the centre of debates and discussion over humanitarian intervention, ‘healing the scar of Africa’, the war on terror and the ‘war against climate insecurity’**. Tony Blair argued in the Guardian last week that ‘foreign policy is no longer foreign policy’ (Timothy Garten Ash, ‘Like it or Loath it, after 10 years Blair knows exactly what he stands for’, 26 April 2007), this is certainly true. Traditional foreign policy, based on strategic geo-political interests with a clear framework for policy-making, no longer seems so important. The government is down-sizing the old Foreign and Commonwealth Office where people were regional experts, spoke the languages and were engaged for the long-term, and provides more resources to the Department for International Development where its staff are experts in good causes. This shift was clear in the UK’s attempt to develop an Ethical Foreign Policy in the 1990s – an approach which openly claimed to have rejected strategic interests for values and the promotion of Britain’s caring and sharing ‘identity’. Clearly, **the projection of foreign policy on the basis of demonstrations of values and identity, rather than an understanding of the needs and interests of people on the ground, leads to ill thought-through and short-termist policy-making, as was seen in the ‘value-based’ interventions from Bosnia to Iraq** (see Blair’s recent Foreign Affairs article, ‘A Battle for Global Values’, 86:1 (2007), pp.79–90). **Governments have been more than happy to put global ethics at the top of the political agenda for - the same reasons that radical activists have been eager to shift to the global sphere – the freedom from political responsibility that it affords them**. **Every government and international institution has shifted from strategic and instrumental policy-making based on a clear political programme to the ambitious assertion of global causes – saving the planet, ending poverty, saving Africa, not just ending war but solving the causes of conflict etc – of course, the more ambitious the aim the less anyone can be held to account for success and failure**. In fact, the more global the problem is, the more responsibility can be shifted to blame the US or the UN for the failure to translate ethical claims into concrete results. Ethical global questions, where the alleged values of the UN, the UK, the ‘civilised world’, NATO or the EU are on the line in ‘wars of choice’ from the war on terror to the war on global warming lack traditional instrumentality because they are driven less by the traditional interests of Realpolitik than the narcissistic search for meaning or identity. Governments feel the consequences of their lack of social connection, even more than we do as individuals; it undermines any attempt to represent shared interests or cohere political programmes. As Baudrillard suggests, without a connection to the ‘represented’ masses, political leaders are as open to ridicule and exposure as the ‘Emperor with no clothes’ (In the Shadow of the Silent Majorities, New York: Semiotext(e), 1983, for example). **It is this lack of shared social goals which makes instrumental policy-making increasingly problematic**. As Donald Rumsfeld stated about the war on terror, ‘there are no metrics’ to help assess whether the war is being won or lost. These **wars and campaigns, often alleged to be based on the altruistic claim of the needs and interests of others, are demonstrations and performances, based on ethical claims rather than responsible practices and policies**. Max Weber once counterposed this type of politics – the ‘ethics of conviction’ – to the ‘ethics of responsibility’ in his lecture on ‘Politics as a Vocation’. The desire to act on the international scene without a clear strategy or purpose has led to highly destabilising interventions from the Balkans to Iraq and to the moralisation of a wide range of issues from war crimes to EU membership requirements. Today more and more people are ‘doing politics’ in their academic work. This is the reason for the boom in International Relations study and the attraction of other social sciences to the global sphere. I would argue that the attraction of IR for many people has not been IR theory but the desire to practice global ethics. The boom in the IR discipline has coincided with a rejection of Realist theoretical frameworks of power and interests and the sovereignty/anarchy problematic. However, I would argue that this rejection has not been a product of theoretical engagement with Realism but an ethical act of rejection of Realism’s ontological focus. It seems that our ideas and our theories say much more about us than the world we live in. Normative theorists and Constructivists tend to support the global ethical turn arguing that we should not be as concerned with ‘what is’ as with the potential for the emergence of global ethical community. Constructivists, in particular, focus upon the ethical language which political elites espouse rather than the practices of power. But **the most dangerous trends in the discipline today are those frameworks which have taken up Critical theory and argue that focusing on the world as it exists is conservative ‘problem-solving’ while the task for critical theorists is to focus on emancipatory alternative forms of living or of thinking about the world. Critical thought then becomes a process of wishful thinking rather than one of engagement, with its advocates arguing that we need to focus on clarifying our own ethical frameworks and biases and positionality before thinking about or teaching on world affairs; in the process this becomes ‘me-search’ rather than research**. We have moved a long way from Hedley Bull’s perspective that, for academic research to be truly radical, we had to put our values to the side to follow where the question or inquiry might lead. The inward-looking and narcissistic trends in academia, where we are more concerned with our ‘reflectivity’ – the awareness of our own ethics and values - than with engaging with the world, was brought home to me when I asked my IR students which theoretical frameworks they agreed with most and they replied mostly Critical theory and Constructivism despite the fact that they thought that states operated on the basis of power and self-interest in a world of anarchy. Their theoretical preferences were based more on what their choices said about them as ethical individuals than about how theory might be used to understand and engage with the world.

## 1AR

### K

#### Instrumental policy making on energy production is critical to effective decisionmaking which overcomes status quo failure

Brown 11

[heath, PhD Political Science, Roanoke, Salem, VA, “narrative strategies used by interest groups during the 2008 presidental transition”, 2011 Pat-Net Conference]

Milbrath argues that interest groups must strategically present information so as to ¶ overcome the “perceptual screen” that shields policy makers from absorbing endless amounts ¶ of information. He suggests that groups use facts (scientific information about policy ¶ outcomes), arguments (normative explanations of justness or rightness of action), and power¶ (typically subtle offers of political support or threats of political retribution) to communicate ¶ their interests and make their case for policy action (or inaction). In a more recent approach, ¶ Esterling (2007, p. 79) makes the case that groups can use [using] “instrumental” – “research or ¶ evidence-based causal” arguments -- or “normative” – “intrinsic desirability” arguments. By ¶ emphasizing one of these approaches, a group is tacitly communicating the way it wants to ¶ persuade the target of the information. By emphasizing power or normative arguments, the ¶ group implies that the policy maker should make decisions based primarily on their political ¶ judgment and political future. Conversely, by emphasizing facts-based or instrumental ¶ arguments, the group implies that the policy maker should base decisions primarily on rational ¶ or scientific considerations. In practice, it is difficult to disentangle these two types of ¶ arguments and many groups will likely combine various ways to present information (Wright ¶ 1996; Rochefort and Cobb 1994). The dichotomy though does help clarify the persuasive or ¶ argumentative tone of the information and advice given by groups to policy makers. 6 ¶ While public perceptions of interest groups might suggest crass self-interest, ¶ manipulation, and deception, groups have an incentive to be forthright in the information they ¶ provide and arguments they make. A group that provides shoddy statistics or misleading ¶ arguments will be discounted in future interactions with the policy maker (Kersh 2009; ¶ Easterling 2007). John E. Chubb (1983, p. 145) writes in regard to energy interest groups: ¶ “information and advice that are solely self-serving threaten the bond of trust that facilitates ¶ the informal play of influence.” In fact, rather than targeting political opponents or fence ¶ sitters, much research suggests that groups prefer or are invited to lobby friends and allies over ¶ adversaries (Baumgartner et al. 2009; Hojnacki and Kimball 1998, 1999; Hall and Deardorff ¶ 2006; Bauer et al. 1963; Holyoke 2004; McCool 1990). If this is the case, the cost of ¶ misrepresenting or overstating information may be particularly high for those engaged in what ¶ Hall and Deardorff (2006) and others have called “legislative subsidy” (Hall and Deardorff 2006; ¶ Esterling 2007a). From this subsidy perspective, if a policy maker is sub-contracting information ¶ collection and analysis to an allied interest group, it behooves that group to be conscientious, ¶ thorough, and consistent in the information and advice it gives. And in many cases, as Wright ¶ (1996) contends, it is relatively easy for policy makers to check the authenticity of the ¶ information provided to them, sometimes simply through the contradictory information ¶ provided by other groups, thereby curtailing the inclination to blatantly misrepresent the truth. ¶ Furthermore, experimental research shows that factual or instrumental information is ¶ preferred by legislative staff (LaPira 2008) and neutral expert lobbyists have more legislative ¶ access than non-experts (Esterling 2007b). Facts may be useful on their own terms in ¶ formulating legislative decisions but scientific or statistically based arguments also serve as a 7 ¶ cue for policy makers to determine the credibility or reliability of the advice they are given ¶ (Sabatier 1978). ¶ Rather than convince those already in agreement, the approach taken by proactive ¶ theorists suggests that groups seek to convince legislative fence sitters or opponents to adopt ¶ the group’s position, advocate the group’s interests, or simply vote in the group’s way through ¶ the offer of, or refusal to give, political support (Smith 1984; Austen-Smith and Wright 1994; ¶ Wright 1996). Wright (1990) for one finds that groups which distribute campaign contributions ¶ to a wide group of legislators are then able to access a wider group, rather than just political ¶ allies (Wright 1990). Similarly, Heberling (2005) shows that one group, the AFL-CIO, seeks out ¶ legislators with unknown political preferences rather than targeting political allies (Heberling ¶ 2005). The field of interest group research has not yet resolved whether groups typically lobby ¶ friends, adversaries, or some combination of the two (Leech and Baumgartner 1998). This is ¶ likely due to the wide variation of group types and also policy domains in which groups operate. ¶ These inter-organizational and inter-policy differences affect the strategies employed and ¶ therefore the content of information presented during lobbying.

# Round 4 v KU FS

## 1AC

### Plan

**The United States federal government should obtain, through alternative financing, electricity from small modular reactors for military bases in the United States.**

### Grid

#### Grid disruptions are inevitable - only SMR’s can solve

Robitaille 12

(George, Department of Army Civilian, United States Army War College, “Small Modular Reactors: The Army’s Secure Source of Energy?” 21-03-2012, Strategy Research Project)

In recent years, the U.S Department of Defense (DoD) has identified a security issue at our installations related to the dependence on the civilian electrical grid. 1 The DoD depends on a steady source of electricity at military facilities to perform the functions that secure our nation. The flow of electricity into military facilities is controlled by a public grid system that is susceptible to being compromised because of the age of the infrastructure, damage from natural disasters and the potential for cyber attacks. Although most major functions at military installations employ diesel powered generators as temporary backup, the public grid may not be available to provide electricity when it is needed the most. The United States electrical infrastructure system is prone to failures and susceptible to terrorist attacks. 2 It is critical that the source of electricity for our installations is reliable and secure. In order to ensure that our military facilities possess a secure source of electricity, either the public system of electric generation and distribution is upgraded to increase its reliability as well as reducing its susceptibility to cyber attack or another source of electricity should be pursued. Although significant investments are being made to upgrade the electric grid, the current investment levels are not keeping up with the aging system. Small modular reactors (SMRs) are nuclear reactors that are about an order of magnitude smaller than traditional commercial reactor used in the United States. SMRs are capable of generating electricity and at the same time, they are not a significant contributor to global warming because of green house gas emissions. The DoD needs to look at small modular nuclear reactors (SMRs) to determine if they can provide a safe and secure source of electricity. Electrical Grid Susceptibility to Disruptions According to a recent report by the Defense Science Board, the DoD gets ninety nine percent of their electrical requirements from the civilian electric grid. 3 The electric grid, as it is currently configured and envisioned to operate for the foreseeable future, may not be reliable enough to ensure an uninterrupted flow of electricity for our critical military facilities given the influences of the aging infrastructure, its susceptibility to severe weather events, and the potential for cyber attacks. The DoD dependency on the grid is reflected in the $4.01 Billion spent on facilities energy in fiscal year 2010, the latest year which data was available. 4 The electricity used by military installations amounts to $3.76 billion. 5 As stated earlier, the DoD relies on the commercial grid to provide a secure source of energy to support the operations that ensure the security of our nation and it may not be available when we need it. The system could be taken down for extended periods of time by failure of aging components, acts of nature, or intentionally by cyber attacks. Aging Infrastructure. The U.S electric power grid is made up of independently owned power plants and transmission lines. The political and environmental resistance to building new electric generating power plants combined with the rise in consumption and aging infrastructure increases the potential for grid failure in the future. There are components in the U.S. electric grid that are over one hundred years old and some of the recent outages such as the 2006 New York blackout can be directly attributed to this out of date, aging infrastructure. 6 Many of the components of this system are at or exceeding their operational life and the general trend of the utility companies is to not replace power lines and other equipment until they fail. 7 The government led deregulation of the electric utility industry that started in the mid 1970s has contributed to a three decade long deterioration of the electric grid and an increased state of instability. Although significant investments are being made to upgrade the electric grid, the many years of prior neglect will require a considerable amount of time and funding to bring the aging infrastructure up to date. Furthermore, the current investment levels to upgrade the grid are not keeping up with the aging system. 8 In addition, upgrades to the digital infrastructure which were done to increase the systems efficiency and reliability, have actually made the system more susceptible to cyber attacks. 9 Because of the aging infrastructure and the impacts related to weather, the extent, as well as frequency of failures is expected to increase in the future. Adverse Weather. According to a 2008 grid reliability report by the Edison Electric Institute, sixty seven per cent of all power outages are related to weather. Specifically, lightning contributed six percent, while adverse weather provided thirty one percent and vegetation thirty percent (which was predominantly attributed to wind blowing vegetation into contact with utility lines) of the power outages. 10 In 1998 a falling tree limb damaged a transformer near the Bonneville Dam in Oregon, causing a cascade of related black-outs across eight western states. 11 In August of 2003 the lights went out in the biggest blackout in North America, plunging over fifty million people into darkness over eight states and two Canadian provinces. Most areas did not have power restored four or five days. In addition, drinking water had to be distributed by the National Guard when water pumping stations and/or purification processes failed. The estimated economic losses associated with this incident were about five billion dollars. Furthermore, this incident also affected the operations of twenty two nuclear plants in the United States and Canada. 12 In 2008, Hurricane Ike caused approximately seven and a half million customers to lose power in the United States from Texas to New York. 13 The electric grid suffered numerous power outages every year throughout the United States and the number of outages is expected to increase as the infrastructure ages without sufficient upgrades and weather-related impacts continue to become more frequent. Cyber Attacks. The civilian grid is made up of three unique electric networks which cover the East, West and Texas with approximately one hundred eighty seven thousand miles of power lines. There are several weaknesses in the electrical distribution infrastructure system that could compromise the flow of electricity to military facilities. The flow of energy in the network lines as well as the main distribution hubs has become totally dependent on computers and internet-based communications. Although the digital infrastructure makes the grid more efficient, it also makes it more susceptible to cyber attacks. Admiral Mr. Dennis C. Blair (ret.), the former Director of National Intelligence, testified before Congress that “the growing connectivity between information systems, the Internet, and other infrastructures creates opportunities for attackers to disrupt telecommunications, electrical power, energy pipelines, refineries, financial networks, and other critical infrastructures. 14 ” The Intelligence Community assesses that a number of nations already have the technical capability to conduct such attacks. 15 In the 2009 report, Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee, Adm. Blair stated that “Threats to cyberspace pose one of the most serious economic and national security challenges of the 21st Century for the United States and our allies.”16 In addition, the report highlights a growing array of state and non-state actors that are targeting the U.S. critical infrastructure for the purpose of creating chaos that will subsequently produce detrimental effects on citizens, commerce, and government operations. These actors have the ability to compromise, steal, change, or completely destroy information through their detrimental activities on the internet. 17 In January 2008, US Central Intelligence Agency senior analyst Tom Donahue told a gathering of three hundred international security managers from electric, water, oil & gas, and other critical industry, that data was available from multiple regions outside the United States, which documents cyber intrusions into utilities. In at least one case (outside the U.S.), the disruption caused a power outage affecting multiple cities. Mr. Donahue did not specify who executed these attacks or why, but did state that all the intrusions were conducted via the Internet. 18 During the past twenty years, advances in computer technologies have permeated and advanced all aspects of our lives. Although the digital infrastructure is being increasingly merged with the power grid to make it more efficient and reliable, it also makes it more vulnerable to cyber attack. In October 2006, a foreign hacker invaded the Harrisburg, PA., water filtration system and planted malware. 19 In June 2008, the Hatch nuclear power plant in Georgia shut down for two days after an engineer loaded a software update for a business network that also rebooted the plant's power control system. In April 2009, The Wall Street Journal reported that cyber spies had infiltrated the U.S. electric grid and left behind software that could be used to disrupt the system. The hackers came from China, Russia and other nations and were on a “fishing expedition” to map out the system. 20 According to the secretary of Homeland Security, Janet Napolitano at an event on 28 October 2011, cyber–attacks have come close to compromising the country’s critical infrastructure on multiple occasions. 21 Furthermore, during FY11, the United States Computer Emergency Readiness Team took action on more than one hundred thousand incident reports by releasing more than five thousand actionable cyber security alerts and information products. 22 The interdependence of modern infrastructures and digital based systems makes any cyber attacks on the U.S. electric grid potentially significant. The December 2008 report by the Commission on Cyber Security for the forty fourth Presidency states the challenge plainly: “America’s failure to protect cyberspace is one of the most urgent national security problems facing the new administration”. 23 The susceptibility of the grid to being compromised has resulted in a significant amount of resources being allocated to ensuring the systems security. Although a substantial amount of resources are dedicated to protecting the nation’s infrastructure, it may not be enough to ensure the continuous flow of electricity to our critical military facilities. SMRs as they are currently envisioned may be able to provide a secure and independent alternative source of electricity in the event that the public grid is compromised. SMRs may also provide additional DoD benefit by supporting the recent government initiatives related to energy consumption and by circumventing the adverse ramifications associated with building coal or natural gas fired power plants on the environment.\

**Grid will go down for months - multiple scenarios**

**Slavo 7/12**

(Mac is editor of shftplan, “UPDATE: Cascading Grid Crash: Now 600 Million Without Power in India (Are We Vulnerable?)” <http://www.shtfplan.com/headline-news/paralysis-grid-down-in-india-370-million-left-without-power_07302012>, SEH)

**The power grid in the United States**, while more advanced and apparently better maintained, **is** also **under excessive strain as has been witnessed in recent years with rolling brownouts, blackouts, and unforeseen crashes** resulting from key component failure.¶ **One industry insider** who has worked in the utility industry for nearly two decades **advised** this author recently **that it wouldn’t take much to bring down the system even in the United States**, potentially affecting tens of millions of customers. Though it’s the 21st century, many grid components in operation are, in some cases, as much as 40 years old, thus replacement parts are almost impossible to find. Other components, like massive transformers may take weeks or months to replace. In the event of a scenario where multiple components are targeted simultaneously, by either a man-made EMP or natural event, it is not too far of a stretch to suggest that the afflicted regions would be engulfed in pandemonium.¶ **This potential for widespread failure is so plausible that former Congressman** Roscoe Bartlett, **who has spoken on the vulnerabilities of the US power grid, has advised that Those Who Can, Should Move Their Families Out Of the City**:¶ After Hurricane Ike passed through the Houston area 2008 some 90% of the metropolitan was without power. While hospitals, police and critical infrastructure was restored within a few days, residents in outlying suburban areas experienced the outage for over three weeks. We witnessed the rapid loss of patience, increased anxiety and frustration, and the subsequent breakdown of interpersonal interaction at high-demand venues such as gas stations, where long lines, screaming matches and even fist fights became a common occurrence.¶ **The bottom line: As demonstrated in India today**, Quebec in 1989 (caused by a geo-magnetic storm originating from the sun), Ike in 2008, Hurricane Irene on the East coast in 2012 and the plethora of incidents that have taken place over the last couple of decades, **the North American power grid,** just as India’s, **is susceptible to far-from-equilibrium situations, and sometimes it takes extended periods of time to get power up and running**.¶ **With just three major grids running the United States**, **our dependence on massive flows of electricity to power** our home air conditioners, food refrigeration, communications, water and gas pump systems, and daily business operations **could come to a screeching halt should the grid ever be struck by a natural disaster like a** solar coronal mass ejection or a **large-scale earthquake** in California or on the Madrid fault. Likewise, as we’ve noted previously, **rogue organizations looking to wreak havoc have already demonstrated the staggering security holes in our power**, water and oil **grid infrastructure, with leading cyber security firms noting that** it is just a matter of time before disaster strikes**.**¶ While a short-term, isolated metropolitan outage can be dealt with by sourcing labor and supplies from unaffected areas of the country, **considering that the US operates on three key power grid systems, a region-wide outage affecting just one of these nodes could lead to a cascading breakdown in the electrical power system that envelops the entire country**.¶ The most **dangerous possibility emerges when we look at threats posed by** the sun or **a rogue terror cell or** nation that could deploy **an** Electro-Magnetic Pulse weapon (**EMP /** Super EMP) over American skies**. It’s been surmised that** either one of **these** possibilities **could cause damage so staggering that** the grid would be down for months, leaving millions without just-in-time food and gas delivery systems, medical care, local emergency response, or even clean water. According to one estimate, some 90% of Americans would die in such a scenario if the power wasn’t restored within one year.¶ Thus, it is clear that our power grids are a critical lifeline to keeping life as we know it in the world today operational. And, as we have seen historically and India this morning, power grids can and do crash – even in countries with hundreds of millions of residents.

#### Cyber-attack is coming ---actors are probing grid weaknesses

**Reed 10/11** John, Reports on the frontiers of cyber war and the latest in military technology for Killer Apps at Foreign Policy, "U.S. energy companies victims of potentially destructive cyber intrusions", 2012, killerapps.foreignpolicy.com/posts/2012/10/11/us\_energy\_companies\_victims\_of\_potentially\_destructive\_cyber\_attacks

Foreign actors are probing the networks of key American companies in an attempt to gain control of industrial facilities and transportation systems, Defense Secretary Leon Panetta revealed tonight.¶ "We know that foreign **cyber actors are probing America's critical infrastructure networks**," said Panetta, disclosing previously classified information during a speech in New York laying out the Pentagon's role in protecting the U.S. from cyber attacks. "They are targeting the computer control systems that operate chemical, **electricity** and water plants, and those that guide transportation thorough the country."¶ He went on to say that the U.S. government knows of "specific instances where intruders have gained access" to these systems -- frequently known as Supervisory Control and Data Acquisition (or SCADA) systems -- and that "they are seeking to create advanced tools to attack these systems and cause panic, destruction and even the loss of life," according to an advance copy of his prepared remarks.¶ The secretary said that **a coordinated attack on enough critical infrastructure could be a "cyber Pearl Harbor" that would "cause physical destruction and loss of life, paralyze and shock the nation, and create a profound new sense of vulnerability.**"¶ While there have been reports of criminals using 'spear phishing' email attacks aimed at stealing information about American utilties, Panetta's remarks seemed to suggest more sophisticated, nation-state backed attempts to actually gain control of and damage power-generating equipment. ¶ Panetta's comments regarding the penetration of American utilities echo those of a private sector cyber security expert Killer Apps spoke with last week **who said that the networks of American electric companies were penetrated, perhaps in preparation for a Stuxnet-style attack**.¶ Stuxnet is the famous cyber weapon that infected Iran's uranium-enrichment centrifuges in 2009 and 2010. Stuxnet is believed to have caused some of the machines to spin erratically, thereby destroying them.¶ "**There is hard evidence** that there has been penetration of our power companies, and given Stuxnet, that is a staging step before destruction" of electricity-generating equipment, the expert told Killer Apps. Because uranium centrifuges and power turbines are both spinning machines, "**the attack is identical -- the one to take out the centrifuges and the one to take out our power systems is the same attack**."¶ "If a centrifuge running at the wrong speed can blow apart" so can a power generator, said the expert. "If you do, in fact, spin them at the wrong speeds, you can blow up any rotating device."¶ Cyber security expert Eugene Kaspersky said two weeks ago that one of his greatest fears is someone reverse-engineering a sophisticated cyber weapon like Stuxnet **-- a relatively easy task** -- and he noted that Stuxnet itself passed through power plants on its way to Iran. "Stuxnet infected thousands of computer systems all around the globe, I know there were power plants infected by Stuxnet very far away from Iran," Kaspersky said.

#### SMRs solve – makes bases resilient and deters attacks – alternatives fail

Andres and Breetz 11

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Grid Vulnerability**. DOD is unable to provide its ¶ bases with electricity when the civilian electrical grid is ¶ offline for an extended period of time**. Currently, domestic military installations receive 99 percent of their ¶ electricity from the civilian power grid. As explained in a ¶ recent study from the Defense Science Board:¶ DOD’s key problem with electricity is **that** critical ¶ missions, such as national strategic awareness and ¶ national command authorities, are **almost entirely ¶** dependent on the **national transmission** grid. . . ¶ **[which] is fragile, vulnerable, near its capacity ¶ limit, and outside of DOD control**. In most cases, ¶ **neither the grid nor on-base backup power provides¶ sufficient reliability to ensure continuity of critical ¶ national priority functions and oversight of ¶ strategic missions in the face of** a long term (several ¶ months) **outage**.¶ 7¶ The grid’s fragility was demonstrated during the 2003 ¶ Northeast blackout in which 50 million people in the ¶ United States and Canada lost power, some for up to a ¶ week, when one Ohio utility failed to properly trim trees. ¶ The blackout created cascading disruptions in sewage ¶ systems, gas station pumping, cellular communications, ¶ border check systems, and so forth, and demonstrated the ¶ interdependence of modern infrastructural systems.¶ 8¶ More recently, awareness has been growing that ¶ **the grid is also vulnerable to purposive attacks**. A report sponsored by the Department of Homeland Security suggests **that a coordinated cyberattack on the grid ¶ could result in a third of the country losing power for ¶ a period of weeks or months**.¶ 9¶ Cyberattacks on critical ¶ infrastructure are not well understood. It is not clear, for ¶ instance, whether existing terrorist groups might be able ¶ to develop the capability to conduct this type of attack. **It ¶ is likely, however, that some nation-states either have or ¶ are working on developing the ability to take down the ¶ U.S. grid**. **In the event of a war** with one of these states, ¶ it is possible, if not likely, that **parts of the civilian grid ¶ would cease to function, taking with them military bases ¶ located in affected regions.**¶ Government and private organizations are currently ¶ working to secure the grid against attacks; however, it is ¶ not clear that they will be successful. Most military bases ¶ currently have backup power that allows them to function for a period of hours or, at most, a few days on their ¶ own. If power were not restored after this amount of time, ¶ the results could be disastrous. First, military assets taken ¶ offline by the crisis would not be available to help with disaster relief. Second, **during an extended blackout, global ¶ military operations could be seriously compromised; this ¶ disruption would be particularly serious if the blackout ¶ was induced during major combat operations.** During the ¶ Cold War, this type of event was far less likely because the United States and Soviet Union shared the common understanding that blinding an opponent with a grid blackout could escalate to nuclear war. America’s current opponents, however, may not share this fear or be deterred ¶ by this possibility.¶ In 2008, the Defense Science Board stressed that ¶ DOD should mitigate the electrical grid’s vulnerabilities by turning military installations into “islands” of ¶ energy self-sufficiency.¶ 10¶ **The department has made efforts to do so by promoting efficiency programs** that ¶ lower power consumption on bases and by constructing ¶ renewable power generation facilities on selected bases. ¶ Unfortunately, these programs **will not come close to ¶** reaching the goal of **islanding** thevast majority of bases**. ¶ Even with** massive investment in efficiency and **renewables,** most **bases would not** be able to **function for more ¶ than a few days after the** civilian **grid went offline**. **Unlike other alternative sources of energy, small reactors have the potential to solve DOD’s vulnerability to ¶ grid outages.** **Most bases have relatively light power demands when compared to civilian towns or cities. Small ¶ reactors could easily support bases’ power demands separate from the civilian grid during crises**. In some cases, ¶ the reactors could be designed to produce enough power ¶ not only to supply the base, but also to provide critical ¶ services in surrounding towns during long-term outages.¶ Strategically, islanding bases with small reactors ¶ has another benefit. **One of the main reasons an enemy ¶ might be willing to risk reprisals by taking down the ¶ U.S. grid during a period of military hostilities would ¶ be to affect ongoing military operations. Without the ¶ lifeline of intelligence, communication, and logistics ¶ provided by U.S. domestic bases, American military operations would be compromised in almost any conceivable contingency. Making bases more resilient to ¶ civilian power outages would reduce the incentive for ¶ an opponent to attack the grid.** An opponent might ¶ still attempt to take down the grid for the sake of disrupting civilian systems, but **the powerful incentive to ¶ do so in order to win an ongoing battle or war would ¶ be greatly reduced.**

#### Grid attacks take out command and control – causes relation and nuclear war

**Tilford 12**

Robert, Graduate US Army Airborne School, Ft. Benning, Georgia, “Cyber attackers could shut down the electric grid for the entire east coast” 2012, <http://www.examiner.com/article/cyber-attackers-could-easily-shut-down-the-electric-grid-for-the-entire-east-coa>

To make matters worse **a cyber attack that can take out a civilian power grid, for example could also cripple the U.S. military.**¶ The senator notes that is that the same power grids that supply cities and towns, stores and gas stations, cell towers and heart monitors also power “every military base in our country.”¶ “Although bases would be prepared to weather a short power outage with **backup diesel generators, within hours, not days, fuel supplies would run out”**, he said.¶ Which means military command and control centers could go dark.¶ **Radar systems that detect air threats** to our country would shut Down completely.¶ “**Communication between commanders and their troops would also go silent. And many weapons systems would be left without either fuel or electric power”,** said Senator Grassley.¶ “**So in a few short hours or days, the mightiest military in the world would be left scrambling to maintain base functions**”, he said.¶ We contacted the Pentagon and officials confirmed the threat of a cyber attack is something very real.¶ Top national security officials—including the Chairman of the Joint Chiefs, the Director of the National Security Agency, **the Secretary of Defense, and the CIA Director— have said, “preventing a cyber attack and improving the nation’s electric grids is among the most urgent priorities of our country”** (source: Congressional Record).¶ So how serious is the Pentagon taking all this?¶ Enough to start, or end a war over it, for sure (see video: Pentagon declares war on cyber attacks http://www.youtube.com/watch?v=\_kVQrp\_D0kY&feature=relmfu ).¶ **A cyber attack today against the US could very well be seen as an “Act of War” and could be met with a “full scale” US military response.**¶ That could include the use of “nuclear weapons”, if authorized by the President.

#### Grid failures risks terrorism

Defense Science Board 8

(The DSB is a Federal ¶ Advisory Committee established to provide independent advice to the Secretary of ¶ Defense, “More Fight – Less Fuel” <http://www.acq.osd.mil/dsb/reports/ADA477619.pdf>, SEH)

**DoD’s key problem with electricity is that critical missions, such as national strategic ¶ awareness and national command authorities, are almost entirely dependent on the ¶ national transmission grid.** About 85% of the energy infrastructure upon which DoD ¶ depends is commercially owned, **and 99% of the electrical energy DoD installations ¶ consume originates outside the fence.¶** 3¶ As noted below, however, the grid is fragile, ¶ vulnerable, near its capacity limit, and outside of DoD control. In most cases, neither ¶ the grid nor on-base backup power provides sufficient reliability to ensure continuity of ¶ critical national priority functions and oversight of strategic missions in the face of a long ¶ term (several months) outage. ¶ 2.3.1 State of the Grid ¶ The U.S.-Canadian electric grid is very efficient and cost effective but its design metric ¶ is efficiency more than resiliency. As a consequence, it is vulnerable to natural disaster or deliberate attack. The Task Force received several briefings from the Mission ¶ Assurance Division at Dahlgren (MAD), the Department of Energy and the utility ¶ industry. Based on these briefings, the Task Force is concerned about the condition of ¶ the grid and the ability to effect timely repairs. ¶ This concern extends not only to the complete dependency of critical national security ¶ missions on the grid, but also to its centrality to all facets of the nation’s economic life. ¶ To appreciate the seriousness of the impacts of an extended disruption, consider the ¶ 2003 Northeast blackout. At around 4:15pm EST on August 14, 2003 about 50 million ¶ people living in a 9,300 square mile area in the U.S. and Canada lost electrical power. ¶ More than 500 generating units at 265 power plants shut down during the outage, 22 of ¶ which were nuclear. Those plants took about two weeks to regain full capacity, and lost ¶ an average of more than half their capacity for 12 days. The shutdown was in part ¶ precautionary in nature. If an imbalance between load and supply occurs, power lines ¶ grow longer and sag from overheating and other hardware can fail. These imbalances ¶ can damage equipment that is hard-to-repair, requires long lead time to produce and is ¶ expensive. So, the grid quickly disconnects itself when a threatening imbalance is ¶ detected. Nuclear plants are required for safety reasons to shut down when the grid ¶ they’re connected to is de-energized.¶ 4¶ A U.S.-Canada Task Force found the main cause of the blackout to be the failure of a ¶ utility in Ohio to properly trim trees near a power line, causing the first in what became a ¶ set of cascading failures.¶ 5¶ Secretary of Energy Spencer Abraham said there would be ¶ no punishment for the utility because current U.S. law does not require electric reliability ¶ standards. However, the Energy Policy Act of 2005 (EPAct 2005) gave the Federal ¶ Energy Regulatory Commission (FERC) new authority to direct the industry to develop ¶ reliability standards. It directs FERC to designate an Electric Reliability Organization ¶ (ERO) to develop and propose reliability standards, which only after agreement by the ¶ industry become mandatory. The ERO chosen by the FERC is a volunteer, industry run ¶ organization. While FERC oversight of industry developed standards is an ¶ improvement over the previous situation, the Task Force remains concerned that FERC ¶ may be unable to reduce the risk to critical DoD missions to acceptable levels in a ¶ reasonable timeframe. ¶ **Some have argued that the August 2003 incident shows that the protections built into ¶ the grid worked. Within several hours electricity was restored to many areas, though a ¶ few areas waited nearly a week. However, the incident highlights how easily the power ¶ grid could be taken down. Also, quick restoration was possible because no significant ¶ equipment was damaged, something that might not occur in future incidents**. **Further, ¶ during the blackout most systems failed that would detect unauthorized border ¶ crossings, port landings, or unauthorized access to vulnerable sites. Future such blackouts could be exploited for terrorist activity, with potentially far more catastrophic ¶ results**. ¶ These risks exist elsewhere than in the U.S. For example, on September 28, 2003 Italy ¶ experienced the largest of a series of blackouts suffered through that year, affecting a ¶ total of 56 million people, and spilling into Switzerland.¶ 6¶ It was also the most serious ¶ blackout in Italy in 20 years. DoD installations located outside the continental United ¶ States (OCONUS) are dependent on the commercial grids serving their locations. ¶ Security of their power supplies and continuation of their missions is as important as ¶ within the U.S.

#### Numerous attempts prove our impact

Wagner 9/11

(Dr. Abraham R. Wagner is a Professor of International and Public Affairs at the ¶ Arnold A. Saltzman Institute of War & Peace Studies at Columbia University. “Counter-Terrorism Technologies -- Taking Stock on 9/11” 09/11/2012 2:13 pm accessed online September 11, 2012 at <http://www.huffingtonpost.com/abraham-r-wagner/counterterrorism-technolo_b_1874521.html>, TSW)

On this 11th anniversary of the 9/11 attacks, it makes sense to take stock of where the nation has progressed in its effort to deter and combat future terrorist attacks, both at home and abroad. The **9/11 attacks came** as a shock, and **have** rightfully **come** **to be regarded as a major U.S. intelligence failure**. **In the aftermath**, **the nation undertook significant organizational reforms designed to enable more effective intelligence** and law enforcement operations against evolving terrorist threats. **The** **country also looked to see what science, engineering and technology could do to help addresses these threats**.¶ Technology has long been the nation's strong suit. Americans tend to believe that where there is a problem, there must certainly be a solution and it most likely involves technology and money. **During the decade that followed 9/11, billions of dollars were spent on a vast range of programs and technologies in the name of counter-terrorism**. For the first two years after 9/11, I joined with other scientists and engineers at the Department of Defense and the Intelligence Community in efforts to identify the most promising approaches to the problem. Ultimately we found that there was no magic bullet or perfect solution to this thorny problem, but were able to suggest a range of investments that could be made to address the evolving terrorist threat.¶ An honest assessment of these investments in counter-terrorism technologies reveals that the results have been mixed -- as one might well expect. A combination of **greatly improved intelligence** and law enforcement personnel have **employed some of the better technologies with considerable success**. Indeed, some **45 terrorist plots have been stopped** and others deterred. How much of **this has been** simply luck and how much can be traced to any **new technology program** is a matter of debate, and there are **clearl**y **examples** of both that **can be found.**¶ **One area where technology has made a significant contribution has been in new systems to aid in intelligence and surveillance against terrorist operations.** While terrorists may hold to an eighth century ideology, they have not been reluctant to employ 21st century communications and information technologies. They have utilized the Internet and cell phones for a number of purposes, and at the time of 9/11 the nation was in need of systems to intercept and sort out terrorist communications. While highly sensitive, public disclosures about several key programs show that considerable progress has been made in this critical area, giving the intelligence agencies some key tools in locating terrorists and stopping their plots. Aside from communications intercept, a new area of "data mining" has also shown considerable promise in locating terrorists and their plots.¶ At the same time, several of key surveillance programs used for counter-terrorism have come under fire from civil liberties groups as being unconstitutional violations of the Fourth Amendment privacy protections, and others. Critics of the Bush Administration saw this as "running roughshod over the Constitution." Even now there are still federal court challenges to laws such as the 2008 FISA Amendments Act and others that have enabled counter-terrorist efforts since 9/11. Ultimately a balance needs to be struck between the essential needs for intelligence to thwart future attacks and protected privacy rights, but as yet it remains an unsettled area where the Supreme Court will need to rule at some future point in time.¶ Less controversial have been efforts over the past decade to employ new information technologies to what has been termed the Information Sharing Environment -- collaborative efforts to best utilize available intelligence and other data among the various federal, state and local agencies with counter-terrorism responsibilities. While certainly some progress has been made over the past 11 years, the net result is largely a national embarrassment, and clearly a triumph of politics over physics. The information and communications technologies are all well-developed, but multiple bureaucracies have generated a set of plans and an even larger set of excuses as to why the fundamental problems in this area remain to be solved.

#### Terrorists are targeting Syrian bioweapons now and will use them

Blair ‘12

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As possible military action against Iran's suspected nuclear weapons program looms large in the public arena, far **more international concern should be directed toward Syria and its weapons of mass destruction.** When the Syrian uprising began more than a year ago, few predicted the regime of President Bashar al-Assad would ever teeter toward collapse. Now, though, **the demise of Damascus's** current **leadership** **appears inevitable**, **and Syria's revolution will likely be an unpredictable**, protracted, and grim affair. **Some see similarities with Libya's civil wa**r, **during which persistent fears revolved around terrorist seizure of Libyan chemical weapons**, or the Qaddafi regime's use of them against insurgents. **Those fears turned out to be unfounded**.¶ **But the Libyan chemical stockpile consisted of several tons of aging mustard gas** leaking from a half-dozen canisters **that would have been impossible to utilize as weapons**. **Syria** likely **has one of the largest and most sophisticated chemical weapon programs in the world**. Moreover, **Syria may also possess an offensive biol**ogical **weapons capability that Libya did not**.¶ While it is uncertain whether the Syrian regime would consider using WMD against its domestic opponents, Syrianinsurgents, unlike many of their Libyan counterparts, are increasingly sectarian and radicalized; indeed, many observers fear the uprising is being "hijacked" by jihadists. **Terrorist groups active in the Syrian uprising have already demonstrated little compunction about the acquisition and use of WMD**. In short, should Syria devolve into full-blown civil-war, **the security of** **its WMD should be of profound concern**, as sectarian insurgents and Islamist terrorist groups may **stand poised** **to seize** chemical and perhaps even **bio**logical **weapons.**¶ An enormous unconventional arsenal. Syria's chemical weapons stockpile is thought to be massive. One of only eight nations that is not a member of the Chemical Weapons Convention -- an arms control agreement that outlaws the production, possession, and use of chemical weapons -- Syria has a chemical arsenal that includes several hundred tons of blistering agents along with likely large stockpiles of deadly nerve agents, including VX, the most toxic of all chemical weapons. At least four large chemical weapon production facilities exist. Additionally, Syria likely stores its deadly chemical weapons at dozens of facilities throughout the fractious country. In contrast to Libya's unusable chemical stockpile, analysts emphasize that **Syrian** chemical **agents** **are weaponized and deliverable**. Insurgents and **terrorists** with past or present connections to the military **might feasibly be able to effectively disseminate** chemical **agents over large populations**. (The Global Security Newswire recently asserted that "[t]he Assad regime is thought to possess between 100 and 200 Scud missiles carrying warheads loaded with sarin nerve agent. The government is also believed to have several hundred tons of sarin agent and mustard gas stockpiled that could be used in air-dropped bombs and artillery shells, according to information compiled by the James Martin Center.")¶ Given its robust chemical weapons arsenal and its perceived need to deter Israel, **Syria has** long been suspected of having **an active biological weapons program**. Despite signing the Biological Weapons and Toxins Convention in 1972 (the treaty prohibits the development, production, and stockpiling of biological and toxin weapons), Syria never ratified the treaty. Some experts contend that any Syrian biological weapons program has not moved beyond the research and development phase. Still, **Syria's biotechnical infrastructure undoubtedly has the capability to develop numerous biological weapon agents**. After Israel destroyed a clandestine Syrian nuclear reactor in September 2007, Damascus may have accelerated its chemical and biological weapons programs.¶ **It's hard to guard WMD when a government collapses**. **Although the U**nited **S**tates and its allies **are** reportedly **monitoring** **Syria's** chemical **weapons**, **recent history warns that securing them from theft or transfer is an extraordinary challenge**. For example, during Operation Iraqi Freedom, more than 330 metric tons of military-grade high explosives vanished from Iraq's Al-Qaqaa military installation. Almost 200 tons of the most powerful of Iraq's high-explosives, HMX -- used by some states to detonate nuclear weapons -- was under International Atomic Energy Agency seal. Many tons of Al-Qaqaa's sealed HMX reportedly went missing in the early days of the war in Iraq. Forensic tests later revealed that some of these military-grade explosives were subsequently employed against US and coalition forces.¶ Even with a nationwide presence of 200,000 coalition troops, several other sensitive military sites were also looted, including Iraq's main nuclear complex, Tuwaitha. Should centralized authority crumble in Syria, it seems highly unlikely that the country's 50 chemical storage and manufacturing facilities -- and, possibly, biological weapon repositories -- can be secured. The US Defense Department recently estimated that it would take more than 75,000 US military personnel to guard Syria's chemical weapons. This is, of course, if they could arrive before any WMD were transferred or looted -- a highly unlikely prospect.¶ Complicating any efforts to secure Syria's WMD, post-Assad, are its porous borders. **With Syria's government distracted by internal revolt and US forces now fully out of Iraq**, **it is plausible that stolen** chemical or **bio**logical **weapons** **could find their way across the Syrian border** **into Iraq**. Similarly, Syrian WMD could be smuggled into southern Turkey, Jordan, Lebanon, the West Bank, Israel, and, potentially, the United States and Europe.¶ **At least six formal terrorist organizations have long maintained personnel within Syria.** **Three of these groups** -- **Hamas, Hizbollah, and Palestinian Islamic Jihad** -- **have already attempted to acquire** or use chemical or **biological agents**, or both. Perhaps more troubling, **Al Qaeda-affiliated fighters from Iraq have streamed into Syria**, acting, in part, on orders from Al Qaeda leader Ayman al-Zawahiri. In the past, Al Qaeda-in-Iraq fighters attempted to use chemical weapons, most notably attacks that sought to release large clouds of chlorine gas. The entry of Al Qaeda and other jihadist groups into the Syrian crisis underscores its increasingly sectarian manifestation. Nearly 40 percent of Syria's population consists of members of minority communities. Syria's ruling Alawite regime, a branch of Shia Islam, is considered heretical by many of Syria's majority Sunni Muslims -- even those who are not jihadists. Alawites, Druze, Kurds, and Christians could all become targets for WMD-armed Sunni jihadists. Similarly, Shiite radicals could conceivably employ WMD agents against Syria's Sunnis.¶ Religious fanaticism and WMD. Evidence of growing religious fanaticism is also reflected in recent Syrian suicide attacks. Since last December, at least five suicide attacks occurred in Syria. In the 40 years preceding, only two suicide attacks were recorded. Al Qaeda-linked mujahidin are believed to be responsible for all of these recent attacks. Civil wars are often the most violent and unpredictable manifestations of war. With expanding sectarian divisions, the use of seized WMD in Syria's uprising is plausible. To the extent that religious extremists believe that they are doing God's bidding, fundamentally any action they undertake is justified, no matter how abhorrent, since the "divine" ends are believed to legitimize PDF the means.¶ The situation in Syria is unprecedented. Never before has a WMD-armed country fallen into civil war. All states in the region stand poised to lose if these weapons find their way outside of Syria. The best possible outcome, in terms of controlling Syria's enormous WMD arsenal, would be for Assad to maintain power, but such an outcome seems increasingly implausible. And there is painfully little evidence that democratic forces are likely to take over in Syria. Even if they do eventually triumph, it will take months or years to consolidate control over the entire country.¶ If chaos ensues in Syria, the United States cannot go it alone in securing hundreds of tons of Syrian WMD. Regional leaders -- including some, such as Sunni Saudi Arabia and Shiite Iran, that are now backing the insurgency and the regime, respectively -- must come together and begin planning to avert a dispersion of Syrian chemical or **biological weapons** that would **threaten everyone**, of any political or religious persuasion, in the Middle East and around the world.

#### New gene manipulation takes out your defense

MSNBC 2011

(“Clinton warns of bioweapon threat from gene tech,” pg online @ http://www.msnbc.msn.com/id/45584359/ns/… “For an international verification system — akin to that for nuclear weapons — saying it is too complicated to monitor every lab's activities.”)

GENEVA — New gene assembly technologythat offers great benefits for scientific research could also be used by terrorists to create biological weapons, U.S. Secretary of State Hillary Rodham Clinton warned Wednesday. **The** threat from bioweapons has drawn little attention in recent years, as governments focused more on the risk of nuclear weapons proliferation to countries such as Iran and North Korea. But experts have warned that the increasing ease with which bioweapons can be created might be used by terror groups to develop and spread new diseases that could mimic the effects of the fictional global epidemic portrayed in the Hollywood thriller **"**Contagion." Speaking at an international meeting in Geneva aimed at reviewing the 1972 Biological Weapons Convention, Clinton told diplomats that the challenge was to maximize the benefits of scientific research and minimize the risks that it could be used for harm. "The emerging gene synthesis industry is making genetic material more widely available**,"** she said. "This has many benefits for research, but it could also potentially be used to assemble the components of a deadly organism." Gene synthesis allows genetic material — the building blocks of all organisms — to be artificially assembled in the lab, greatly speeding up the creation of artificial viruses and bacteria. The U.S. government has cited efforts by terrorist networks such as al-Qaeda to recruit scientists capable of making biological weapons as a national security concern. "Acrude but effective terrorist weapon can be made using a small sample of any number of widely available pathogens, inexpensive equipment, and college-level chemistry and biology," Clinton told the meeting. "Less than a year ago**,** al-Qaeda in the Arabian Peninsula made a call to arms for, and I quote, 'brothers with degrees in microbiology or chemistry ... to develop a weapon of mass destruction**,'"** she said. Clinton also mentioned the Aum Shinrikyo cult's attempts in Japan to obtain anthrax in the 1990s, and the 2001 anthrax attack**s** in the United States that killed five people. Washington has urged countries to be more transparent about their efforts to clamp down on the threat of bioweapons. But U.S. officials have also resisted calls for an international verification system — akin to that for nuclear weapons — saying it is too complicated to monitor every lab's activities

#### Extinction

Ochs 2

**(**Richard, Naturalist – Grand Teton National park with Masters in Natural Resource Management – Rutgers, “Biological Weapons must be abolished immediately” 6-9, http://www.freefromterror.net/other\_articles/abolish.html)

Of all the weapons of mass destruction, the genetically engineered **biological weapons**, many without a known cure or vaccine, **are an extreme danger to the continued survival of life** on earth. Any perceived **military** value **or deterrence pales in comparison to the great risk these weapons pose just sitting in vials in laboratories.** While a "nuclear winter," resulting from a massive exchange of **nuclear weapons**, could also kill off most of life on earth and severely compromise the health of future generations, they **are easier to control**. **Biological weapons**, on the other hand**, can get out of control very easily**, as the recent anthrax attacks has demonstrated. There is no way to guarantee the security of these doomsday weapons because very tiny amounts can be stolen or accidentally released and then grow or be grown to horrendous proportions. The Black Death of the Middle Ages would be small in comparison to the potential damage bioweapons could cause. Abolition of chemical weapons is less of a priority because, while they can also kill millions of people outright, their persistence in the environment would be less than nuclear or biological agents or more localized. Hence, chemical weapons would have a lesser effect on future generations of innocent people and the natural environment. Like the Holocaust, once a localized chemical extermination is over, it is over. With nuclear and biological weapons, the killing will probably never end. Radioactive elements last tens of thousands of years and will keep causing cancers virtually forever. Potentially worse than that, bio-engineered agents by the hundreds with no known cure could wreck even greater calamity on the human race than could persistent radiation. AIDS and ebola viruses are just a small example of recently emerging plagues with no known cure or vaccine. Can we imagine hundreds of such plagues? **HUMAN EXTINCTION IS NOW POSSIBLE**.

### China

#### Global SMR development is happening– only a question of whether the US leads

Hiruo 10  
(Elaine, Managing Editor of Platts, "SMR technology gives US chance at market leadership, vendors say," 9-2-10, Lexis)

**The US nuclear industry lost its leadership** position **in the global market for large reactors and now has the opportunity to secure that role for s**mall **m**odular **r**eactor**s,** some SMR vendors told a subcommittee of the Blue Ribbon Commission on America's Nuclear Future August 30.¶ But they stressed their **companies will need the federal government's help to beat foreign competitors to the market.**¶ **"We're at a unique crossroads right now**," Christofer Mowry, president of Babcock and Wilcox Nuclear Energy, told the reactor and fuel cycle technology subcommittee during its two-day meeting in Washington. B&W is one of several US companies — including Hyperion Power Generation, NuScale and Westinghouse — developing an SMR design.¶ "Other countries want a technology that has been built in the host country first," Paul Lorenzini, CEO of NuScale, told the panel. "**There are lots of** small reactor **designs out there,**" he said. Both the Koreans and Japanese have SMR programs, according to industry executives on the speakers panel. **The question is**, Mowry said, **who enters the** global **market first with a reactor already operating on its home turf.**

#### Obama pushing SMRs now but its not enough to beat out China

Ervin 12/28

[Dan Ervin is a professor of finance at Salisbury University. <http://www.delmarvanow.com/article/20121230/OPINION03/312300005> ETB]

The Obama administration’s decision to kick-start commercial use of small modular reactors has made one thing clear: The notion that nuclear power is slipping away is wrong. Although nuclear power faces difficult challenges, industry and government are working together to forge a new path.¶ The Department of Energy has earmarked funds for a new public-private partnership to help develop innovative small reactors that are about one-third the size of those in large conventional nuclear plants. These small reactors are modular, meaning they will be built in factories before they are shipped and installed at nuclear sites. This production method has the potential to reduce the cost of nuclear power significantly.¶ Southern Co. has begun building two new nuclear plants in Georgia using new construction techniques that could convince other companies nuclear plants are easier to build than otherwise thought.¶ Congress is planning to take up comprehensive legislation on nuclear waste next year using a “consent-based approach” to finding a site for a deep-geologic repository or an interim storage facility. Both would hold high-level waste and used fuel. Such an approach was recommended earlier in the year by a high-level blue-ribbon commission.¶ With respect to nuclear safety, American companies are adopting lessons learned from the Fukushima nuclear accident in Japan.¶ US industry is playing an active role in the global market for nuclear technology, where as much as $740 billion in business is at stake over the next decade. With 104 reactors, America still leads the world in installed nuclear capacity. This represents about 30 percent of global nuclear generation. Congress needs to authorize funds for projects to demonstrate the feasibility of small modular reactors.¶ Global electricity requirements are projected to grow by an estimated 80 percent by 2030.¶ Nuclear power remains the only proven technology capable of reliably providing zero-carbon energy on a scale that can have a meaningful impact on global warming.¶ A serious threat to the future of American nuclear power is the shortage of government research and development funds for advanced nuclear technologies. Other countries, notably China, are devoting a larger share of their energy funding to nuclear research on fast reactors and other designs that are inherently safe and produce little or no waste. The US needs to do the same.

#### Delaying commercialization allows China to solidify their lead

Wheeler 12  
(Brian, editor of Power Engineering magazine, "Developing Small Modular Reactor Designs in the U.S," 4-1-12, <http://www.power-eng.com/articles/npi/print/volume-5/issue-2/nucleus/developing-small-modular-reactor-designs-in-the-us.html>)

The development of small modular reactors in the U.S. continues to gain support as the country searches for clean energy options. Although concepts are still being designed, **the U.S. D**epartment **o**f **E**nergy **gave the sector a boost** in March **when it released** **a** Funding Opportunity Announcement to establish **cost-shared agreements** **to support the design and licensing of SMRs.** A total of $450 million will be made available to support two SMRs over five years.¶ "America's choice is clear," said Energy Secretary Steven Chu. "We can either develop the next generation of clean energy technologies, which will help create thousands of jobs and export opportunities here in America, or we can wait for other countries to take the lead."¶ The Energy Department said SMRs are about one-third the size of current nuclear power plants and are designed to offer a host of safety, siting, construction and economic benefits. The size, according to DOE, makes SMRs ideal for small electric grids and locations that cannot support large reactors. Also, the reduced cost due to factory production may make the SMR more attractive to utilities seeking to add a smaller amount of power.¶ "We really see a market right now that includes utilities that don't have a large financial base and that are interested in clean, sustainable power. They are looking at the SMR as an investment of a billion dollars versus several billion dollars for large nuclear," said John Goossen, vice president of Innovation and SMR Development at Westinghouse. "These utilities, in most cases, do not need large chunks of power and are looking to add power incrementally as part of their plans for growth." In February, the Electric Power Research Institute and the Oak Ridge National Laboratory released a study that stated the U.S. has the potential to generate 201 GW from SMRs. For their study, a small modular reactor was labeled as 350 MWe or less. The DOE defines an SMR as 300 MWe or less. The study stated that "350 MWe was considered a reasonable bounding estimate of an initial SMR installation."¶ **The U.S. is leading the world in the amount of SMR designs, but China could be the first country to have a SMR design operational.** Launched in 2011, **a** 200 MWe HTR-PM **reactor is under construction with the support of China Huaneng Group, China Nuclear Engineering and Construction, and Tsinghua University's INET,** according to the World Nuclear Association.¶ "**The U.S. needs to move faster if we are going to compete with the** South Koreans, the **Chinese** and the Russians," said Bob Prince, vice chairman and CEO, Gen4 Energy.

**Using the DOD as a first mover leads to rapid commercialization and allows the US to out-compete other countries**

Loudermilk ‘11

(Micah J. Loudermilk is a Research Associate for the Energy & Environmental Security Policy program with the Institute for National Strategic Studies at National Defense University, May 31, 2011, “Small Nuclear Reactors and US Energy Security: Concepts, Capabilities, and Costs,” Journal of Energy Security, <http://www.ensec.org/index.php?option=com_content&view=article&id=314:small-nuclear-reactors-and-us-energy-security-concepts-capabilities-and-costs&catid=116:content0411&Itemid=375>)

Path forward: Department of Defense as first-mover¶ Problematically, despite the immense energy security benefits that would accompany the wide-scale adoption of small modular reactors in the US, with a difficult regulatory environment, anti-nuclear lobbying groups, skeptical public opinion, and of course the recent Fukushima accident, the nuclear industry faces a tough road in the battle for new reactors. While President Obama and Energy Secretary Chu have demonstrated support for nuclear advancement on the SMR front, progress will prove difficult. However, a potential route exists by which small reactors may more easily become a reality: the US military.¶ The US Navy has successfully managed, without accident, over 500 small reactors on-board its ships and submarines throughout 50 years of nuclear operations. At the same time, serious concern exists, highlighted by the Defense Science Board Task Force in 2008, that US military bases are tied to, and almost entirely dependent upon, the fragile civilian electrical grid for 99% of its electricity consumption. To protect military bases’ power supplies and the nation’s military assets housed on these domestic installations, the Board recommended a strategy of “islanding” the energy supplies for military installations, thus ensuring their security and availability in a crisis or conflict that disrupts the nation’s grid or energy supplies.¶ DOD has sought to achieve this through decreased energy consumption and renewable technologies placed on bases, but these endeavors will not go nearly far enough in achieving the department’s objectives. However, by placing small reactors on domestic US military bases, DOD could solve its own energy security quandary—providing assured supplies of secure and constant energy both to bases and possibly the surrounding civilian areas as well. Concerns over reactor safety and security are alleviated by the security already present on installations and the military’s long history of successfully operating nuclear reactors without incident.¶ Unlike reactors on-board ships, small reactors housed on domestic bases would undoubtedly be subject to Nuclear Regulatory Commission (NRC) regulation and certification, however, with strong military backing, adoption of the reactors may prove significantly easier than would otherwise be possible. Additionally, as the reactors become integrated on military facilities, general fears over the use and expansion of nuclear power will ease, creating inroads for widespread adoption of the technology at the private utility level. Finally, and perhaps most importantly, action by DOD as a “first mover” on small reactor technology will preserve America’s badly struggling and nearly extinct nuclear energy industry. The US possesses a wealth of knowledge and technological expertise on SMRs and has an opportunity to take a leading role in its adoption worldwide. With the domestic nuclear industry largely dormant for three decades, the US is at risk of losing its position as the global leader in the international nuclear energy market. If the current trend continues, the US will reach a point in the future where it is forced to import nuclear technologies from other countries—a point echoed by Secretary Chu in his push for nuclear power expansion. Action by the military to install reactors on domestic bases will guarantee the short-term survival of the US nuclear industry and will work to solidify long-term support for nuclear energy.¶ Conclusions¶ In the end, small modular reactors present a viable path forward for both the expansion of nuclear power in the US and also for enhanced US energy security. Offering highly safe, secure, and proliferation-resistant designs, SMRs have the potential to bring carbon-free baseload distributed power across the United States. Small reactors measure up with, and even exceed, large nuclear reactors on questions of safety and possibly on the financial (cost) front as well. SMRs carry many of the benefits of both large-scale nuclear energy generation and renewable energy technologies. At the same time, they can reduce US dependence on fossil fuels for electricity production—moving the US ahead on carbon dioxide and GHG reduction goals and setting a global example. While domestic hurdles within the nuclear regulatory environment domestically have proven nearly impossible to overcome since Three Mile Island, military adoption of small reactors on its bases would provide energy security for the nation’s military forces and may create the inroads necessary to advance the technology broadly and eventually lead to their wide-scale adoption.

#### SMR commercialization recovers leadership lost to china

Rosner and Goldberg 11

(Robert Rosner, astrophysicist and founding director of the Energy Policy Institute at Chicago. He was the director of Argonne National Laboratory from 2005 to 2009, Stephen Goldberg, Special Assistant to the Director, Argonne National Laboratory ¶ Senior Fellow, Energy Policy Institute at Chicago¶ Research Coordinator, Global Nuclear Future Initiative ¶ American Academy of Arts and Sciences, “Small Modular Reactors – Key to Future Nuclear Power ¶ Generation in the U.S.” Energy Policy Institute at Chicago, <http://csis.org/files/attachments/111129_SMR_White_Paper.pdf>, SEH)

As stated earlier, SMRs have the potential to achieve significant greenhouse gas emission¶ reductions. They could provide alternative baseload power generation to facilitate the retirement¶ of older, smaller, and less efficient coal generation plants that would, otherwise, not be good¶ candidates for retrofitting carbon capture and storage technology. They could be deployed in¶ regions of the U.S. and the world that have less potential for other forms of carbon-free¶ electricity, such as solar or wind energy. There may be technical or market constraints, such as¶ projected electricity demand growth and transmission capacity, which would support SMR¶ deployment but not GW-scale LWRs. From the on-shore manufacturing perspective, a key point¶ is that the manufacturing base needed for SMRs can be developed domestically. Thus, while the¶ large commercial LWR industry is seeking to transplant portions of its supply chain from current¶ foreign sources to the U.S., **the SMR industry offers the potential to establish a large domestic¶ manufacturing base building upon already existing U.S. manufacturing infrastructure and¶ capability,** **including the Naval shipbuilding and underutilized domestic nuclear component and¶ equipment plants**. The study team learned that a number of sustainable domestic jobs could be¶ created – that is, the full panoply of design, manufacturing, supplier, and construction activities –¶ if the U.S. can establish itself as a credible and substantial designer and manufacturer of SMRs.¶ While many SMR technologies are being studied around the world, a **strong U.S.¶ commercialization** program **can enable U.S. industry to be first to market SMRs,** thereby **serving¶ as a fulcrum for** export growth as well as a lever in **influencing international decisions on¶ deploying both** nuclear **reactor and** nuclear **fuel cycle tech**nology. **A** viable **U.S.-centric SMR¶ industry would** enablethe U.S. to **recapture** technological **leadership in** commercial **nuclear¶ tech**nology, **which has been lost to** suppliers in France, Japan, Korea, Russia, and, now rapidly¶ emerging, **China**.

**Ceding nuclear leadership to China leads to unchecked Chinese hege in Asia – kills US regional leadership**

**Cullinane ‘11**

[Scott Cullinane is a graduate student at the Institute of World Politics in Washington, D.C <http://www.ensec.org/index.php?option=com_content&view=article&id=319:america-falling-behind-the-strategic-dimensions-of-chinese-commercial-nuclear-energy&catid=118:content&Itemid=376> ETB]

Due to a confluence of events the United States has recently focused more attention on nuclear weapons policy than it has in previous years; however, the proliferation of commercial nuclear technology and its implications for America’s strategic position have been largely ignored. While the Unites States is currently a participant in the international commercial nuclear energy trade, **America’s** own **domestic construction of nuclear power plants has atrophied severely and the US risks losing its competitive edge in** the **nuclear energy** arena.¶ Simultaneously, the People’s Republic of **China** (PRC) **has made great strides in closing the nuclear** energy **development gap with America**. **Through a combination of importing technology, research from within China itself, and a disciplined policy approach the PRC is increasingly able to leverage the export of commercial nuclear power as part of its national strategy**. **Disturbingly, China does not share America’s commitment to stability, transparency, and responsibility when exporting nuclear technology**. This is a growing strategic weakness and risk for the United States**. To remain competitive and to be in a position to offset the PRC when required the American government should encourage** the **domestic** use of **nuclear power and spur** the forces of **tech**nological **innovation**.¶ History has recorded well American wartime nuclear developments which culminated in the July 1945 Trinity Test, but what happened near Arco, Idaho six years later has been overlooked. In 1951, scientists for the first time produced usable electricity from an experimental nuclear reactor. Once this barrier was conquered the atom was harnessed to generate electricity and permitted America to move into the field of commercial nuclear power. In the next five years alone the United States signed over 20 nuclear cooperation agreements with various countries. Not only did the US build dozens of power plants domestically during the 1960s and 1970s, the US Export-Import Bank also distributed $7.1 billion dollars in loans and guarantees for the international sale of 49 reactors. American built and designed reactors were exported around the world during those years. Even today, more than 60% of the world’s 440 operating reactors are based on technology developed in the United States. The growth of the US civilian nuclear power sector stagnated after the Three Mile Island incident in 1979 – the most serious accident in American civilian nuclear power history. Three Mile Island shook America’s confidence in nuclear power and provided the anti-nuclear lobby ample fuel to oppose the further construction of any nuclear power plants. In the following decade, 42 planned domestic nuclear power plants were cancelled, and in the 30 years since the Three Mile Island incident the American nuclear power industry has survived only through foreign sales and merging operations with companies in Asia and Europe. Westinghouse sold its nuclear division to Toshiba and General Electric joined with Hitachi. Even the highest levels of the American government came to cast nuclear power aside. President Bill Clinton bragged in his 1993 State of the Union Address that “we are eliminating programs that are no longer needed, such as nuclear power research and development.” ¶ **America’s slow pace of reactor construction over the past three decades has stymied innovation and caused the nuclear sector and its industrial base to shrivel**. While some aspects of America’s nuclear infrastructure still operate effectively, **many critical areas have atrophied.** For example, one capability that America has entirely lost is the means to cast ultra heavy forgings in the range of 350,000 – 600,000 pounds, which impacts the construction of containment vessels, turbine rotors, and steam generators. In contrast, Japan, China, and Russia all possess an ultra heavy forging capacity and South Korea and India plan to build forges in this range. Likewise, the dominance America enjoyed in uranium enrichment until the 1970s is gone. The current standard centrifuge method for uranium enrichment was not invented in America and today 40% of the enriched uranium US power plants use is processed overseas and imported. Another measure of how much the US nuclear industry has shrunk is evident in the number of companies certified to handle nuclear material. In the 1980s the United States had 400 nuclear suppliers and 900 holders of N-stamp certificates (N-stamps are the international nuclear rating certificates issued by the American Society of Mechanical Engineers). By 2008 that number had reduced itself to 80 suppliers and 200 N-stamp holders. A recent Government Accountability Office report, which examined data from between 1994 and 2009, found the US to have a declining share of the global commercial nuclear trade. However, during that same period over 60 reactors were built worldwide. Nuclear power plants are being built in the world increasingly by non-American companies.¶ The American nuclear industry entered the 1960s in a strong position, yet over the past 30 years other countries have closed the development gap with America. **The implications of this change go beyond economics or prestige to include national security. These changes would be less threatening if friendly allies were the ones moving forward with developing a nuclear export industry; however, the quick advancement of the PRC in nuclear energy changes the strategic calculus for America.**¶ The shifting strategic landscape¶ **While America’s nuclear industry has languished, current changes in the world’s strategic layout no longer allow America the option of maintaining the status quo without being surpassed.** The drive for research, development, and scientific progress that grew out of the Cold War propelled America forward, but those priorities have long since been downgraded by the US government. **The economic development of formerly impoverished countries means that the US cannot assume continued dominance by default**. **The rapidly industrializing PRC is seeking its own place among the major powers of the world and is vying for hegemony in Asia; nuclear power is an example of their larger efforts to marshal their scientific and economic forces as instruments of national power.**¶ The rise of China is a phrase that connotes images of a backwards country getting rich off of exporting cheap goods at great social and environmental costs. Yet, this understanding of the PRC has lead many in the United States to underestimate China’s capabilities. The Communist Party of China (**CPC) has undertaken a comprehensive long-term strategy to transition from a weak state that lags behind the West to a country that is a peer-competitor to the United States. Nuclear technology provides a clear example of this.** ¶ In 1978, General Secretary Deng Xiaoping began to move China out of the destructive Mao era with his policies of 'reform and opening.' As part of these changes during the 1980s, the CPC began a concerted and ongoing effort to modernize the PRC and acquire advanced technology including nuclear technology from abroad. This effort was named Program 863 and included both legal methods and espionage. By doing this, the PRC has managed to rapidly catch up to the West on some fronts. In order to eventually surpass the West in scientific development the PRC launched the follow-on Program 973 to build the foundations of basic scientific research within China to meet the nation’s major strategic needs. These steps have brought China to the cusp of the next stage of technological development, a stage known as “indigenous innovation.”¶ ¶ In 2006 the PRC published their science and technology plan out to 2020 and defined indigenous innovation as enhancing original innovation, integrated innovation, and re-innovation based on assimilation and absorption of imported technology in order improve national innovation capability. The Chinese seek to internalize and understand technological developments from around the world so that they can copy the equipment and use it as a point to build off in their own research. This is a step beyond merely copying and reverse engineering a piece of technology. The PRC sees this process of absorbing foreign technology coupled with indigenous innovation as a way of leapfrogging forward in development to gain the upper hand over the West. **The PRC’s official statement on energy policy lists nuclear power as one of their target fields. When viewed within this context, the full range of implications from China’s development of nuclear technology becomes evident**. **The PRC is** now **competing with the U**nited **St**ates **in the areas of innovation and high-technology, two fields that have driven American power since World War Two**. **China’s economic appeal** is no longer merely the fact that it has cheap labor, but **is expanding its economic power in a purposeful way that directly challenges America’s position in the world**.¶ ¶ **The CPC uses the market to their advantage to attract nuclear technology and intellectual capital to China**. The PRC has incentivized the process and encouraged new domestic nuclear power plant construction with the goal of having 20 nuclear power plants operational by 2020. The Chinese Ministry of Electrical Power has described PRC policy to reach this goal as encouraging joint investment between State Owned Corporations and foreign companies. 13 reactors are already operating in China, 25 more are under construction and even more reactors are in the planning stages. ¶ In line with this economic policy, China has bought nuclear reactors from Westinghouse and Areva and is cooperating with a Russian company to build nuclear power plants in Taiwan. By stipulating that Chinese companies and personnel be involved in the construction process, China is building up its own domestic capabilities and expects to become self-sufficient. **China’s** State Nuclear Power Technology Corporation has **partnered with Westinghouse to build a new and larger reactor** based on the existing Westinghouse AP 1000 reactor. **This will give the PRC a reactor design of its own to then export**. **If the CPC is able to combine their control over raw materials, growing technical know-how, and manufacturing base, China will not only be a powerful economy, but be able to leverage this power to service its foreign policy goals as well.**¶ Even though the PRC is still working to master third generation technology, their scientists are already working on what they think will be the nuclear reactor of the future. China is developing Fourth Generation Fast Neutron Reactors and wants to have one operational by 2030. Additionally, a Chinese nuclear development company has announced its intentions to build the “world’s first high-temperature, gas-cooled reactor” in Shandong province which offers to possibility of a reactor that is nearly meltdown proof. A design, which if proved successful, could potentially redefine the commercial nuclear energy trade.¶ The risk to America¶ **The international trade of nuclear material is hazardous in that every sale and transfer increases the chances for an accident or for willful misuse of the material. Nuclear commerce must be kept safe in order for the benefits of nuclear power generation to be realized. Yet, China has a record of sharing dangerous weapons and nuclear material with unfit countries**. **It is a risk for America to allow China to become a nuclear exporting country with a competitive technical and scientific edge. In order to limit Chinese influence and the relative attractiveness of what they can offer, America must ensure its continuing and substantive lead in reactor technology.**¶ ¶ The PRC’s record of exporting risky items is well documented. It is known that during the 1980s **the Chinese shared nuclear weapon designs with Pakistan and continues to proliferate WMD-related material.** According to the Office of the Director of National Intelligence to Congress, **China sells technologies and components in the Middle East and South Asia that are dual use and could support WMD and missile programs.** Jane’s Intelligence Review reported in 2006 that China,¶ Despite a 1997 promise to Washington to halt its nuclear technology sales to Iran, such assistance is likely to continue. In 2005, Iranian resistance groups accused China of selling Iran beryllium, which is useful for making nuclear triggers and maraging steel (twice as hard as stainless steel), which is critical for fabricating centrifuges needed to reprocess uranium into bomb-grade material. ¶ **China sells dangerous materials in order to secure its geopolitical objectives, regardless if those actions harm world stability. There is little reason to believe China will treat the sale of nuclear reactors any differently. Even if the PRC provides public assurances that it will behave differently in the future, the CPC has not been truthful for decades about its nuclear material and weapons sales and hence lacks credibility**. For example, in 1983 Chinese Vice Premier Li Peng said that China does not encourage or support nuclear proliferation. In fact, it was that same year that China contracted with Algeria, then a non-NPT [Non-Proliferation Treaty] state, to construct a large, unsafeguarded plutonium production reactor. In 1991 a Chinese Embassy official wrote in a letter to the The Washington Post that 'China has struck no nuclear deal with Iran.' In reality, China had provided Iran with a research reactor capable of producing plutonium and a calutron, a technology that can be used to enrich uranium to weapons-grade. It has been reported that even after United Nation sanctions were put on Iran, Chinese companies were discovered selling “high-quality carbon fiber” and “pressure gauges” to Iran for use in improving their centrifuges.¶ In 2004 the PRC joined the Nuclear Suppliers Groups (NSG), gaining international recognition of their growing power in the nuclear field. In spite of this opportunity for China to demonstrate its responsibility with nuclear energy, it has not fulfilled it NSG obligations. The PRC has kept the terms of its nuclear reactor sale to Pakistan secret and used a questionable legal technicality to justify forgoing obtaining a NSG waiver for the deal. Additionally, China chose to forgo incorporating new safety measures into the reactors in order to avoid possible complications.¶ A further consequence of China exporting reactors is that these countries may wish to control the fuel cycle which provides the uranium to power their new reactors. The spread of fuel cycle technology comes with two risks: enrichment and reprocessing. Uranium can be enriched to between 3% and 5% for reactor use, but the process can be modified to produce 90% enriched uranium which is weapons-grade. Even if a country only produces low enriched uranium they could easily begin enriching at a higher level if they so choose**. Every new country that nuclear technology or information is spread to exponentially increases the risk of material being stolen, given to a third party or being used as the launching point for a weapons program**. **China’s history of proliferation and willingness to engage economically with very unsavory governments seems likely to increase the risks involving nuclear material.**

**U.S. leadership in Asia checks escalation in multiple hostpots**

**Goh 8**

(Evelyn, Lecturer in International Relations in the Department of Politics and International Relations at the Univ of Oxford, International Relations of the Asia-Pacific, “Hierarchy and the role of the United States in the East Asian security order,” 2008 8(3):353-377, Oxford Journals Database)

This is the main structural dilemma: **as long as the U**nited **S**tates **does not give up its primary position in the Asian regional hierarchy**, China is very unlikely to act in a way that will provide comforting answers to the two questions. Yet**, the East Asian regional order has been and still is constituted by US hegemony**, and **to change that could be extremely disruptive and may lead to regional actors acting in highly destabilizing ways**. **Rapid Japanese remilitarization, armed conflict across the Taiwan Straits, Indian nuclear brinksmanship directed toward Pakistan, or a highly destabilized Korean peninsula are all illustrative of potential regional disruptions**. 5 Conclusion To construct a coherent account of East Asia’s evolving security order, I have suggested that the United States is the central force in constituting regional stability and order. **The major patterns of equilibrium and turbulence in the region since 1945 can be explained by the relative stability of the US position at the top of the regional hierarchy**, **with periods of greatest insecurity being correlated with greatest uncertainty over the American commitment to managing regional order**. Furthermore, relationships of hierarchical assurance and hierarchical deference explain the unusual character of regional order in the post-Cold War era. However, **the greatest contemporary challenge to East Asian order is the potential conflict between China and the United States over rank ordering in the regional hierarchy**, a contest made more potent because of the intertwining of regional and global security concerns. Ultimately, though, investigating such questions of positionality requires conceptual lenses that go beyond basic material factors because it entails social and normative questions. How can China be brought more into a leadership position, while being persuaded to buy into shared strategic interests and constrain its own in ways that its vision of regional and global security may eventually be reconciled with that of the United States and other regional players? How can Washington be persuaded that its central position in the hierarchy must be ultimately shared in ways yet to be determined? The future of the East Asian security order is tightly bound up with the durability of the United States’ global leadership and regional domination. **At the regional level, the main scenarios of disruption are an outright Chinese challenge to US leadership, or the defection of key US allies, particularly Japan**. Recent history suggests, and the preceding analysis has shown, that challenges to or defections from **US leadership will come at junctures where it appears that the US commitment to the region is in doubt**, which in turn destabilizes the hierarchical order. At the global level, American geopolitical over-extension will be the key cause of change. This is the one factor that Hierarchy and the role of the United States in the East Asian security order 373lead to both greater regional and global turbulence, if only by the attendant strategic uncertainly triggering off regional challenges or defections. However, it is notoriously difficult to gauge thresholds of over-extension. More positively, East Asia is a region that has adjusted to previous periods of uncertainty about US primacy. Arguably, the regional consensus over the United States as primary state in a system of benign hierarchy could accommodate a shifting of the strategic burden to US allies like Japan and Australia as a means of systemic preservation. **The alternatives that could surface as a result of not doing so would appear to be much worse.**

**Those go nuclear**

**Landy 2k**

National Security Expert @ Knight Ridder, 3/10 ¶ (Jonathan, Knight Ridder, lexis)

Few if any experts think China and Taiwan, North Korea and South Korea, or India and Pakistan are spoiling to fight. But **even a minor miscalculation** by any of them **could destabilize Asia,** jolt the global economy **and** even **start** a **nuclear war. India, Pakistan and** **China all have nuclear weapons, and North Korea** may have a few, **too. Asia lacks the** kinds of organizations, negotiations and diplomatic **relationships that helped keep** an uneasy **peace** for five decades **in Cold War Europe. “Nowhere else** on Earth **are the stakes as high and relationships so fragile,”** said Bates Gill, director of northeast Asian policy studies at the Brookings Institution, a Washington think tank. “We see the convergence of great power interest overlaid with lingering confrontations with no institutionalized security mechanism in place. There are elements for potential disaster.” In an effort to cool the region’s tempers, President Clinton, Defense Secretary William S. Cohen and National Security Adviser Samuel R. Berger all will hopscotch Asia’s capitals this month. For America, the stakes could hardly be higher. **There are 100,000 U.S. troops in Asia** committed to defending Taiwan, Japan and South Korea, and **the U**nited **St**ates **would instantly** **become embroiled** if Beijing moved against Taiwan or North Korea attacked South Korea. While Washington has no defense commitments to either **India or Pakistan**, a conflict between the two **could end the** global **taboo against using nuclear weapons** and demolish the already shaky international nonproliferation regime. In addition, globalization has made a stable Asia \_ with its massive markets, cheap labor, exports and resources \_ indispensable to the U.S. economy. Numerous U.S. firms and millions of American jobs depend on trade with Asia that totaled $600 billion last year, according to the Commerce Department.

#### China will risk open conflict by asserting hegemony in the South China Sea- US leadership key to solve

Hung December ‘12

[Nguyen Manh Hung is associate professor of government and international politics, and faculty associate of the Center of Global Studies, George Mason University. <http://www.globalasia.org/V7N4_Winter_2012/Nguyen_Manh_Hung.html> ETB]¶

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| By 2009-2010, the heightened tension between China and the ASEAN claimants over the contested islands led to an internationalization of the conflict, with the US and other powers beginning to express a view on the disputes. That’s understandable, given that the South China Sea is the world’s second-busiest sea-lane, with more than half of the world’s super tankers and $5.3 trillion in annual trade passing through the area (US trade alone accounts for $1.2 trillion of that figure). The concern over China’s claims and assertive behavior, coupled with China’s lack of transparency in its military modernization program, have created an arms race in Southeast Asia and elicited strong reactions from major powers worried about the situation. India and Japan, for their part, are also concerned over freedom of navigation. Both countries have advocated peaceful resolution of the disputes, but have also increased their diplomatic, economic and naval presence in the area. The US, meanwhile, is in the midst of a policy pivot to the Asia-Pacific, committing 60 percent of its naval assets to the Pacific Ocean, and taking actions to strengthen and modernize “historic alliances” with Japan, South Korea, Australia, the Philippines and Thailand, as well as building “robust partnerships” throughout the region.4 Russia has also begun to voice its concern over the issue of freedom of navigation and “outside meddling” in the South China Sea. In May 2009, as the deadline for claims based on the United Nations Convention on the Law of the Sea (UNCLOS) approached, China was forced to put its cards on the table and Beijing officially presented its nine-dashed-line map, claiming control over 80 percent of the South China Sea and encroaching on territories claimed by other Southeast Asian countries. Almost immediately, the US Senate held a hearing on the South China Sea and in June unanimously passed a resolution “deploring China’s use of force in the South China Sea and supporting the continuation of operations by US armed forces in support of freedom of navigation rights in international water and air space in the South China Sea.” In June 2010, at the Shangri-La Dialogue in Singapore, heated exchanges over the South China Sea took place between China and the US, joined by other ASEAN countries. A month earlier, at the Strategic and Economic Dialogue between the US and China in Beijing, Chinese officials, in a move viewed as raising the stakes in the conflict, declared the country’s claims in the South China Sea to be a “core interest.”5 Influential elites in China view the South China Sea as “blue territory” — that is, as much a part of China’s sovereign territory as Tibet, Xinjiang or Taiwan.6 The US response came in the form of a speech by US Secretary of State Hillary Clinton at the ASEAN Regional Forum (ARF) in Hanoi in July, in which she made it clear that “The United States has a national interest in freedom of navigation, open access to Asia’s maritime commons and respect for international law in the South China Sea.” Significantly, American and Chinese understandings of “freedom of navigation” differ. The US believes it includes the right to conduct military exercises and collect intelligence and militarily useful data, while China wants foreign naval ships and aircraft to seek China’s permission before entering its “internal waters” in the South China Sea.7 Since conflicts of national interests between major world powers can easily lead to friction and war, the escalating tensions between China and the US over these maritime disputes should be a serious cause for concern. The Systemic Conflict From a systemic perspective, the US-China conflict over the South China Sea may be seen as conflict between a rising power and a status quo power. For decades the US, through its Seventh Fleet and its Pacific Command, was the undisputed naval power in the Pacific. The American defeat in Vietnam in the 1970s and its later involvement in the wars in Afghanistan and Iraq have changed the situation. While the US reduced its military presence in Asia and got bogged down in two costly and draining wars, China’s economy was growing and its military modernization program was gaining momentum; Beijing, as a result, has become a dominant regional power economically, politically and militarily. Chinese leaders departed from Deng Xiaoping’s famous dictum to “hide your intention, bide for time,” and began to flex China’s muscles, particularly over the South China Sea. China’s assertion of its “historical right” to claim the sea is weak and doesn’t conform to either UNCLOS or customary international law. What China has been doing represents nothing less than an attempt to rewrite international law and impose its will on the region, shape global political realities and influence the “rules of the road” for the international order.8 The US, in both words and deeds, has signaled that it does not accept this. It has strengthened its military presence in Asia, revitalized its strategic relations with old allies and helped improve the defense capabilities of small countries in the region. In July 2012, when China created a prefectural-level city at Sansha, a small island in the South China Sea, and established a military garrison there to “exercise sovereignty over all land features inside the South China Sea,” the US State Department reacted by publicly denouncing China’s action as “counter to collaborative diplomatic efforts to resolve differences and risks further escalating tensions in the region,” while Congressman Howard Berman, a leading member of the House Committee on Foreign Relations, confirmed that the administration of US President Barack Obama had “repeatedly made clear to Beijing that the US will not allow China to assert hegemony over the region.”9 Conflicts of interests between rising powers and status quo powers have in the past accelerated arms races and led to war. The key questions are, can such a collision course be altered, and can the core conflicts between the two powers be resolved? **Possible End Games** There are a number of possible scenarios for resolving the South China Sea disputes. The first is that China moderates its excessive claims and strikes a deal with other coastal nations, with third-party arbitration or adjudication if necessary, based on recognized international law on territorial seas, exclusive economic zones and continental shelves. Before adopting its nine-dashed line, China had drawn an eleven-dashed line map, two lines of which were in the Gulf of Tonkin.10 This, however, did not prevent China and Vietnam from achieving an agreement on the demarcation of sea borders in that gulf. Moreover, Chinese officials have repeatedly denied that China has officially declared the South China Sea its “core interest,” leaving open the possibility of coming to an understanding regarding conflicting claims. Some Chinese scholars and experts working in government think tanks have privately acknowledged “the problematic nature of China’s policy in the South China Sea,” particularly with regard to “the status of the nine-dotted line.” These analysts and strategic thinkers have expressed concern that the tense situation in the South China Sea could sidetrack China’s “course of reform.”11 This leaves the door open for discussion and provides the space in which China might entertain possible concessions that would avoid embroiling China and its Southeast Asian neighbors in a long argument over China’s excessive claims. The second scenario is one in which China, taking advantage of the differential in power between it and other rival claimants, relies on a combination of unilateral actions, brinkmanship, piecemeal advances and divide-and-conquer tactics to gradually and steadily establish actual control of the sea area within the nine-dashed line. The standoff between China and the Philippines at Scarborough Shoal was a perfect example of how this possible scenario might unfold. The Scarborough Shoal standoff began in May 2012 when a Philippine Navy frigate was sent to investigate the area and boarded Chinese fishing boats in an area it claimed belonged to the Philippines’ EEZ. China responded by sending two unarmed China Maritime Surveillance vessels to interpose themselves between the frigate and the fishing boats and let them escape. Both sides sent in reinforcements. At the height of the standoff, there were a handful of Philippine boats facing almost 100 Chinese vessels. Faced with the overwhelming number of Chinese ships and without international support, the Philippine had to cut a deal in which both sides withdrew their ships. But after all the Philippine boats had withdrawn, China roped off the entrance to the shoal, effectively establishing its de facto control over the contested area. With that fait accompli, a new status quo in favor of China was established. This tactic of resorting to low-grade pressure to create a series of new “facts” may lead to what Toshi Yoshihara termed “strategic fatigue,” which could, in the long run, weaken resistance by rival claimants and lead to a grudging acceptance by the US of China’s claims.12 With this achieved, China would have effective control of navigation in the South China Sea and could dictate the use of that important sea-lane of communication. This approach is being resisted by ASEAN claimants and by other major powers that share the Pacific Ocean. Its success or failure will depend on two things: 1) whether China succeeds in its “divide-and-conquer” approach to ASEAN; and 2) whether ASEAN can summon the determination and capacity to act with a united front to resist China’s pressure and involve other major powers, especially the US. China’s current aggressive approach has caused friction and tension and, if unrestrained, may lead to military conflicts.13 In the long run, it will push many Asian countries closer to the US and may lead to a new kind of Cold War and containment, pitting a bloc of countries supporting the American vision of an Asian regional order against a group supporting the Chinese vision of an Asian regional order. This scenario is a nightmare for Southeast Asian countries that have worked so hard to strengthen ASEAN solidarity and promote the concept of ASEAN centrality, in order to avoid being caught up in the rivalry between the US and China. The third scenario is that China reaches an accommodation with the US, based on American recognition of China as an undisputed leader in the South China Sea, and a peaceful transition of leadership in the Asia-Pacific area from the US to China occurs. If this were to happen, it would unsettle all other Asian nations, big and small, but once the US began the accommodation process, other countries would simply have to fall in line. This process, however, would be dangerous globally and regionally. There is no guarantee, however, that if China were to dominate Asia, she would stop there. In response to the reality of a spectacularly rising China and an America burdened with economic problems and a dysfunctional government, scholars such as Adam Quinn have focused on the beginning of a power transition from the US, a declining power, to China, a rising power.14 Chinese strategic thinkers have not missed the possibility that the current contest over the South China Sea may represent the first steps toward this transition. Ding Gang, a senior editor at the Communist Party’s People’s Daily, commented: “It’s still unknown if the US plans to input equally massive manpower and financial resources as China has injected into this region. It’s very likely that the US lacks the motivation to do this in the long run. And China may become the strongest economic, political and military power in Asia.”15 The problem with this scenario is that it neglects the extent to which the two key players involved in this transition — China and the US — are regimes that represent incompatible visions of the future of the region and the world. A peaceful transition of power took place from the British Empire to the American Empire, largely because it was a case of one democracy replacing another, trading roles as the sentinels of shared regional interests. The British were willing to relinquish their dominance and were assured that, with another democracy taking the helm, its security and wellbeing were not threatened. But the clash between undemocratic revisionist powers (Germany, Italy and Japan) and democratic powers in the 1930s led to the Second World War. Regionally, this scenario would be most undesirable for smaller ASEAN countries and is unlikely to occur so long as the US has the capacity and the determination to maintain its supremacy in the Asia-Pacific region, a determination that has been strongly restated by US leaders, from the president to the secretaries of defense and state as well as by leading members of Congress.16 Aaron Friedberg points out that the ideological gap between China and the US is too great and the level of trust too low to facilitate an accommodation. He makes the case that China’s ultimate goal of regional hegemony would run counter to the US “grand strategy, which has remained constant for decades: to prevent the domination of either end of the Eurasian landmass by one or more potentially hostile powers.”17 |

#### Emerging dynamics means conflict will escalate- 6 reasons

- no cooling off periods

- New ASEAN secretary general is anti-China

- New ASEAN chair is too weak to hammer out a deal

- India getting involved

- more resources will be found

- new Chinese leadership won’t back down

Kurlantzick 12/6/12

[Joshua Kurlantzick, Fellow for Southeast Asia @ Council on Foreign Relations. <http://blogs.cfr.org/asia/2012/12/06/south-china-sea-going-to-get-worse-before-it-might-gets-better/> ETB]

This week’s latest South China Sea incident, in which a Chinese fishing boat cut a Vietnamese seismic cable —at least according to Hanoi— is a reminder that, despite the South China Sea dominating nearly every meeting in Southeast Asia this year, the situation in the Sea appears to be getting worse. This is in contrast to flare-ups in the past, when after a period of tension, as in the mid-1990s, there was usually a cooling-off period. Although there have been several brief cooling-off periods in the past two years, including some initiated by senior Chinese leaders traveling to Southeast Asia, they have not stuck, and the situation continues to deteriorate and get more dangerous.¶ In the new year, it will likely get even worse. Here’s why:¶ The new Association of Southeast Asian Nations (ASEAN) secretary-general comes from Vietnam. Over the past three years, a more openly forceful China has found it difficult to deal with ASEAN leaders who even voice ASEAN concerns. But these leaders, like former Thai foreign minister and ASEAN Secretary-General Surin Pitsuwan, were nothing compared to the new ASEAN secretary-general, Vietnamese Deputy Foreign Minister Le Luong Minh. Although he is a career diplomat and certainly can be suave and attentive, he is still a former Vietnamese official, and undoubtedly will bring with him some of the Vietnamese perspective toward China, which is quickly turning more acrid.¶ This year’s ASEAN chair is Brunei. Keeping to its tradition of rotating the chair every year, in 2013 ASEAN will be headed by Brunei. Although some might think Brunei’s leadership will be better for stability than the 2012 ASEAN leadership of Cambodia, perceived by many other ASEAN members as carrying China’s water, the fact that Brunei is just as much of a diplomatic minnow as Cambodia will mean there is no powerful wrangler in the chair’s seat to hammer out a common ASEAN perspective. Were Indonesia or Singapore the chair, the situation might be different.¶ India is playing a larger and larger role in the South China Sea, adding even more potential players to the mix, and more powerful navies. The recent warning by Beijing that India and Vietnam should not engage in joint exploration is only going to lead to a harsher Indian response, since Indian elites pay far more attention to —and are more easily aggrieved by— China than the reverse.¶ The more they look, the more likely they will find. As reported by the New York Times, “On Monday, China’s National Energy Administration named the South China Sea as the main offshore site for natural gas production. Within two years, China aims to produce 150 billion cubic meters of natural gas from fields in the sea, a significant increase from the 20 billion cubic meters produced so far, the agency said.” Although I do not think that the oil and gas potential in the Sea is the biggest driver of conflict, compared to its strategic value, the more China (and anyone else) explores for energy in the Sea, the more likely they will (eventually) come up with potential deposits that will only raise the stakes, if the forecasts of the Sea’s petroleum potential are to be believed.¶ A new Chinese leadership is unlikely to want to show any weakness. With the leadership of this generation even more split than in the past, following a contentious Party Congress, continued infighting among acolytes of the major Chinese leaders, and the Bo Xilai fiasco, the new leadership is in no position, with Party members and the general educated public, to give any room on a contentious issue like the South China Sea.¶ The Obama administration has passed its period of focusing on more effective dialogue and crisis mediation with China. Officials from the administration’s first term, who naturally had the highest hopes for better dialogue, are gone, with many of them leaving just as convinced as their Bush predecessors that real dialogue was difficult if not impossible. Don’t expect a second term to yield better results with such a dialogue.

#### Risk of miscalc and escalation are high- triggers global war- US, Russia, and India get drawn in

Canberra Times 1/21/13

<http://www.canberratimes.com.au/opinion/editorial/a-real-risk-in-south-china-sea-20130120-2d14p.html> ETB

The close student of history might think that the stand-off between Japan and China over the sovereignty of a few small islands in the South China Sea has a very close resemblance to the international landscape just before the start of the First World War 99 years ago. In the past week, Japan and China have been playing military chicken, each hoping the other blinks before a massive conflagration. The resemblance to August 1914 goes beyond the way in which both sides are ratcheting up the bluster, threats and the pressure, primarily for domestic political consumption rather than tactical or serious strategic advantage, against the risk that even a slight political or military miscalculation or chance event (like an assassination in Sarajevo) actually sets off conflicts no one intended, expected or actually wanted. It also has parallels with the potential for such a conflict, whether started by China or Japan, to explode domino-like into a much wider brawl, inevitably causing confrontation between China and the US, and, unwilling but unavoidable entry by most of the northern Pacific nations, including Russia, Vietnam, the Koreas, the Philippines and Australia, and, probably India. It is impossible to calculate how such a conflict would go, but it would be catastrophic for millions of people, with survivors wondering why it came to escalate so quickly and to become, so suddenly, for two countries such a critical matter worth staking their national survival.¶ No one can firmly say which nation ''has'' sovereignty over the Diaoyu or Senkaku Islands. Of themselves, they have little economic value, other than that the nation which can claim to ''own'' them can claim the right to exploit the adjacent sea for any mineral or petroleum wealth. Ownership depends on where one starts the clock, and China has as good a case as Japan, of itself a reason why Japan must negotiate. China had practical ownership and control until the late 19th century when an awakening and expansionist Japan annexed it during a period when China had been weakened by confrontations and concession to western powers and Japan. China claims that it protested strongly at the time, and certainly, laid claim for their return at the end of the Second World War. At one stage both countries agreed to hold their competing claims in suspense, but neither withdrew them.¶ The US has tacitly recognised the Japanese claim, and, foolishly, intimated that it would go to war to defend it. But the US rationale does not resolve an issue that precedes its treaty relationships, and its status quo argument might suggest, wrongly, that it likewise admits Russia's claim both to the former Japanese territory of Sakhalin and all the Kuril Islands, including the ones Japan denies ever ceding.¶ Like China's disputes over other islands with Vietnam, Russia, the Philippines, Brunei, Indonesia and Malaysia, argument is kept alive by the prospect of oil and mineral claims as well as economic zones, but, in recent times, a generally peaceful status quo has been aggravated by nationalistic bombast, in Japan as much as in China. China's belligerence is aggravated by unresolved anger at Japanese aggression against China in the 1930s and 1940s, and its fear that Japan's raising of the temperature is part of an American strategy of ''encircling'' China.

**US-China war goes nuclear**

**Hunkovic 9**

Lee J. Hunkovic -- professor at American Military University, 09, [“The Chinese-Taiwanese Conflict Possible Futures of a Confrontation between China, Taiwan and the United States of America”, American Military University, p.54]

**A war between China**, Taiwan **and the U**nited **S**tates **has the potential to escalate into a nuclear conflict and a third world war**, therefore, **many countries other than the primary actors could be affected by such a conflict, including Japan, both Koreas, Russia, Australia, India and Great Britain,** if they were drawn into the war, as well as all other countries in the world that participate in the global economy, in which the United States and China are the two most dominant members. If China were able to successfully annex Taiwan, the possibility exists that they could then plan to attack Japan and begin a policy of aggressive expansionism in East and Southeast Asia, as well as the Pacific and even into India, which could in turn create an international standoff and deployment of military forces to contain the threat. In any case, **if China and the U**nited **S**tates **engage in** a full-scale **conflict, there are few countries** in the world **that will not be** economically and/or militarily **affected by it.** However, China, Taiwan and United States are the primary actors in this scenario, whose actions will determine its eventual outcome, therefore, other countries will not be considered in this study.

**Sino-Indian war goes nuclear**

**Caryl ‘10**

(CHRISTIAN CARYL “Nuclear arms race between China and India” JULY 13, 2010http://www.defence.pk/forums/indian-defence/65480-nuclear-arms-race-between-china-india.html, TSW)

Europeans and Americans, who have dominated world affairs for so long, are understandably fascinated by the recent rise of China and India. **It's obvious that the rapid economic resurgence of these two great Asian powers fundamentally alters the global rules of the game**.¶ China and India have built up a $60-billion-per-year trading relationship, and for years they've insisted that they want to work more closely on a variety of fronts. **Yet** **that expressed desire for collaboration co-exists uneasily with a long-running strategic rivalry**. **Parts of their mutual border remain in dispute. China has long supported Pakistan, India's main enemy**, **while the Indians have often befriended competitors of the Chinese** (**be it Moscow or Washington**). Lately Beijing has been cultivating relationships among countries in Southeast Asia and the Indian Ocean -- including Bangladesh, Myanmar, and Sri Lanka -- to protect the flow of commerce and access to supplies of natural resources. That has the Indians fearing encirclement. ¶ Lately, though, another **element is threatening to complicate the strategic calculus: the nuclear factor.** In themselves, of course, nuclear weapons are nothing new to either country. China has been a nuclear power for decades, while India conducted its first nuclear test in 1974 (though most outsiders tend to think of 1998, when New Delhi conducted a series of underground explosions designed to establish its bona fides as a genuine nuclear power). **Although both countries have sworn off first use, both have built up formidable deterrents designed to retaliate against any attackers.**¶ So what's new? A lot. **Concurrent with their rising economic might, China and India have set about modernizing their militaries to lend extra muscle to their growing strategic ambitions** -- and **given their complicated history, that can't help but spark worries**. "**China has the most active and diverse ballistic missile development program in the world**," noted one U.S. report. "**China's ballistic missile force is expanding in both size and types of missiles**." China's Dongfeng long-range missiles boast independently controlled multiple warheads, mobility, and solid fuel (meaning that they can be fired with little notice). That's just one of many areas in which the Chinese have demonstrated their advanced technological capabilities. In January China shot down one of its own satellites with a missile -- once again demonstrating, as it did with a previous test in 2007, that it's well down the path toward a ballistic missile defense system.¶ **That test unnerved the Indians, who saw the prospect of Chinese space weapons as a potential threat to the credibility of their own nuclear deterrent**. The **Indians**, meanwhile, **have been hard at work on a new generation of long-range missiles of their own.** The Agni-5, which is set for a test flight by the end of this year, has a projected range of 5,000 to 6,000 kilometers -- meaning that it would be able to hit even the northernmost of China's cities. The Indians are also conducting sea trials of their first ballistic missile submarine, the Arihant, which could be ready for deployment within another year or two.¶ It is undoubtedly true that the two countries mainly have other potential enemies in mind. China is primarily concerned about deterring potential attacks by the world's leading nuclear power, the United States, while India's strategic calculations focus on the threat from Pakistan. **Yet strategic logic is creating the potential for direct friction between Beijing and New Delhi on several fronts**. **The two countries are already engaged in a naval arms race** as **they jockey for influence in the waters around South Asia**. **Tensions have also been mounting over the two countries' border disputes** -- **especially the one involving the disputed area of Arunachal Pradesh (which is controlled by the Indians)**. The **Indians complain of a rising number of Chinese incursions into the area**; a remark by the Chinese ambassador to India a few years ago, when he claimed the territory as China's, stirred up public outrage. The Chinese, who regard Arunachal Pradesh as part of Tibet, worry in turn about a buildup of Indian troops in the region.¶ Rajeswari Pillai Rajagopalan of the Observer Research Foundation in New Delhi notes one concern. Starting in 2007, the Chinese military began a major upgrade of its missile base near the city of Delingha in Qinghai province, next to Tibet. **In addition to the intermediate-range missiles already stationed in the region, Rajagopalan says there are indications the Chinese** may **have beefed up the force** with long-range DF-31s and DF-31As -- **thus threatening not only northern India, including Delhi, but targets in the south as well.** It's entirely possible, she acknowledges in a 2007 paper, that the Chinese move could be aimed primarily at countering Russian missiles stationed in Siberia, but warns that "what the Chinese may consider a routine exercise may send a wrong signal and have serious implications." For his part, former U.S. diplomat Charles Freeman says that he regards Indian fears of a Chinese nuclear buildup as exaggerated, but worries thatafateful **mismatch of perceptions could already be spur**ring both countries toward **a** genuine **nuclear arms race**.¶ **The extent to which the two militaries are getting on each other's nerves became apparent in a bit of high-ranking trash-talking earlier this year**. **India's chief military science office**r, V.K. Saraswat, **declared that new advances in his country's ballistic missile technology meant that "**as far as cities in China and Pakistan are concerned, **there will be no target that we want to hit but can't hit**." **That prompted a retort from Rear Adm. Zhang Zhaozhong of China's National Defense University, who pointedly derided the "low level" of Indian technology**. "In developing its military technology," Zhang said, "China has never taken India as a strategic rival, and none of its weapons were specifically designed to contain India." **If that was meant to console anyone south of the border, it doesn't seem to have worked**.¶ **The best time to talk about an arms race, of course, is before it really gathers steam.** Krishnaswami Subrahmanyam, former chairman of India's National Security Advisory Board, says that China and India should take their nuclear concerns to the Conference on Disarmament, a multilateral negotiating forum at the United Nations. **But that, of course, would require the Chinese to acknowledge that there's a problem, which they might not be willing to do.** Rajagopalan notes that India and Pakistan have managed to set up some effective confidence-building measures on their common border, but that India and China have yet to do the same (aside from a few stillborn efforts in the early 1990s). Instituting mechanisms to warn each other of pending missile tests might be a start. "I think there's a great need for that," she says. "**Otherwise these kinds of tensions can spiral out of control." You can say that again.**

#### Russia-China war goes nuclear

Alexander **Sharavin** 200**1** Director of the Institute for Military and Political Analysis, What the Papers Say, Oct 3)

The strength of the Chinese People's Liberation Army (CPLA) has been growing quicker than the Chinese economy. A decade ago the CPLA was equipped with inferior copies of Russian arms from late 1950s to the early 1960s. However, through its own efforts Russia has nearly managed to liquidate its most significant technological advantage. Thanks to our zeal, from antique MiG-21 fighters of the earliest modifications and S-75 air defense missile systems the Chinese antiaircraft defense forces have adopted Su-27 fighters and S-300 air defense missile systems. China's air defense forces have received Tor systems instead of anti-aircraft guns which could have been used during World War II. The shock air force of our "eastern brethren" will in the near future replace antique Tu-16 and Il-28 airplanes with Su-30 fighters, which are not yet available to the Russian Armed Forces! Russia may face the "wonderful" prospect of combating the Chinese army, which, if full mobilization is called, is comparable in size with Russia's entire population, which also has nuclear weapons (even tactical weapons become strategic if states have common borders) and would be absolutely insensitive to losses (even a loss of a few million of the servicemen would be acceptable for China). Such a war would be more horrible than the World War II. It would require from our state maximal tension, universal mobilization and complete accumulation of the army military hardware, up to the last tank or a plane, in a single direction (we would have to forget such "trifles" like Talebs and Basaev, but this does not guarantee success either). Massive nuclear strikes on basic military forces and cities of China would finally be the only way out, what would exhaust Russia's armament completely. We have not got another set of intercontinental ballistic missiles and submarine-based missiles, whereas the general forces would be extremely exhausted in the border combats. In the long run, even if the aggression would be stopped after the majority of the Chinese are killed, our country would be absolutely unprotected against the "Chechen" and the "Balkan" variants both, and even against the first frost of a possible nuclear winter.

### Solvency

#### DoD acquisition of SMR’s ensures rapid military adoption and commercialization, and prevents unfavorable tech lock-in

**Andres and Breetz 11**

Richard Andres, Professor of National Security Strategy at the National War College and a Senior Fellow and Energy and Environmental Security and Policy Chair in the Center for Strategic Research, Institute for National Strategic Studies, at the National Defense University, and Hanna Breetz, doctoral candidate in the Department of Political Science at The Massachusetts Institute of Technology, Small Nuclear Reactorsfor Military Installations:Capabilities, Costs, andTechnological Implications, [www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf](http://www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf)

Thus far, this paper has reviewed two of DOD’s most pressing energy vulnerabilities—grid insecurity and fuel convoys—and explored how they could be addressed by small reactors. We acknowledge that there are many uncertainties and risks associated with these reactors. On the other hand, **failing to pursue these technologies raises its own set of risks for DOD,** which we review in this section: first, **small reactors may fail to be commercialized in the U**nited **S**tates; second, **the designs that get locked in by the private market may not be optimal for DOD’s needs**; and third, **expertise on small reactors may become concentrated in foreign countries**. **By taking an early “first mover” role in the small reactor market, DOD could mitigate these risks and secure the long-term availability and appropriateness of these technologies for U.S. military applications.** The “Valley of Death.” Given the promise that small reactors hold for military installations and mobility, **DOD has a compelling interest in ensuring that they make the leap from paper to production**. However, **if DOD does not provide an initial** demonstration and **market, there is a chance that the U.S. small reactor industry may never get off the ground**. **The leap from the laboratory to the marketplace is so difficult to bridge that it is widely referred to as the “Valley of Death.”** **Many promising technologies are never commercialized due to a variety of market failures**— **including technical and financial uncertainties**, information asymmetries, **capital market imperfections, transaction costs**, and environmental and security externalities— **that impede financing and early adoption** **and can lock innovative technologies out of the marketplace**. 28 In such cases, **the Government can help a worthy technology to bridge the Valley of Death by accepting the first mover costs and demonstrating the technology’s scientific and economic viability**.29 [FOOTNOTE 29: **There are** numerous **actions that the Federal Government could take**, such as conducting or funding research and development, stimulating private investment, demonstrating technology, mandating adoption, and guaranteeing markets. **Military procurement** is thus only one option, but it has often **played a decisive role in technology development and is likely to be the catalyst for the U.S. small reactor industry.** See Vernon W. Ruttan, Is War Necessary for Economic Growth? (New York: Oxford University Press, 2006); Kira R. Fabrizio and David C. Mowery, “The Federal Role in Financing Major Inventions: Information Technology during the Postwar Period,” in Financing Innovation in the United States, 1870 to the Present, ed. Naomi R. Lamoreaux and Kenneth L. Sokoloff (Cambridge, MA: The MIT Press, 2007), 283–316.] Historically, **nuclear power has been “the most clear-cut example . . . of an important general-purpose technology that in the absence of military** and defense related **procurement would not have been developed at all.”**30 **Government involvement is likely to be crucial for innovative, next-generation nuclear technology** as well. Despite the widespread revival of interest in nuclear energy, Daniel Ingersoll has argued that radically innovative **designs face an uphill battle, as “the high capital cost of nuclear plants and the painful lessons learned during the first nuclear era have created a prevailing fear of first-of-a-kind designs**.”31 In addition, **M**assachusetts **I**nstitute of **T**echnology reports on the Future of Nuclear Power **called for the Government to provide modest “first mover” assistance to the private sector due to several barriers that have hindered the nuclear renaissance**, such as securing high up-front costs of site-banking, gaining NRC certification for new technologies, and demonstrating technical viability.32 It is possible, of course, that small reactors will achieve commercialization without DOD assistance. As discussed above, they have garnered increasing attention in the energy community. Several analysts have even argued that small reactors could play a key role in the second nuclear era, given that they may be the only reactors within the means of many U.S. utilities and developing countries.33 However, **given the tremendous regulatory hurdles and technical and financial uncertainties, it appears far from certain that the U.S. small reactor industry will take off. If DOD wants to ensure that small reactors are available in the future, then it should pursue a leadership role now.** Technological Lock-in. **A second risk is that if small reactors do reach the market without DOD assistance, the designs that succeed may not be optimal for DOD’s applications**. **Due to a variety of positive feedback and increasing returns to adoption** (including demonstration effects, technological interdependence, network and learning effects, and economies of scale), **the designs that are initially developed can become “locked in.”**34 **Competing designs**—even if they are superior in some respects or better for certain market segments— **can face barriers to entry that lock them out of the market. If DOD wants to ensure that its preferred designs are not locked out, then it should take a first mover role on small reactors.** It is far too early to gauge whether the private market and DOD have aligned interests in reactor designs. On one hand, Matthew Bunn and Martin Malin argue that what the world needs is cheaper, safer, more secure, and more proliferation-resistant nuclear reactors; presumably, many of the same broad qualities would be favored by DOD.35 **There are many varied market niches that could be filled by small reactors, because there are many different applications** and settings in which they can be used, and it is quite possible that some of those niches will be compatible with DOD’s interests.36 On the other hand, **DOD may have specific needs** (transportability, for instance) **that would not be a high priority for any other market segment.** Moreover, while DOD has unique technical and organizational capabilities that could enable it to pursue more radically innovative reactor lines, DOE has indicated that it will focus its initial small reactor deployment efforts on LWR designs.37 **If DOD wants to ensure that its preferred reactors are developed and available in the future, it should take a leadership role now. Taking a first mover role does not** necessarily **mean that DOD would be “picking a winner” among small reactors**, as the market will probably pursue multiple types of small reactors. **Nevertheless, DOD leadership would likely have a profound effect on the industry’s timeline and trajectory.** Domestic Nuclear Expertise. From the perspective of larger national security issues, **if DOD does not catalyze the small reactor industry, there is a risk that expertise in small reactors could become dominated by foreign companies**. A 2008 Defense Intelligence Agency report warned that the United States will become totally dependent on foreign governments for future commercial nuclear power unless the military acts as the prime mover to reinvigorate this critical energy technology with small, distributed power reactors.38 **Several of the most prominent small reactor concepts rely on technologies perfected at Federally funded laboratories and research programs**, including the Hyperion Power Module (Los Alamos National Laboratory), NuScale (DOE-sponsored research at Oregon State University), IRIS (initiated as a DOE-sponsored project), Small and Transportable Reactor (Lawrence Livermore National Laboratory), and Small, Sealed, Transportable, Autonomous Reactor (developed by a team including the Argonne, Lawrence Livermore, and Los Alamos National Laboratories). **However, there are scores of competing designs under development from over a dozen countries. If DOD does not act early to support the U.S. small reactor industry, there is a chance that the industry could be dominated by foreign companies**. Along with other negative consequences, **the decline of the U.S. nuclear industry decreases the NRC’s influence on the technology that supplies the world’s rapidly expanding demand for nuclear energy. Unless U.S. companies begin to retake global market share, in coming decades France, China, South Korea, and Russia will dictate standards on nuclear reactor reliability, performance, and proliferation resistance**.

**Alternative financing cuts costs and supercharges commercialization**

**Fitzpatrick 11**

Ryan Fitzpatrick, Senior Policy Advisor for Clean Energy at Third Way, Josh Freed, Vice President for Clean Energy at Third Way, and Mieke Eoyan, Director for National Security at Third Way, June 2011, Fighting for Innovation: How DoD Can Advance CleanEnergy Technology... And Why It Has To, content.thirdway.org/publications/414/Third\_Way\_Idea\_Brief\_-\_Fighting\_for\_Innovation.pdf

The DoD has over $400 billion in annual purchasing power, **which means the Pentagon could provide a sizeable market for new technologies**. **This can increase a technology’s scale of production, bringing down costs, and making the product more likely to successfully reach commercial markets**. **Unfortunately**, many potentially significant clean energy **innovations never get to the marketplace, due to a lack of capital during** the development and **demonstration stages. As a result, technologies that could help the military** meet its clean energy security and cost goals **are being abandoned or co-opted by competetors like China** before they are commercially viable here in the U.S. **By focusing its purchasing power on innovative products that will** help **meet its energy goals, DoD can provide** more **secure** and **cost-effective energy to the military—producing tremendous long-term savings**, while also **bringing** potentially **revolutionary technologies to the public**. Currently, many of these **technologies are passed over during** the **procurement** process **because of** higher **upfront costs—even if these technologies can reduce life-cycle costs** to DoD. The Department has only recently begun to consider life-cycle costs and the “fullyburdened cost of fuel” (FBCF) when making acquisition decisions. However, initial reports from within DoD suggest that the methodology for determining the actual FBCF needs to be refined and made more consistent before it can be successfully used in the acquisition process.32 The Department should fast-track this process to better maximize taxpayer dollars. Congressional appropriators— and the Congressional Budget Office—should also recognize the **savings that can be achieved by procuring advanced technologies to promote DoD’s energy goals**, even if these procurements come with higher upfront costs. **Even if the Pentagon makes procurement of emerging clean energy technologies a higher priority, it still faces real roadblocks in developing relationships with the companies that make them. Many clean energy innovations are developed by small businesses or companies that have no previous experience working with military procurement officers. Conversely, many procurement officers do not know the clean energy sector and are not incentivized to develop relationships with emerging clean energy companies**. Given the stakes in developing domestic technologies that would help reduce costs and improve mission success, the Pentagon should develop a program to encourage a better flow of information between procurement officers and clean energy companies—especially small businesses. Leverage Savings From Efficiency and Alternative Financing to Pay for Innovation. **In an age of government-wide austerity and tight** Pentagon **budgets**, current congressional **appropriations are simply not sufficient** to fund clean energy innovation. **Until Congress decides to direct additional resources** for this purpose, the **Defense** Department **must leverage** the money and other **tools it already has** to help develop clean energy. This can take two forms: repurposing money that was saved through energy efficiency programs for innovation and using alternative methods of financing to reduce the cost to the Pentagon of deploying clean energy. For several decades **the military has made** modest **use alternative financing** **mechanisms to fund** clean **energy** and efficiency **projects when appropriated funds were insufficient**. In a 2010 report, GAO found that while only 18% of renewable energy projects on DoD lands used alternative financing, these projects account for 86% of all renewable energy produced on the Department’s property.33 This indicates that **alternative financing can be particularly helpful to DoD in terms of bringing larger and more expensive projects to fruition**. One advanced financing tool available to DoD is **the energy savings performance contract** (ESPC). These agreements **allow DoD to contract a private firm to make upgrades to a building or other facility that result in energy savings, reducing overall energy costs without appropriated funds**. **The firm finances the cost, maintenance and operation of these upgrades and recovers a profit over the life of the contract**. While mobile applications consume 75% of the Department’s energy,34 DoD is only authorized to enter an ESPC for energy improvements done at stationary sites. As such, Congress should allow DoD to conduct pilot programs in which ESPCs are used to enhance mobile components like aircraft and vehicle engines. This could accelerate the needed replacement or updating of aging equipment and a significant reduction of energy with no upfront cost. To maximize the potential benefits of ESPCs, DoD should work with the Department of Energy to develop additional training and best practices to ensure that terms are carefully negotiated and provide benefits for the federal government throughout the term of the contract.35 This effort could possibly be achieved through the existing memorandum of understanding between these two departments.36 The Pentagon should also consider using any long-term savings realized by these contracts for other energy purposes, including the promotion of innovative technologies to further reduce demand or increase general energy security. In addition to ESPCs, **the Pentagon** also **can enter into** extended agreements with utilities to use DoD land to generate electricity, or for the **long-term purchase of energy**. **These** **innovative financing mechanisms**, known respectively as enhanced use leases (EULs) and power purchase agreements (PPAs), **provide a valuable degree of certainty to third party generators**. In exchange, the **Department can leverage its existing resources**—either its land or its purchasing power—**to negotiate lower electricity rates** and dedicated sources of locallyproduced power with its utility partners. **DoD has unique authority among federal agencies to enter extended 30-year PPAs**, **but only for geothermal energy projects and only with direct approval from the Secretary of Defense**. Again, limiting incentives for clean energy generation to just geothermal power inhibits the tremendous potential of other clean energy sources to help meet DoD’s energy goals. **Congress should consider opening this incentive up to other forms of clean energy generation**, including the production of advanced fuels. Also, given procurement officials’ lack of familiarity with these extended agreements and the cumbersome nature of such a high-level approval process, the unique authority to enter into extended 30-year PPAs is very rarely used.37 DoD should provide officials with additional policy guidance for using extended PPAs and Congress should simplify the process by allowing the secretary of each service to approve these contracts. Congress should also investigate options for encouraging regulated utility markets to permit PPA use by DoD. Finally, when entering these agreements, the Department should make every effort to promote the use of innovative and fledgling technologies in the terms of its EULs and PPAs. CON C L U S ION **The Defense Department is in a unique position to foster and deploy innovation in clean energy technologies**. This has two enormous benefits for our military: it will make our troops and our facilities more secure and it will reduce the amount of money the Pentagon spends on energy, freeing it up for other mission critical needs. If the right steps are taken by Congress and the Pentagon, the military will be able to put its resources to work developing technologies that will lead to a stronger fighting force, a safer nation, and a critical emerging sector of the American economy. **The Defense Department has helped give birth to technologies and new economic sectors dozens of times before**. For its own sake and the sake of the economy, **it should make clean energy innovation its newest priority**.

**DoD key- avoids regulations**

Glen **Butler**, Lt. Col., 20**11**, Not Green Enough, [www.mca-marines.org/gazette/not-green-enough](http://www.mca-marines.org/gazette/not-green-enough)

**SMRs have relatively low plant cost**, can replace aging fossil plants, and do not emit greenhouse gasses. Some are as small as a “hot tub” and can be stored underground, dramatically increasing safety and security from terrorist threats.25 Encouragingly, in fiscal year 2010 (FY10) the **DoE allocated** $0 to **the U.S. SMR Program**; in FY11, they’ve requested $38.9 million. This **funding is to support** two main activities—**public/private partnerships to advance** SMR **designs and research** **and** development and **demonstrations**. According to the DoE’s website, one of the planned program accomplishments for FY11 is to “collaborate with the Department of Defense (DoD) . . . to assess the feasibility of SMR designs for energy resources at DoD installations.”26 The Marine Corps should vigorously seek the opportunity to be a DoD entity providing one platform for this feasibility assessment.27 Fourth, **SMR** technology **offers** the Marine Corps **a**nother **unique means to lead from the front**—not just of the other Services but also of **the Nation, and** even **the world**.28 **This** potential Pete Ellis **moment should be seized**. There are simple steps we could take, and others stand ready to lead if we are not.30 But **the temptation to “wait and see” and “let the others do it; then we’ll adopt it” mentality is not** always **best**. **Energy security demands boldness**, not timidity. To be fair, nuclear technology comes with challenges, of course, and with questions that have been kicked around for decades. An April 1990 Popular Science article asked, “Next Generation Nuclear Reactors—Dare we build them?” and included some of the same verbiage heard in similar discussions today.31 Compliance with National Environment Policy Act requirements necessitates lengthy and detailed preaction analyses, critical community support must be earned, and disposal challenges remain. Still, none of these hurdles are insurmountable. Yet despite the advances in safety, security, and efficiency in recent years, nuclear in the energy equation remains the new “n-word” for most military circles. And despite the fact that the FY10 National Defense Authorization Act called on the DoD to “conduct a study [of] the feasibility of nuclear plants on military installations,” the Office of the Secretary of Defense has yet to fund the study. Fifth**, the** **cumbersome, bureaucratic certification** **process** **of** **the** Nuclear Regulatory Commission (**NRC**), often **enough to scare away potential entrepreneurs and investors, is not** **necessarily** **a roadblock to success**. The NRC is “responsible for licensing and regulating the operation of commercial nuclear power plants in the United States.” **Military installations offer unique platforms that** could likely **bypass** an extended **certification** process. **With established expertise and a long safety record in nuclear reactor certification**, operations, training, and maintenance, the Naval Nuclear Propulsion Program comprises the civilian and military personnel who: . . . design, build, operate, maintain, and manage the nuclear-powered ships and the many facilities that support the U.S. nuclear-powered naval fleet.”34 **Bypassing the NRC and initiating SMR experimentation** under ADM Hyman Rickover’s legacy umbrella of naval reactors **could shorten the process to a reasonable level for** Marine and naval **installations**.35

#### They have the personnel and expertise

Robitaille 12

(George, Department of Army Civilian, United States Army War College, “Small Modular Reactors: The Army’s Secure Source of Energy?” 21-03-2012, Strategy Research Project)

Section 332 of the FY2010 National Defense Authorization Act (NDAA), “Extension and Expansion of Reporting Requirements Regarding Department of Defense Energy Efficiency Programs,” requires the Secretary of Defense to evaluate the cost and feasibility of a policy that would require new power generation projects established on installations to be able to provide power for military operations in the event of a commercial grid outage.28 A potential solution to meet this national security requirement, as well as the critical needs of nearby towns, is for DoD to evaluate SMRs as a possible source for safe and secure electricity. **Military facilities depend on reliable sources of energy to operate, train, and support national security missions. The power demand for most military facilities is not very high, and could easily be met by a SMR.** Table 1 provides the itemized description of the annual energy requirements in megawatt of electricity (MWe) required for the three hundred seventy four DoD installations.29 DoD History with SMRs **The concept of small reactors for electrical power generation is not new**. In fact, **the DoD built and operated small reactors for applications on land and at sea**. **The U.S. Army operated eight nuclear power plants from 1954 to 1977. Six out of the eight reactors built by the Army produced operationally useful power for an extended period, including the first nuclear reactor to be connected and provide electricity to the commercial grid**. 30 The Army program that built and operated compact nuclear reactors was ended after 1966, not because of any safety issues, but strictly as a result of funding cuts in military long range research and development programs. In essence, it was determined that the program costs could only be justified if there was a unique DoD specific requirement. At the time there were none.31 Although it has been many years since these Army reactors were operational, the independent source of energy they provided at the time is exactly what is needed again to serve as a secure source of energy today. Many of the nuclear power plant designs used by the Army were based on United States Naval reactors. Although the Army stopped developing SMRs, **the Navy as well as the private sector has continued to research, develop, and implement improved designs** to improve the safety and efficiency of these alternative energy sources. The U.S. Navy nuclear program developed twenty seven different power plant systems and almost all of them have been based on a light water reactor design.32 This design focus can be attributed to the inherent safety and the ability of this design to handle the pitch and roll climate expected on a ship at sea. **To date, the U. S Navy operated five hundred twenty six reactor cores in two hundred nineteen nuclear powered ships, accumulated the equivalent of over six thousand two hundred reactor years of operation and safely steamed one hundred forty nine million miles**. **The U.S. Navy has never experienced a reactor accident**.33 All of the modern Navy reactors are design to use fuel that is enriched to ninety three percent Uranium 235 (U235) versus the approximate three percent U235 used in commercial light water reactors. The use of highly enriched U235 in Navy vessels has two primary benefits, long core lives and small reactor cores.34 The power generation capability for naval reactors ranges from two hundred MWe (megawatts of electricity) for submarines to five hundred MWe for an aircraft carrier. A Naval reactor can expect to operate for at least ten years before refueling and the core has a fifty year operational life for a carrier or thirty to forty years for a submarine.35 As an example, the world’s first nuclear carrier, the USS Enterprise, which is still operating, celebrated fifty years of operations in 2011.36 The Navy nuclear program has set a precedent for safely harnessing the energy associated with the nuclear fission reaction. In addition, **the Navy collaborates with the private sector to build their reactors and then uses government trained personnel to serve as operators**.

**Implementing the use of SMRs as a secure source of energy for our critical military facilities will leverage this knowledge and experience**.

**SMRs are cost-effective, safe, can be quickly deployed, and solve waste**

**Szondy 12**

David, freelance writer based in Monroe, Washington. An award-winning playwright, he has contributed to Charged and iQ magazine and is the author of the website Tales of Future Past, February 16, "Feature: Small modular nuclear reactors - the future of energy?", [www.gizmag.com/small-modular-nuclear-reactors/20860/](http://www.gizmag.com/small-modular-nuclear-reactors/20860/)

One way of getting around many of these problems is through the development of small modular reactors (**SMR**). These **are** reactors **capable of generating** about **300 megawatts** of power or less, **which is enough to run 45,000** US **homes**. Though small, SMRs are proper reactors. They are quite different from the radio-thermal generators (RTG) used in spacecraft and remote lighthouses in Siberia. Nuclear reactors such as **SMRs use controlled nuclear fission to generate power while RTGs use** natural **radioactive decay to power a** relatively simple **thermoelectric generator that can only produce**, at most, about **two kilowatts.¶** In terms of power, RTGs are the equivalent of batteries while small nuclear reactors are only "small" when compared to conventional reactors. They are hardly the sort that you would keep in the garage. In reality, SMR power plants would cover the area of a small shopping mall. Still, such an installation is not very large as power plants go and a reactor that only produces 300 megawatts may not seem worth the investment, but the US Department of Energy is offering US$452 million in matching grants to develop SMRs and private investors like the Bill Gates Foundation and the company of Babcock and Wilcox are putting up money for their own modular reactor projects.¶ The 60-year old breakthrough¶ **One reason for government and private industry to take an interest in SMRs is that they've** **been successfully employed for much longer than most people realize.** In fact, **hundreds have been steaming around the world inside** the hulls **of nuclear submarines and other warships for sixty years. They've also been used in merchant ships, icebreakers and as research and medical isotope reactors** at universities. There was even one installed in the Antarctic at McMurdo Station from 1962 to 1972. Now they're being considered for domestic use.¶ The case for SMRs¶ SMRs have a number of advantages over conventional reactors. For one thing, **SMRs are cheaper to construct and run.** This makes them very attractive to poorer, energy-starved countries; small, growing communities that don't require a full-scale plant; and remote locations such as mines or desalination plants. Part of the reason for this is simply that the reactors are smaller. Another is that, not needing to be custom designed in each case, the **reactors can be standardized and some types built in factories that are able to employ economies of scale.** The factory-built aspect is also important because **a factory is more efficient than on-site construction by as much as eight to one in terms of building time.** **Factory construction also allows SMRs to be built, delivered to the site, and then returned to the factory for dismantling** at the end of their service lives - **eliminating a major problem with old** conventional **reactors, i.e. how to dispose of them.¶** **SMRs** also **enjoy** a good deal of **design flexibility. Conventional reactors are** usually **cooled by water** - a great deal of water - **which means that the reactors need to be situated near rivers or coastlines. SMRs**, on the other hand, **can be cooled by air, gas, low-melting point metals or salt.** This means that **SMRs can be placed in remote**, inland **areas** where it isn't possible to site conventional reactors.¶ Safety¶ This cooling system is often passive. In other words, it relies more on the natural circulation of the cooling medium within the reactor's containment flask than on pumps. This passive cooling is one of the ways that **SMRs can improve safety**. Because modular reactors are smaller than conventional ones, **they contain less fuel**. This means that **there's less of a mass to be affected if an accident occurs.** If one does happen, **there's less radioactive material that can be released** into the environment and makes it easier to design emergency systems. Since they are smaller and use less fuel, **they are easier to cool effectively, which** greatly **reduces the likelihood of a catastrophic accident or meltdown** in the first place.¶ This also means that **accidents proceed much slower in modular reactors** than in conventional ones. **Where the latter need accident responses in** a matter of hours or **minutes**, **SMRs can be responded to in** hours or **days**, which reduces the chances of an accident resulting in major damage to the reactor elements.¶ **The SMR designs that reject water cooling in favor of gas, metal or salt have their own safety advantages**. Unlike water-cooled reactors, **these media operate at a lower pressure.** **One of the hazards of water cooling is that a cracked pipe or a damaged seal can blow radioactive gases out** like anti-freeze out of an overheated car radiator**. With low-pressure media, there's less force to push gases out and there's less stress placed on the containment vessel. It** also **eliminates one of the** frightening **episodes of the Fukushima accident where the water in the vessel broke down into hydrogen and oxygen and then exploded.¶** Another advantage of modular design is that some **SMRs are small enough to be installed below ground.** That is cheaper, faster to construct and less invasive than building a reinforced concrete containment dome. There is also the point that **putting a reactor in the ground makes it less vulnerable to earthquakes. Underground installations make modular reactors easier to secure and install** in a much smaller footprint. **This makes SMRs particularly attractive to military customers who need to build power plants for bases quickly.** **Underground installation also enhances security** with fewer sophisticated systems needed, which also helps bring down costs.¶ **SMRs can help with proliferation, nuclear waste and fuel supply issues because, while some modular reactors are based on conventional pressurized water reactors and burn enhanced uranium, others use less conventional fuels. Some**, for example, can **generate power from** what is now regarded as "**waste", burning depleted uranium and plutonium left over** from conventional reactors. **Depleted uranium is** basically U-238 from which the fissible U-235 has been consumed. It's also much **more abundant** in nature than U-235, **which has the potential of providing the world with energy for thousands of years. Other reactor design**s don't even use uranium. Instead, they **use thorium**. This fuel is also incredibly abundant, is easy to process for use as fuel and has the added bonus of being utterly useless for making weapons, so it can provide power even to areas where security concerns have been raised.¶ But there's still the sticking point that modular reactors are, by definition, small. That may be fine for a submarine or the South Pole, but what about places that need more? Is the alternative conventional nuclear plants? It turns out that the answer is no. **Modular reactors don't need to be used singly. They can be set up in batteries of five or six** or even more, **providing as much power as an area needs.** And if one unit needs to be taken off line for repairs or even replacement, it needn't interfere with the operation of the others.

**Nuclear power is expanding globally**

IAEA applications

Middle class

Population growth

Urbanization

Warming

Desal

**Ebinger and Squassoni 11**

Charles K Ebinger and Sharon Squassoni 11, Charles is senior fellow and director of the Energy Security Initiative at the Brookings Institution, Sharon is senior fellow and director of the Proliferation Prevention Program at the Center for Strategic and International Studies, “Industry and Emerging Nuclear Energy Markets” in “Business and Nonproliferation”, googlebooks

As mentioned previously, **a notable feature of the nuclear renaissance is the widespread interest in nuclear power, especially in countries without a commercial nuclear infrastructure. According to the** International Atomic Energy Agency (**IAEA**), at least **sixty-five countries have expressed** such **interest**, most from outside the industrialized economies of the Organization of Economic Cooperation and Development (OECD), the main locus of nuclear power capacity at present. **Most of the capacity growth up to 2030 is expected to occur in the Middle East, South Asia, Southeast Asia, and the Far East**. As part of this growth, **eleven developing countries are serious candidates for first reactors**, although progress in carrying out their plans varies widely (see table 4-1). **These countries are drawing new suppliers into the nuclear market** (notably China, India, and South Korea) **and sparking activity among existing suppliers** such as Russia and Japan. Overall, however, many countries will not be able to follow through on growth plans owing to cost, limited grid capacity, and perhaps public resistance. **Countries are moving toward nuclear energy**, not the mention other sources of primary fuel, in large part **because of mounting demand: between 2008 and 2035 global electricity consumption is expected to increase 80 percent, and 80 percent of that growth will take place in non-OECD countries**. **Underlying this large increase in electricity demand are population growth, urbanization, concerns about CO2 emissions from fossil fuel combustion, energy security, and pressure from a growing middle class for goods and services using or produced by electricity**. **Over this period, global population will rise from 6.7 billion to 8.5 billion, with 7.2 billion of the total living in non-OECD countries**. **Most of this increase will take place in China, India, and the Middle East**, with the balance in the rest of the developing world, while the share of the global population in the OECD and Russia will decline. Today nearly 1.4 billion people have no electricity, a figure that may well increase with further population growth, despite movement into the modern energy economy. **Urbanization will undoubtedly push demand up as well**. For the first time in history, a majority of the world’s population is living in urban areas, a trend likely to continue, especially in developing countries. **With the movement of hundreds of millions of people from rural areas to cities, more communities will turn from traditional** and often free **fuels** (wood, forest residues, agricultural wastes, bagasse, and dung) **to modern fuels such as electricity, natural gas, and petroleum products**. **The dramatic growth of the middle class in a number of emerging market nations is also having a large impact on energy consumption. The World Bank predicts that by 2030 the middle class in these nations will jump to 1.2 billion from 430 million in 2000**. It is estimated that in India alone, a country that before Fukushima was developing plans for nuclear power, the number of households with an annual disposal income of $5,000-$15,000 will increase from 36 percent of the population in 2010 to more than 58 percent by 2020. **Climate change**, too, **will have some of its largest impact in developing countries**, which, according to the International Energy Agency (IEA), will be responsible for nearly all of the projected global increase in CO2 emissions by 2035. In large part, the cause of this rise is coal-fired power in China and India. **The urgency of finding alternatives to coal is recognized by** others as well, including **Indonesia, Pakistan, Poland, South Africa, and Russia**. Compared with developed countries, developing nations rely far more on imported fossil fuels, especially oil, to generate power. When the price of oil on the world market rose to $147 a barrel in 2008, it became clear that dependence on imported fossil fuels for electricity generation can destroy a nation’s economy and that fuel diversification is vital for energy security. As prices climbed beyond $100 a barrel, Jordan, a country committed to introducing civilian nuclear energy, was particularly hard hit: 99 percent of its electricity is generated from either oil or gas, 96 percent of which is imported. **Developing countries also see nuclear energy as a possible source of power for desalination plants, especially in the** Gulf Cooperation Council (**GCC**) **countries and elsewhere in the Middle East**. **As the demand for freshwater supplies increases** – along with the emphasis on limited the use of fossil fuels to generates electricity because of the impact of emissions, price volatility, and supply disruptions – **the nuclear option will be considered even more viable**. Moreover, some **countries with large resources of oil or gas**, **such as the** United Arab Emirates (**UAE**) **and Saudi Arabia**, **are hoping nuclear power will help reduce their domestic use of these fuels in generating power and will boost the financial benefits of exporting them**. **For some developing countries, status and geopolitics are undoubtedly important factors in considering the development or expansion of a civilian nuclear energy program**. **In the view of Turkey’s energy minister** Hilmi Guler, for instance, **nuclear technology is a requirement for a seat at the table with the ten most developed countries in the world**.

**Natural gas isn’t a solvency take out**

**Lamonica 12**

Martin Lamonica is a senior writer covering green tech and cutting-edge technologies [August 9, 2012, “A Glut of Natural Gas Leaves Nuclear Power Stalled,” http://www.technologyreview.com/news/428737/a-glut-of-natural-gas-leaves-nuclear-power/]

**Outside the U**nited **S**tates, it's a different story. Unconventional sources of **natural gas also threaten the expansion of nuclear, although the potential impact is less clear-cut. Around the world, there are 70 plants now under construction, but shale gas also looms as a key factor in planning for the future. Prices for natural gas are already higher in Asia and Europe, and shale gas resources are not as fully developed as they are the U**nited **S**tates.¶ **Some countries are** also **blocking the development of** new **natural gas resources**. France, for instance, which has a strong commitment to nuclear, has banned fracking in shale gas exploration because of concerns over the environmental impact.¶ Fast-growing **China, meanwhile, needs all the energy sources available and is building nuclear power plants as fast as possible**.¶ **Even in** **U**nited **S**tates, of course, **super cheap natural gas will not last forever.** **With supply exceeding demand, some drillers are said to be losing money on natural gas, which could push prices back up.** **Prices will also be pushed upward by utilities, as they come to rely on more natural gas for power generation**, says James.¶ Ali **Azad, the chief business development officer at** energy company **Babcock & Wilcox, thinks the answer is making nuclear power smaller**, cheaper, and faster. His is one of a handful of companies developing **s**mall **m**odular **r**eactor**s** that **can be built in three years, rather than 10 or more, for a fraction of the cost of gigawatt-size reactors.** Although this technology is not yet commercially proven, the company has a customer in the Tennessee Valley Authority, which expects to have its first unit online in 2021 (see "A Preassembled Nuclear Reactor").¶ "When we arrive, **we will have a level cost of energy on the grid, which competes** favorably **with a brand-new combined-cycle natural gas plants** when gas prices are between $6 to $8," said Azad. **He sees strong demand in power-hungry China and places such as Saudia Arabia, where power is needed for desalination.¶ Even if natural gas remains cheaper, utilities don't want to find themselves with an overreliance on gas, which has been volatile on price in the past, so nuclear power will still contribute to the energy mix.** "[**Utilities**] **still continue** [**with nuclear**] **but with a lower level of enthusiasm—it's a hedging strategy," says** Hans-Holger **Rogner from** the Planning and Economics Studies section of **the I**nternational **A**tomic **E**nergy **A**gency. "**They don't want to pull all their eggs in one basket** because of the new kid on the block called shale gas."¶

## 2AC

### Solvency

**The single of the plan will solve – signal key**

**Stepp 2011** (Matthew Stepp, March 9, 2011, “The Nuclear Energy Game Changer Thoughts After the NRC Regulatory Information Conference,” Innovation Files, <http://www.innovationfiles.org/the-nuclear-energy-game-changer-thoughts-after-the-nrc-regulatory-information-conference/>)

So, while “silver bullet” may be too strong of a statement – SMRs don’t solve all our clean energy needs – the potential benefits of SMRs are significant and the key to realizing these benefits comes down to creating a cohesive national clean energy policy to innovate through a number of technological barriers. And I’m not the only one who thinks so. This week was **the** 23rd Annual **N**uclear **R**egulatory **C**ommission Information Conference that **brought together hundreds of nuclear energy leaders** from industry and government to talk all things nuclear. The hottest topic? SMRs. **The clear message? Industry and government leaders are ready to move forward in developing new small reactors as soon as policy makers give the green light.** In his opening conference speech, **NRC Chairman** Gregory **Jaczko remarked that his agency will be taking the first steps in licensing new SMRs by announcing that, “[the NRC] may take final action on three design certification rules for new [LWR-SMR] reactors as early as this summer**, and conduct the first mandatory hearing on a new reactor license since the 1970s.” Department of Energy’s Director for Advanced Reactor Design Sal Golub presented that the goal of his office is to “license and deploy LWR-SMRs by 2020.” The President proposed in both his 2011 and 2012 budgets to create a nearly $100 million SMR program within the DOE Office of Nuclear Energy that would focus on deploying LWR-SMRs as well as perform much needed advanced SMR RD&D. And bipartisan group of Senators have recently proposed a bill designed to speed up the deployment of SMRs.

### Grid

**No accidents**

**Loudermilk 11**

(Micah J. Loudermilk is a Research Associate for the Energy & Environmental Security Policy program with the Institute for National Strategic Studies at National Defense University, “Small Nuclear Reactors and US Energy Security: Concepts, Capabilities, and Costs” Journal of Energy Security, May 2011, <http://www.ensec.org/index.php?option=com_content&view=article&id=314:small-nuclear-reactors-and-us-energy-security-concepts-capabilities-and-costs&catid=116:content0411&Itemid=375>)

Promoting safer nuclear power¶ The debate over nuclear energy over the years has consistently revolved around the central question “Is nuclear power safe?” Certainly, the events at Fukushima illustrate that nuclear power can be unsafe, however**, no energy source is without its own set of some inherent risks on the safety front**—as last year’s oil spill in the Gulf of Mexico or the long-term environmental consequences of fossil fuel use demonstrate—and nuclear power’s operating record remains significantly above that of other energy sources. Instead, accepting the role that nuclear energy plays in global electricity generation, especially in a clean-energy environment, a more pointed question to ask is “How can nuclear power be made safer?”¶ Although large reactors possess a stellar safety record throughout their history of operation, **SMRs are able to take safety several steps further, in large part due to their small size**. **Due to simpler designs as a result of advancing technology and a heavy reliance on passive safety features, many problems plaguing larger and earlier generations of reactors are completely averted. Simpler designs mean less moving parts, less potential points of failure or accident, and fewer systems for operators to monitor**. Additionally, **small reactor designs incorporate passive safety mechanisms which rely on the laws of nature**—such as gravity and convection—**as opposed to human-built systems requiring external power to safeguard the reactor in the event of an accident**, making the reactor inherently safer.¶ Furthermore, numerous small reactor concepts incorporate other elements—such as liquid sodium—as coolants instead of the pressurized water used in large reactors today. While sodium is a more efficient heat-transfer material, it is also able to cool the reactor core at normal atmospheric pressure, whereas water which must be pressurized at 100-150 times normal to prevent it boiling away. As an additional passive safety feature, sodium’s boiling point is 575-750 degrees higher than the reactor’s operating temperature, providing an immense natural heat sink in the event that the reactor overheats. **Even should an accident occur, without a pressurized reactor no radiation would be released into the surrounding environment**.¶ Even on the most basic level, **small reactors provide a greater degree of security by merit of providing lower energy output and using less nuclear fuel**. To make up for the loss in individual reactor generating capacity, small reactors are generally designed as scalable units, enabling the siting of multiple units in one location to rival the output capacity of a large nuclear plant. However, with each reactor housed independently and powering its own steam turbine, **an accident affecting one reactor would be limited to that individual reactor.**

### China

#### Their defense doesn’t apply to Sino-Indian naval disputes- they’re uniquely prone to miscalc- risks nuclear conflict

Tharoor ‘11

[Ishaan Tharoor is a staff writer for TIME magazine and co-editor of TIME. <http://world.time.com/2011/09/19/is-this-how-wars-start-india-and-china-now-feud-over-the-south-china-sea/>]

India and China share a long, heavily militarized (and also disputed) land border across the spine of the Himalayas. But while differences there have been more or less frozen for decades across a glacial expanse, the threat of confrontations at sea may prove far more unpredictable. Gwynne Dyer, a veteran Asia hand, [writes](http://www.koreatimes.co.kr/www/news/opinon/2011/09/137_95032.html):¶ You can attack a land border if you really want to, but it is a very big decision with incalculable consequences: a declaration of war, in effect. Even the most arrogant or paranoid governments will think long and hard before embarking on such an action, and generally they end up by deciding not to do it. Whereas at sea, you can easily drift into a serious military confrontation that neither side intended.¶ And the possible scenarios for (inadvertent) Sino-Indian naval conflict will only mushroom over time. After all, India’s tentative wading into the South China Sea follows a steady drum beat of Chinese projects across the Indian Ocean rim around India — what some have dubbed the [“string of pearls.”](http://www.time.com/time/world/article/0,8599,1924884,00.html)According to some Indian strategists, China has set up naval facilities and listening posts from Burma to Pakistan, with a strategic, deep-sea port at Hambantota, Sri Lanka, in between.¶ Therefore, writes Harsh Pant, an international affairs scholar at King’s College, London, India [should play the same game](http://search.japantimes.co.jp/cgi-bin/eo20110919a1.html). He writes:¶ India is right to forcefully reject Chinese claims of sovereignty over the entire South China Sea. It should now build credible strategic partnerships with other regional states to prevent a Chinese regional dominance that will undermine Indian and regional security interests.¶ On one level, such thinking makes plenty of sense: as rising powers neither India nor China should compromise their own interests to placate the oft-illusory fears of the other. But, despite the strength of the two countries’ economic ties and the paeans to their friendship that frequently emanate from both capitals, few doubt that the rise of India and China will lead to friction. Neighbors in a complicated region, they are bound to bump up against each other. And when the two nuclear-armed nations that comprise nearly a third of humanity do bump, the stakes will be high — and the fallout potentially incalculable.

**SMRs solve inevitable water wars**

**Palley ‘11**

Reese Palley, The London School of Economics, 2011, The Answer: Why Only Inherently Safe, Mini Nuclear Power Plans Can Save Our World, p. 168-71

The third world has long been rent in recent droughts, by the search for water. In subsistence economies, on marginal land, **water is** not a convenience but **a matter of life and death**. As a result small **wars have been fought, rivers diverted, and wells poisoned in what could be a warning of what is to come as industrialized nations begin to face failing water supplies.** Quite aside from the demand for potable water is the dependence of enormous swaths of industry and agriculture on oceans of water used for processing, enabling, and cleaning a thousand processes and products. It is interesting to note that fresh water used in both industry and agriculture is reduced to a nonrenewable resource as agriculture adds salt and industry adds a chemical brew unsuitable for consumption. More than **one billion people in the world already lack access to clean water**, and things are getting worse. Over the next two decades, the average supply of water per person will drop by a third**, condemning millions of people to waterborne diseases and an avoidable premature death**.81 **So the stage is set for water access wars between the first and the third worlds, between neighbors downstream of supply, between big industry and big agriculture, between nations, between population** centers, and ultimately between you and the people who live next door for an already inadequate world water supply that is not being renewed. **As populations inevitably increase, conflicts will intensify**.82 It is only by virtue of the historical accident of the availability of nuclear energy that humankind now has the ability to remove the salt and other pollutants to supply all our water needs. The problem is that **desalination is an intensely local process.** Some localities have available sufficient water from renewable sources to take care of their own needs, but not enough to share with their neighbors, and it **is here that the scale of nuclear energy production must be defined locally.** Large scale 1,000 MWe plants can be used to desalinate water as well as for generating electricity However we cannot build them fast enough to address the problem, and, if built they would face the extremely expensive problem of distributing the water they produce. Better, much better, would be to use small desalinization plants sited locally. Beyond desalination for human use is the need to green some of the increasing desertification of vast areas such as the Sahara. Placing twenty 100 MWe plants a hundred miles apart along the Saharan coast would green the coastal area from the Atlantic Ocean to the Red Sea, a task accomplished more cheaply and quickly than through the use of gigawatt plants.83 This could proceed on multiple tracks wherever deserts are available to be reclaimed. Leonard Orenstein, a researcher in the field of desert reclamation, speculates: If most of the Sahara and Australian outback were planted with fast-growing trees like eucalyptus, the forests could draw down about 8 billion tons of carbon a year—nearly as much as people emit from burning fossil fuels today. As the forests matured, they could continue taking up this much carbon for decades.84 **The use of small, easily transported, easily sited, and walk away safe nuclear reactors dedicated to desalination is the only answer** to the disproportionate distribution of water resources that have distorted human habitation patterns for millennia. Where there existed natural water, such as from rivers, great cities arose and civilizations flourished. Other localities lay barren through the ages. **We now have the power, by means of SMRs profiled to local conditions, not only to attend to existing water shortages but also to smooth out disproportionate water distribution and create green habitation** where historically it has never existed**. The endless wars that have been fought, first over solid bullion gold and then over oily black gold, can now engulf us in the desperate reach for liquid blue gold. We need never fight these wars again as we now have the nuclear power to fulfill the biblical ability to “strike any local rock and have water gush forth.”**

**That solves indo-pak water wars that go nuclear.**

**Zahoor ‘11**

(Musharaf, is researcher at Department of Nuclear Politics, National Defence University, Islamabad, “Water crisis can trigger nuclear war in South Asia,” <http://www.siasat.pk/forum/showthread.php?77008-Water-Crisis-can-Trigger-Nuclear-War-in-South-Asia>, AM)

South Asia is among one of those regions where water needs are growing disproportionately to its availability. The high increase in population besides large-scale cultivation has turned South Asia into a water scarce region. The two nuclear neighbors **Pakistan and India share the waters of Indus Basin.** All the major rivers stem from the Himalyan region and pass through Kashmir down to the planes of Punjab and Sindh empty into Arabic ocean. **It is pertinent that the strategic importance of Kashmir, a source of all major rivers, for Pakistan and symbolic importance of Kashmir for India are maximum list positions.** Both the countries have fought two major wars in 1948, 1965 and a limited war in Kargil specifically on the Kashmir dispute. Among other issues, the newly born states fell into water sharing dispute right after their partition. Initially under an agreed formula, Pakistan paid for the river waters to India, which is an upper riparian state. After a decade long negotiations, both the states signed Indus Water Treaty in 1960. Under the treaty, India was given an exclusive right of three eastern rivers Sutlej, Bias and Ravi while Pakistan was given the right of three Western Rivers, Indus, Chenab and Jhelum. The tributaries of these rivers are also considered their part under the treaty. It was assumed that the treaty had permanently resolved the water issue, which proved a nightmare in the latter course. India by exploiting the provisions of IWT started wanton construction of dams on Pakistani rivers thus scaling down the water availability to Pakistan (a lower riparian state). The treaty only allows run of the river hydropower projects and does not permit to construct such water reservoirs on Pakistani rivers, which may affect the water flow to the low lying areas. According to the statistics of Hydel power Development Corporation of Indian Occupied Kashmir, India has a plan to construct 310 small, medium and large dams in the territory. India has already started work on 62 dams in the first phase. The cumulative dead and live storage of these dams will be so great that India can easily manipulate the water of Pakistani rivers. India has set up a department called the Chenab Valley Power Projects to construct power plants on the Chenab River in occupied Kashmir. India is also constructing three major hydro-power projects on Indus River which include Nimoo Bazgo power project, Dumkhar project and Chutak project. On the other hand, it has started Kishan Ganga hydropower project by diverting the waters of Neelum River, a tributary of the Jhelum, in sheer violation of the IWT. **The gratuitous construction of dams by India** has **created serious water shortages in Pakistan.** The construction of Kishan Ganga dam will turn the Neelum valley, which is located in Azad Kashmir into a barren land. **The water shortage will not only affect the cultivation but it has serious social, political and economic ramifications for Pakistan.** The farmer associations have already started protests in Southern Punjab and Sindh against the non-availability of water. These protests are so far limited and under control. The reports of international organizations suggest that the water availability in Pakistan will reduce further in the coming years. If the situation remains unchanged, **the violent mobs of villagers across the country will be a major law and order challenge** for the government. The water shortage has also created mistrust among the federative units, which is evident from the fact that the President and the Prime Minister had to intervene for convincing Sindh and Punjab provinces on water sharing formula. The Indus River System Authority (IRSA) is responsible for distribution of water among the provinces but in the current situation it has also lost its credibility. The provinces often accuse each other of water theft. In the given circumstances, Pakistan desperately wants to talk on water issue with India. The meetings between Indus Water Commissioners of Pakistan and India have so far yielded no tangible results. The recent meeting in Lahore has also ended without concrete results. India is continuously using delaying tactics to under pressure Pakistan. The Indus Water Commissioners are supposed to resolve the issues bilaterally through talks. The success of their meetings can be measured from the fact that Pakistan has to knock at international court of arbitration for the settlement of Kishan Ganga hydropower project. The recently held foreign minister level **talks** between both the countries ended inconclusively in Islamabad, **which only resulted in heightening** the mistrust and **suspicions.** The **water stress** in Pakistan is increasing day by day. The construction of dams will not only cause damage to the agriculture sector but India can manipulate the river water to create inundations in Pakistan. The rivers in Pakistan are also vital for defense during wartime. The control over the water will provide an edge to India during war with Pakistan. The **failure of diplomacy**, manipulation of IWT provisions by India and growing water scarcity in Pakistan and its social, political and economic repercussions for the country **can lead** both the countries **to**ward a **war.** The existent **A-symmetry between** the **conventional forces** of both the countries **will compel the weaker side to use nuclear weapons** to prevent the opponent from taking any advantage of the situation. Pakistan's nuclear programme is aimed at to create minimum credible deterrence. India has a declared nuclear doctrine which intends to retaliate massively in case of first strike by its' enemy. In 2003, India expanded the operational parameters for its nuclear doctrine. Under the new parameters, it will not only use nuclear weapons against a nuclear strike but will also use nuclear weapons against a nuclear strike on Indian forces anywhere. Pakistan has a draft nuclear doctrine, which consists on the statements of high ups. Describing the nuclear thresh-hold in January 2002, General Khalid Kidwai, the head of Pakistan's Strategic Plans Division, in an interview to Landau Network, said that Pakistan will use nuclear weapons in case India occupies large parts of its territory, economic strangling by India, political disruption and if India destroys Pakistan's forces. The **analysis of** the ambitious **nuclear doctrines** of boththe countries clearly **points out** that **any military confrontation** in the region **can result in a nuclear catastrophe. The rivers flowing from Kashmir are Pakistan's lifeline, which are essential for the livelihood of 170 million people of the country and the cohesion of federative units. The failure of dialogue will leave no option but to achieve the ends through military means.**

### Politics

#### Passage inevitable—Obama’s irrelevant

Michael Hirsh, National Journal, 2/7/13, There’s No Such Thing as Political Capital, www.nationaljournal.com/magazine/there-s-no-such-thing-as-political-capital-20130207

Meanwhile, the Republican members of the Senate’s so-called Gang of Eight are pushing hard for a new spirit of compromise on immigration reform, a sharp change after an election year in which the GOP standard-bearer declared he would make life so miserable for the 11 million illegal immigrants in the U.S. that they would “self-deport.” But this turnaround has very little to do with Obama’s personal influence—his political mandate, as it were. It has almost entirely to do with just two numbers: 71 and 27. That’s 71 percent for Obama, 27 percent for Mitt Romney, the breakdown of the Hispanic vote in the 2012 presidential election. Obama drove home his advantage by giving a speech on immigration reform on Jan. 29 at a Hispanic-dominated high school in Nevada, a swing state he won by a surprising 8 percentage points in November. But the movement on immigration has mainly come out of the Republican Party’s recent introspection, and the realization by its more thoughtful members, such as Sen. Marco Rubio of Florida and Gov. Bobby Jindal of Louisiana, that without such a shift the party may be facing demographic death in a country where the 2010 census showed, for the first time, that white births have fallen into the minority. It’s got nothing to do with Obama’s political capital or, indeed, Obama at all. The point is not that “political capital” is a meaningless term. Often it is a synonym for “mandate” or “momentum” in the aftermath of a decisive election—and just about every politician ever elected has tried to claim more of a mandate than he actually has. Certainly, Obama can say that because he was elected and Romney wasn’t, he has a better claim on the country’s mood and direction. Many pundits still defend political capital as a useful metaphor at least. “It’s an unquantifiable but meaningful concept,” says Norman Ornstein of the American Enterprise Institute. “You can’t really look at a president and say he’s got 37 ounces of political capital. But the fact is, it’s a concept that matters, if you have popularity and some momentum on your side.” The real problem is that the idea of political capital—or mandates, or momentum—is so poorly defined that presidents and pundits often get it wrong. “Presidents usually over-estimate it,” says George Edwards, a presidential scholar at Texas A&M University. “The best kind of political capital—some sense of an electoral mandate to do something—is very rare. It almost never happens. In 1964, maybe. And to some degree in 1980.” For that reason, political capital is a concept that misleads far more than it enlightens. It is distortionary. It conveys the idea that we know more than we really do about the ever-elusive concept of political power, and it discounts the way unforeseen events can suddenly change everything. Instead, it suggests, erroneously, that a political figure has a concrete amount of political capital to invest, just as someone might have real investment capital—that a particular leader can bank his gains, and the size of his account determines what he can do at any given moment in history. Naturally, any president has practical and electoral limits. Does he have a majority in both chambers of Congress and a cohesive coalition behind him? Obama has neither at present. And unless a surge in the economy—at the moment, still stuck—or some other great victory gives him more momentum, it is inevitable that the closer Obama gets to the 2014 election, the less he will be able to get done. Going into the midterms, Republicans will increasingly avoid any concessions that make him (and the Democrats) stronger. But the abrupt emergence of the immigration and gun-control issues illustrates how suddenly shifts in mood can occur and how political interests can align in new ways just as suddenly. Indeed, the pseudo-concept of political capital masks a larger truth about Washington that is kindergarten simple: You just don’t know what you can do until you try. Or as Ornstein himself once wrote years ago, “Winning wins.” In theory, and in practice, depending on Obama’s handling of any particular issue, even in a polarized time, he could still deliver on a lot of his second-term goals, depending on his skill and the breaks. Unforeseen catalysts can appear, like Newtown. Epiphanies can dawn, such as when many Republican Party leaders suddenly woke up in panic to the huge disparity in the Hispanic vote.

#### Obama involvement tanks immigration

Buzzfeed 1-27

“Reaching for History, Obama Could Make Same Mistakes as George W. Bush,” <http://www.buzzfeed.com/zekejmiller/reaching-for-history-obama-poised-to-make-same-mi>

Unlike Bush's Social Security push, the lack of involvement by Obama on immigration may be a good thing.¶ "Anything he puts his name on, Republicans automatically run away from," the senior Democratic aide said. And with a bipartisan group of senators expected to produce a set of outlines for comprehensive immigration reform in the next 10 days or so — including a pathway to citizenship for illegal immigrants — keeping his fingerprints off a deal may be critical.¶ If the group, which includes Republicans like Sens. John McCain, Lindsey Graham, and Jeff Flake, can come to a deal and produce legislation, the thinking goes, the bill could pass with upwards of 70 votes. And that, in turn, could help force Speaker John Boehner to push the bill through the House with Democratic votes.

#### Sequester drains capital

Klein 2-5

Philip is a columnist for the Washington Examiner, “Obama Blinks on the Sequester, GOP Finally has Upper Hand,” <http://washingtonexaminer.com/obama-blinks-on-the-sequester-gop-finally-has-upper-hand/article/2520598>

Now Republicans have turned the tables on Obama. If nothing happens by March 1, about $1 trillion worth of spending cuts will go into effect automatically. Ideally, Republicans don’t want the military spending cuts, and they have voted in the House to replace them with other cuts. But they can live with them if nothing happens. Coming off the fourth quarter in which the economy contracted by 0.1 percent and was hurt by defense cuts, Obama doesn’t want to have headlines of defense contractor layoffs eroding his political capital in the short window he has to advance his second term agenda.

#### Overloading Congress causes agenda success—focusing his capital kills it

Chuck Todd, NBC, 2/5/13, First Thoughts: Flooding the zone, firstread.nbcnews.com/\_news/2013/02/05/16852487-first-thoughts-flooding-the-zone?lite

Flooding the zone: Exactly one week away from President Obama’s State of the Union address, the White House has spent the early days of the second term flooding the zone with its legislative agenda. Last week, the president delivered his big immigration speech in Las Vegas. Yesterday, he spoke about gun violence in Minnesota. Today, he’s meeting at the White House with progressive, labor, and business leaders to discuss immigration reform and the budget situation. What’s going on here: The Obama White House wants to overload Washington’s political circuits in an effort to see what it can get through Congress -- without letting Congress define what issues get addressed. After all, Republicans want to solely talk about the budget before the March budget showdown (see yesterday’s multiple coordinated responses by House Republicans on the White House’s announcement it would be late with its budget). Yet by flooding the zone, Team Obama -- with the bully pulpit and the State of the Union at its disposal -- wants to widen the political dialogue beyond that one issue. This “flooding the zone” concept is how the Obama White House operated in the first six months of the first term, and it’s where he got most of his legislative achievements. When the White House got bogged down on ONE issue (health care, debt ceiling, etc), officials determined they lost some of their political capital.

#### Plan’s popular- Bipart support

Pendidikan ‘11

Cinta writes for the Love and Like Education Blog, “Sanders is the Sole Vote Against Small Modular Reactor Research,” http://loveandlikeeducation.blogspot.com/2011/08/bernie-sanders-and-small-modular.html

Sanders is Sole Vote Against Small Modular Reactor Research¶ Bernie Sanders and Small Modular Reactors¶ Senator Bernie Sanders often speaks about his opposition to Vermont Yankee as having something to do with the age of the plant, the fact it is owned by Entergy, or his "state's rights" stance about regulating nuclear power plants.¶ Recently, however, Sanders made it clear that he is against nuclear power in any form and is proud of that opinion. On Senator Sanders website, he featured the fact that he was the only vote against "a pair of measures that would promote the development of small modular reactors."¶ One of these measures was the Nuclear Power Act S512. This act would authorize the Secretary of Energy to start a cost-shared program for development of small modular reactors (SMRs).¶ This act had strong bi-partisan support, being sponsored by 3 Republican and 4 Democratic Senators. The act requires research and development funds for SMRs. The Act is still in process, and does not have a firm dollar amount attached, but the dollar amount is likely to be small (in government terms, at least.). Current estimates are $100 million per fiscal year for four years, starting next year.¶ The act also requires that industry cost-share the expense. If industry doesn't think it is worth spending money on the research, the research will not receive government funding either.¶ As a background to the probable cost of this Act, we should note that President Obama requested $4.8 billion dollars for Department of Energy research, of which $3.2 billion is allocated for renewable energy and energy efficiency research. (This number has changed with the debt deal, but new numbers are not available at this time.)¶ Small Modular Reactors for The Future¶ Sander's opposition to this Nuclear Power Act will hurt America's chances to develop an important new exportable technology. Outside of Europe, the nuclear renaissance remains in full swing, with reactors being ordered and built in Arabia, China, India and Southeast Asia. Developing a strong set of SMR designs would be America's best chance to re-entering the world market for nuclear power.¶ SMRs are modular (assembled in a factory and delivered to the site), small (50 to 225 MW) and have many safety features, such as passive cooling. SMRs are expected to have a huge international market. They suitable for many places that do not have the population density or money for the current crop of huge reactors (1200 MW, built on site at great expense). SMRs would make nuclear power affordable and salable many places.¶ Westinghouse and Babcock & Wilcox have invested significant amounts of their own money in developing these products. The NRC is also active in assessing preliminary designs. At another Senate committee meeting on SMRs, Commissioner Magwood of the NRC said that he does not expect decisions made by the NRC to be the critical factor in the success or failure of SMRs. Magwood noted that SMRs have passive safety features and large water inventories; these would be considered during license review.¶ America Fallen Behind¶ America has fallen far behind the rest of the world in most nuclear technologies. Pressurized Water Reactors (PWRs) and Boiling Water Reactors (BWRs) were developed in this country. They are being sold all over the world, but not by United States companies. We're out of the running. Other countries licensed and improved our original technologies. Companies from France, Korea, Russia and China compete to build large reactors in China, Arabia, and Southeast Asia.¶ Three American companies have put millions of dollars into the development of SMRs: Westinghouse, Babcock & Wilcox, and NuScale (a small start-up). Many people in the nuclear industry feel that the race to develop the first successful SMR is a truly high-stakes race, being fought at the level of nationwide efforts. Luckily, SMR development has bi-partisan support, and Mr. Sanders was alone in his opposition to supporting American industry efforts to develop these plants.¶ Should Government Be Involved?¶ Of course, one can make a case that the government should get out of the energy research business altogether. If Senator Sanders wished to save tax dollars by cutting all energy-research programs, he might have a valid case. However, if the government does plan to spend money on energy research, cost-sharing with industry on a new nuclear technology is certainly a far better use of funds than many of the projects in the swollen DOE renewable budget.

#### DoD doesn’t link

**Appelbaum 12**

Binyamin, Defense cuts would hurt scientific R&D, experts say, The New York Times, 1-8, <http://hamptonroads.com/2012/01/defense-cuts-would-hurt-scientific-rd-experts-say>

Sarewitz, who studies the government's role in promoting innovation, said the Defense Department had been more successful than other federal agencies because it is the main user of the innovations that it finances. The Pentagon, which spends billions each year on weapons, equipment and technology, has an unusually direct stake in the outcome of its research and development **projects.**¶ "The central thing that distinguishes them from other agencies is that they are the customer," Sarewitz said. "You can't pull the wool over their eyes."¶ **Another factor is the Pentagon's** relative insulation from politics**, which has allowed it to sustain a long-term research agenda** in controversial areas**.** No matter which party is in power, **the Pentagon has continued to invest in clean-energy tech**nology, **for example,** in an effort to find ways to reduce one of its largest budget items, energy costs.

#### Global growth will increase – long term trends

Lowrey, 1/23/13

(Annie, “I.M.F. Forecasts Modest Global Economic Growth” New York Times, <http://www.nytimes.com/2013/01/24/business/economy/imf-forecast-global-economic-growth-modest-at-best.html?_r=0>)

The International Monetary Fund said on Wednesday that it continued to expect a modest upturn in global growth in 2013, with fewer risks of major policy mistakes and lower levels of financial stress.¶ The fund cautioned, however, that growth was not expected to snap back to precrisis levels in the coming years. Over all, the fund expects global growth of 3.5 percent in 2013 and 4.1 percent in 2014, up from 3.2 percent in 2012. In the years just before the global downturn, annual economic growth was 4.5 to 5.5 percent.¶ “If crisis risks do not materialize and financial conditions continue to improve, global growth could be stronger than projected,” the Washington-based fund said in its economic report. “However, downside risks remain significant, including renewed setbacks in the euro area and risks of excessive near-term fiscal consolidation in the United States. Policy action must urgently address these risks.”¶ The fund issued a routine update to the projections it makes in its twice-yearly World Economic Outlook report. This time, it whittled down many of the forecasts for 2013 that it had made in October, knocking 0.1 percentage point from its United States growth forecast, 0.3 percentage point from the euro area and 0.4 percentage point from the newly industrialized Asian economies, like Singapore and South Korea.¶ Still, the International Monetary Fund noted that financial stresses and the risk of a major policy shock in Europe and the United States had decreased. “Optimism is in the air,” said Olivier Blanchard, the fund’s chief economist, at a news conference. “Some cautious optimism may indeed be justified,” he added. “We may have avoided the cliffs, but we still face high mountains.”

#### Growth is increasing and the economy resilient

Gautam Godhwani 8-15-2012; CEO, SimplyHired.com “Signs Of Resilience In Our Economy” http://www.huffingtonpost.com/gautam-godhwani/us-economy-jobs\_b\_1778664.html

This month's Labor Department job report was also more positive than expected, showing that over the past month, the U.S. economy created jobs at the fastest pace since February of this year. Employers added a total of 163,000 jobs in July. And after disappointing reports in May and June, this change of direction demonstrates strength and resilience in our economy. We've seen this again and again in our history, and it has brought us out of past recessions and slow economic times. Consider what we've endured in the last five years: the collapse of the housing market, the financial crisis that followed, debt ceiling talks, the European debt crisis, and dramatic shifts in oil prices. All of this created the worst recession since the Great Depression, and brought consumer confidence to historic lows. With consumer spending making up 70 percent of the U.S. economy, we saw a spiral down across the economy. Businesses slowed hiring and unemployment rates rose dramatically, with millions of Americans out of work. The nation was in a panic. Four years later, we see growth in nearly every industry. Our August U.S. Employment Outlook revealed growth in job openings in 14 out of 18 industries over the last month, including the automotive, education, financial services, real estate, and technology sectors. It also showed that over the past year, we've even seen job openings increase in some of the nation's hardest hit industries, including construction and manufacturing. In addition, strong performing industries from recent past years, such as healthcare, continue to flourish with a consistent increase in job openings. Further, small businesses, which have historically been a key engine of our economy, have resumed hiring after a lull during the recessionary period. As employers continue to look at filling open positions and ramp their hiring efforts, our country's prospect of economic growth and recovery is bright -- albeit slow going. The U.S. economy is built upon businesses large and small, providing goods and services across a wide range of sectors. There are undeniable signs that we've seen the worst of the recent economic downturn, and that better times are ahead. If anything, our recovery from the Great Recession shows that our economy is as resilient as ever.

### K

**Life should be valued as apriori – it precedes the ability to value anything else**

Amien **Kacou. 2008**. WHY EVEN MIND? On The A Priori Value Of “Life”, Cosmos and History: The Journal of Natural and Social Philosophy, Vol 4, No 1-2 (2008) cosmosandhistory.org/index.php/journal/article/view/92/184

Furthermore, that manner of **finding things good** that is in pleasure **can certainly not exist in any world without consciousness (i.e., without “life,”** as we now understand the word)—slight analogies put aside. In fact, we can begin to develop a more sophisticated definition of the concept of “pleasure,” in the broadest possible sense of the word, as follows: it is the common psychological element in all psychological experience of goodness (be it in joy, admiration, or whatever else). In this sense, pleasure can always be pictured to “mediate” all awareness or perception or judgment of goodness: there is pleasure in all consciousness of things good; pleasure is the common element of all conscious satisfaction. In short, it is simply the very experience of liking things, or the liking of experience, in general. In this sense, **pleasure is, not only uniquely characteristic of life but also, the core expression of goodness in life—the most general sign or phenomenon for favorable conscious valuation**, in other words. This does not mean that “good” is absolutely synonymous with “pleasant”—what we value may well go beyond pleasure. (The fact that we value things needs not be reduced to the experience of liking things.) However, what we value beyond pleasure remains a matter of speculation or theory. Moreover, we note that a variety of things that may seem otherwise unrelated are correlated with pleasure—some more strongly than others. In other words, there are many things the experience of which we like. For example: the admiration of others; sex; or rock-paper-scissors. But, again, what they are is irrelevant in an inquiry on a priori value—what gives us pleasure is a matter for empirical investigation. Thus, we can see now that, in general, **something primitively valuable is attainable in living—that is, pleasure itself.** And it seems equally clear that we have a priori logical reason to pay attention to the world in any world where pleasure exists. Moreover, **we can now also articulate a foundation for a security interest in our life: since the good of pleasure can be found in living** (to the extent pleasure remains attainable),[17] **and only in living, therefore, a priori, life ought to be continuously (and indefinitely) pursued at least for the sake of preserving the possibility of finding that good.** However, this platitude about the value that can be found in life turns out to be, at this point, insufficient for our purposes. It seems to amount to very little more than recognizing that our subjective desire for life in and of itself shows that life has some objective value. For what difference is there between saying, “living is unique in benefiting something I value (namely, my pleasure); therefore, I should desire to go on living,” and saying, “I have a unique desire to go on living; therefore I should have a desire to go on living,” whereas the latter proposition immediately seems senseless? In other words, “life gives me pleasure,” says little more than, “I like life.” Thus, we seem to have arrived at the conclusion that **the fact that we already have some (subjective) desire for life shows life to have some (objective) value.** But, if that is the most we can say, then it seems our enterprise of justification was quite superficial, and the subjective/objective distinction was useless—for all we have really done is highlight the correspondence between value and desire. Perhaps, our inquiry should be a bit more complex.\

**Images of nuclear apocalypse are necessary to problematize their usage**

James **Foard. 1997**. Associate Professor of Religion, Arizona State, “Imagining Nuclear Weapons: Hiroshima, Armageddon, and the Annihilation of the Students of Ichijo School,” Journal of the American Academy of Religion, http://jaar.oxfordjournals.org/cgi/reprint/LXV/1/1.pdf TBC 7/1/10)

**This ambivalence about Hiroshima has been partially ameliorated by displacing it with Armageddon in our imagination of nuclear weapons** In America **the images of the atomic bomb**, particularly after the Soviet Union's successful test in 1949 (Boyer.341), **were pressed into the service of apocalyptic speculations**, both scientific and otherwise, a process which has until recently assigned the horror that Hiroshima represented to a superpower war in an imagined future (cf. Pease'562). Specifically, **images of a nuclear Armageddon have helped us perform two sorts of cultural tasks fundamental for imagining nuclear weapons**: those involving difference and those involving representation. By "difference" I mean both **the articulation of what makes nuclear weapons different from other weapons and the consequent reflection on the different human situation engendered by them**. By "representation" I mean **the expressions which seek to describe the use of nuclear weapons and incorporate that description into structures of meaning Armageddon permits us to define the difference of nuclear weapons by their capacity to destroy the human species** in a war that no one will win. It also has suggested to many, particularly literary critics but also some nuclear strategists, that nuclear war is but an imaginary event, divorced from reality, such that all representations are, to use the most famous phrase, "fabulously textual" (Derrida'23).

## 1AR

### 1AR Passage Inevitable

#### Passage is inevitable – 8 senators are pushing it making Obama’s capital irrelevant – capital is distortionary – that’s Hirsh 2/7

#### It’s in the GOPs best interest

Ezra Klein, 1/28/13, Two numbers show why Republicans support immigration reform, www.washingtonpost.com/blogs/wonkblog/wp/2013/01/28/two-numbers-show-why-republicans-support-immigration-reform/

By and large, Washington isn’t gripped by fever. It’s gripped by actual disagreements and mismatched incentives. Republicans really do disagree with Obama on taxes. And most Republican senators and representatives really do come from increasingly conservative districts that didn’t vote for Obama. When you stack substantive disagreement atop a strategic incentive to disagree, you get Washington in 2012. But — and this is key — Republicans weren’t behaving irrationally. They were behaving rationally. And that’s exactly why they might cut a deal on immigration even as they fight Obama on taxes. Two numbers explain why a rational Republican Party needs to do something dramatic on immigration: 27 percent and 2 percent. Twenty-seven percent is the percentage of the Latino vote Mitt Romney received in 2012, according to the exit polls. Two percent is the projected increase in the non-white electorate come 2016. So Republicans are losing badly among Hispanic voters and Hispanic voters are becoming an increasingly important part of the electorate. Those numbers supply the raw political case for acting on immigration. But the other side is the substantive case: A lot of elected Republicans simply want to do something on immigration. This isn’t like taxes, where most every elected Republican has signed a pledge swearing to fight any and all tax increases. The last major effort at immigration reform came in 2007, under President George W. Bush. The key Republican legislator on that bill was Sen. John McCain (Ariz.), who would go on to be the GOP’s presidential nominee in 2008. Support for comprehensive immigration reform is by no means unanimous within the Republican Party. Bush’s immigration reforms, for instance, fell before a conservative backlash. But some of the key conservatives behind that backlash have since changed their minds. Sean Hannity, for instance, now says: We’ve got to get rid of the immigration issue altogether. It’s simple, to me, to fix it. I think you control the border first. You create a pathway for those people that are here. You don’t say, ‘You’ve got to go home.’ And that is a position that I’ve evolved on. Because, you know what, it’s got to be resolved. The majority of people here, if some people have criminal records you can send them home, but if people are here, law-abiding, participating for years, their kids are born here, you know, it’s first secure the border, pathway to citizenship, done, whatever little penalties you want to put in there, if you want, but then it’s done.

#### Rubio and demographics

Allan Wernick, attorney and director of the City University of New York’s Citizenship Now!, 1/25/13, A look at where key Congressional players stand on immigration indicates reform could come soon, http://www.nydailynews.com/new-york/citizenship-now/immigration-chances-good-sweeping-immigration-reform-article-1.1245988

As expected, President Obama confirmed his support for immigration reform in his inaugural address. It was one of the few specific issues mentioned by the President in setting the program for his coming four years in office. In the last few weeks, some pundits have argued that the debate over debt and budget issues or gun control will sidetrack the President from his commitment to immigrants. That analysis ignores the expectations of Latino voters and their allies. Obama and both parties have no choice but to make immigration reform a priority in the coming year. The doubters are wrong. I am more optimistic than ever that we will see reform this year. To understand why, lets take a look at what some key players on the immigration reform debate have been saying and doing this year: l Charles Schumer — New York Democrat Chuck Schumer will pay a key role in shaping the debate. That’s good news for immigrant rights’ advocates. As chair of the Senate Subcommittee on Immigration, Border Security and Citizenship, Sen. Schumer is responsible for leading any reform bill through the Senate. Particularly experienced in dealing with immigration legislation, many credit then-Congressman Schumer with the deal-making that led to passage of the last legalization legislation, the Immigration Reform and Control Act of 1986. More than 3 million undocumented immigrants were legalized under that act. Schumer is already on the move, organizing his colleagues for the fight to come. l Marco Rubio — Florida Sen. Marco Rubio’s call last spring for a Dream Act for undocumented youth was an historic turning point in the immigration reform debate. A rising Conservative Republican star, Rubio’s proposal forced Obama’s hand. The President’s decision to grant Deferred Action for Childhood Arrivals helped him consolidate the Latino vote, a key factor in his victory. Recently, Rubio's position on legalization has moved from supporting just legal status to agreeing that legalization must include a path to citizenship for undocumented immigrants. Though many others in the Republican party have yet to adopt the “path to citizenship” position, it will hard for Republican leaders to buck one of their few Latino leaders. Rubio is a key player in the Republicans’ plan to reach out to Latinos. As a possible 2016 Presidential candidate, Rubio can’t afford to anger Latinos. l Luis Gutierrez — Chicago Congressman Luis Gutierrez is the Democratic Party’s conscience on immigration issues. Gutierrez is a tenacious advocate for immigrants’ rights. Though not a member of the party’s leadership, his impact on the debate will be greater than might be expected from his position alone. He has a long history of advocating for immigrants’ rights and he stood up to the Obama administration’s early resistance to the DACA program. Of Puerto Rican ancestry, Gutierrez recognized early in his career the importance of reaching out to his Mexican constituents. To help lead the immigration reform debate in the House of Representatives, Gutierrez is giving up his senior position on the prestigious House Financial Services Committee to join the Subcommittee on Immigration Policy and Enforcement. House Democratic leaders will look to Gutierrez to speak for immigrants about which compromises are acceptable to Latinos and which are not. He has closer ties to the immigrants’ rights movement than any other federal elected official. l Paul Ryan — Former Vice Presidential candidate Paul Ryan has no intention of letting Marco Rubio steal the show on immigration reform. A contender with Rubio for a possible 2016 run for the White House, Ryan reportedly reached out to House colleague Gutierrez regarding possible Tea Party support for a generous immigration bill. Ryan and any other Republicans seeking a national leadership role must be sensitive to the growing Latino vote. Unlike many of his Republican colleagues, Ryan is not a reformed immigrant-basher, reversing his position only after Romney and his defeat in November. Compared to other Republicans, he has been relatively immigrant-friendly much of his career. l John Boehner and Harry Reid — Boehner, as Speaker of the House, and Reid, as Senate Majority Leader, together need to make the system work for immigration reform to become law. Within days of President Obama’s reelection, Republican Boehner made clear his intention to seek common ground with Obama on the issue. As a leading Republican, Boehner knows that his party’s future is bleak if it maintains a restrictionist stance. Reid, as his party's Senate leader, will do what it takes to get Obama and Schumer’s program through the Senate. Reid must also keep his own constituents in mind. In his home state of Nevada, Latinos made up 18% of voters in 2012, up from 15% in 2008, a number that will surely grow going forward. Immigration reform will happen this year. Count on it.

**2AC High Skilled Reform Impact**

#### High Skilled Expansion inevitable

Oppenheimer 2-7

Andres is a Columnist for the Miami Herald, “Immigration and the Global Race for Talent,” <http://www.thestate.com/2013/02/07/2618543/commentary-immigration-and-the.html#.URQfuqXAez5>

Under a bipartisan bill led by Sen. Orrin Hatch, R-Utah, and known as the Immigration Innovation Act, the United States would eliminate restrictions on visas for workers with graduate degrees in science, technology, engineering and mathematics from qualified U.S. universities, and would almost double existing quotas for other highly-skilled private sector workers.¶ The bill, which may become part of Obama’s comprehensive immigration reform plan, is very likely to pass, congressional sources say.¶ While Democrats and Republicans are still arguing over other parts of Obama’s immigration plan, which would give a path to legal status for up to 11 million undocumented residents, both parties agree on the need to dramatically increase the number of visas for foreign scientists to help make the U.S. economy more competitive.¶ “This is a big, big step forwards,” says Vivek Wadhwa, a well-known innovation guru with Singularity University and author of The Immigrant Exodus, a book arguing that the United States is falling behind in innovation because of its failure to retain the scientists who graduate from its universities.¶ Right now, most U.S. visas are given based on family ties, rather than on professional skills. Only 7 percent of U.S. visas are given to foreigners based on their skills, compared with 25 percent in Canada, 42 percent in Australia, 58 percent in Britain, 80 percent in Switzerland and 81 percent in South Korea, according to a recent study by the Partnership for a New American Economy.¶ Under the Hatch bill, the number of highly-skilled foreigners admitted into the United States could double to 280,000 from the current 140,000 a year, according to Wadhwa.¶ “The race for skilled immigrants is intensifying in today’s knowledge-based economy,” Wadhwa told me. “In the past, it was all about manufacturing, and you needed workers. Now, it’s all about technology and innovation, and you need skilled scientists and engineers.”

#### Obama losing immigration still results in high-skill reform

Matthew Yglesias, Slate, 1/15/13, How the GOP Can Roll Obama on Immigration, www.slate.com/blogs/moneybox/2013/01/15/immigration\_reform\_will\_obama\_get\_rolled.html

Of the major policy issues under discussion in Washington, "immigration reform" stands out for having unusually undefined content. For the major immigration-advocacy groups, the goal is clear, a comprehensive bill that includes a path to citizenship for the overwhelming majority of unauthorized migrants already living in the United States. But many other aspects of immigration law are in the mix as part of a proposed deal, and it seems to me that there's a fair chance that a nimble Republican Party could essentially roll the Democratic coalition and pass an "immigration reform" bill that doesn't offer the path Latino advocacy groups are looking for.¶ Elise Foley has the key line from her briefing on the administration's thinking about immigration, namely that a piecemeal approach "could result in passage of the less politically complicated pieces, such as an enforcement mechanism and high-skilled worker visas, while leaving out more contentious items such as a pathway to citizenship for undocumented immigrants."¶ And indeed it could. But how can they stop it? The last House GOP effort to split the high-tech visas question from the path to citizenship question was an absurd partisan ploy. If Republicans want to get serious about it they should be able to make it work. The centerpiece would be something on increased immigration of skilled workers. That's something the tech industry wants very much, it's a great idea on the merits, and few influential people have any real beef with it. High tech visas will easily generate revenue to pay for some stepped-up enforcement. Then instead of adding on a poison pill so Democrats will block the bill, you need to add a sweetener. Not the broad path to citizenship, but something small like the DREAM Act. Now you've got a package that falls massively short of what Latino groups are looking for, but that I think Democrats will have a hard time actually blocking. After all, why would they block it? It packages three things—more skilled immigration, more enforcement, and help for DREAMers—they say they want. Blocking it because it doesn't also do the broad amnesty that liberals want and conservatives hate would require the kind of fanaticism that is the exact opposite of Obama's approach to politics.

### 1AR Obama Push Bad

#### Obama push guarantees failure – it causes republican backlash – Boehner will push a bill that will pass – that’s Buzzfeed 1/27

#### Overloading congress causes agenda success – that flooding has empirically caused legislative achievement – focusing capital on immigration prevents passage – that’s Todd 2/5

#### Obama pushing poisons the well

Ezra Klein 1/28/13, Two numbers show why Republicans support immigration reform, [www.washingtonpost.com/blogs/wonkblog/wp/2013/01/28/two-numbers-show-why-republicans-support-immigration-reform/](http://www.washingtonpost.com/blogs/wonkblog/wp/2013/01/28/two-numbers-show-why-republicans-support-immigration-reform/)

So on this issue, Republicans have both strategic and substantive reasons for making a deal. The question for the Obama administration is how to keep them from developing reasons for opposing whatever particular deal the Obama administration proposes. And the answer, in a way, is obvious: The Obama administration shouldn’t propose a deal. In fact, it should stay out of the dealmaking as much as possible. The immigration-reform effort is being spearheaded by a bipartisan group of senators that includes Chuck Schumer (D-N.Y.), John McCain (R-Ariz.), Dick Durbin (D-Ill.), Marco Rubio (R-Fla.), Bob Menendez (D-N.J.), Lindsey Graham (R-S.C.), Michael Bennet (D-Colo.) and Jeff Flake (R-Ariz.). You can read their plan here. That’s no accident. Durbin, Schumer and Menendez are close allies of the White House. The fact that they moved first isn’t a quirk of scheduling. It’s an effort to keep the fever down. Republicans will fight most anything Obama proposes. This is, again, not because they’re sick, but because they run in primaries and represent districts and states where their constituents want them to fight anything overly associated with the Obama administration. This is a frustrating fact of life for the Obama administration — and perhaps even a sick commentary on how our political system works — but it is, nevertheless, a fact: Their involvement polarizes issues. And it’s not unique to them: Presidential involvement in general polarizes issues. By staying out, at least for now, the Obama administration is making it easier for Republicans to stay in.At some point, the Obama administration’s involvement will become necessary. Certainly, the administration will have to take a position on whatever is being worked on in the Senate. But they’re wise to hang back for as long as they can, routing their preferences through the Democrats on the Senate working group. Republicans have all the reason in the world to support immigration reform. The last thing the Obama administration wants to do is give them a reason to oppose it. The fever is low now, but that doesn’t mean it can’t spike.

#### Rubio key, not Obama

David Drucker, Roll Call, 1/30/13, Rubio Must Sell Immigration Changes to GOP, Grass Roots, www.rollcall.com/news/rubio\_must\_sell\_immigration\_changes\_to\_gop\_grass\_roots-222044-1.html?pos=hftxt

The fate of an immigration overhaul rests almost exclusively with Sen. Marco Rubio, the Florida Republican whose star power with conservatives is crucial to moving a bill through Congress. President Barack Obama retains veto power, and Democrats hold the Senate floor. But no comprehensive immigration changes are likely to pass Congress without the healthy support of House Republicans. And Florida’s junior senator, perhaps more than any other Republican serving in Washington today, has the political credibility and communication skills to sell such complicated, sensitive legislation to skeptical conservative members, grass-roots voters and influential media commentators. Rubio’s position is all the more unique because congressional Democrats and Obama need him, too, and appear to realize his importance to the legislative endgame.

#### Obama capital collapses Rubio’s strategy—injects controversial issues that kill the bill

David Drucker, Roll Call, 1/30/13, Rubio Must Sell Immigration Changes to GOP, Grass Roots, www.rollcall.com/news/rubio\_must\_sell\_immigration\_changes\_to\_gop\_grass\_roots-222044-1.html?pos=hftxt

President Barack Obama retains veto power, and Democrats hold the Senate floor. But no comprehensive immigration changes are likely to pass Congress without the healthy support of House Republicans. And Florida’s junior senator, perhaps more than any other Republican serving in Washington today, has the political credibility and communication skills to sell such complicated, sensitive legislation to skeptical conservative members, grass-roots voters and influential media commentators. Rubio’s position is all the more unique because congressional Democrats and Obama need him, too, and appear to realize his importance to the legislative endgame. Republicans warn that Obama and congressional Democrats could sink Washington’s immigration policy rewrite by attaching controversial social provisions or watering down the border enforcement and security measures included in the bipartisan Senate framework that Rubio helped negotiate. The Florida lawmaker has said he’ll pull his support from any bill if that occurs, and Republicans say comprehensive policy changes will fail to garner meaningful GOP support without Rubio’s backing. “If Rubio signals any mistrust or misgivings, the whole thing collapses,” GOP pollster Brock McCleary said.

#### Schumer key to immigration

Todd et al 1-29

Chuck is NBC News’ Political Director, “First Thoughts: Obama to Embrace Senate Deal,” <http://firstread.nbcnews.com/_news/2013/01/29/16753708-first-thoughts-obama-to-embrace-senate-deal>

\*\*\* On Schumer becoming the Democrats’ dealmaker: For those who closely follow American politics, Chuck Schumer is an easy target to mock. The running joke, for years, has been that the most dangerous place in DC is to be between Schumer and a TV camera. Perhaps lost in this caricature, however, is that Schumer has become the Democrats’ mover and shaker on key legislation -- dare we say the most effective dealmaker on the Democratic side of the aisle right now. On immigration, he’s reaching across the aisle to work with John McCain, Lindsey Graham, and Marco Rubio. And on guns, the legislation that has the best chance of passage is Schumer’s (on universal background checks) where he just might MIGHT convince Republican Tom Coburn to come on aboard his bill. What made Ted Kennedy a lion of the Senate was that he had influence with his Democratic colleagues (if he was backing something, they had cover to get on board) but also the ability to reach across the aisle. And so it’s worth asking: Is Chuck Schumer the closest thing to that right now? And we haven’t even touched on how relentless (and effective) Schumer has been the Senate Democrats’ de facto political director. Is there anyone better at candidate recruiting and clearly primary fields right now than Schumer?

#### 8% chance of the internal link

Beckmann and Kumar 11

Matthew N Beckmann and Vimal Kumar 11, Associate Professor of Political Science at UC Irvine, econ prof at the Indian Institute of Tech, “Opportunism in Polarization”, Presidential Studies Quarterly; Sep 2011; 41, 3

The final important piece in our theoretical model—presidents' political capital— also finds support in these analyses, though the results here are less reliable. Presidents operating under the specter of strong economy and high approval ratings get an important, albeit moderate, increase in their chances for prevailing on "key" Senate roll-call votes (b = .10, se = .06, p < .10). Figure 4 displays the substantive implications of these results in the context of polarization, showing that going from the lower third of political capital to the upper third increases presidents' chances for success by 8 percentage points (in a setting like 2008). Thus, political capital's impact does provide an important boost to presidents' success on Capitol Hill, but it is certainly not potent enough to overcome basic congressional realities. Political capital is just strong enough to put a presidential thumb on the congressional scales, which often will not matter, but can in close cases.

**1ar- Link Turn Bipart**

#### SMRs are popular – there is only 1 vote against it and both parties cosponsor the plan – that’s Pendidikan 11

**Bipart support for SMR’s in Congress**

**E&E News 9-24**

“DOE Funding for Small Reactors Languishes as Parties Clash on Debt,” <http://www.eenews.net/public/Greenwire/2012/09/24/3>

Some of the nation's largest nuclear power companies are anxious to hear whether they will get a share of a $452 million pot from the Department of Energy for a new breed of reactors that the industry has labeled as a way to lessen the safety risks and construction costs of new nuclear power plants.¶ The grant program for these "small modular reactors," which was announced in January, would mark the official start of a major U.S. foray into the technology even as rising construction costs -- especially when compared to natural-gas-burning plants -- cause many power companies to shy away from nuclear plants.¶ DOE received four bids before the May 21 deadline from veteran reactor designers Westinghouse Electric Co. and Babcock & Wilcox Co., as well as relative newcomers Holtec International Inc. and NuScale Power LLC. Now the summer has ended with no announcement from DOE, even though the agency said it would name the winners two months ago.¶ As the self-imposed deadline passed, companies started hearing murmurs that a decision could come in September, or perhaps at the end of the year. To observers within the industry, it seems that election-year calculations may have sidelined the contest.¶ "The rumors are a'flying," said Paul Genoa, director of policy development at the Nuclear Energy Institute, in an interview last week. "All we can imagine is that this is now caught up in politics, and the campaign has to decide whether these things are good for them to announce, and how**."¶ Small modular reactors do not seem to be lacking in political support. The nuclear lobby** has historically **courted both Democrats and Republicans and** still **sees itself as being in a strong position with key appropriators on both sides of the aisle**.¶ Likewise, **top energy officials in the Obama administration have hailed the promise of the new reactors, and they haven't shown any signs of a change of heart.** DOE spokeswoman Jen Stutsman said last week that the department is still reviewing applications, but she did not say when a decision will be made.¶ "This is an important multiyear research and development effort, and we want to make sure we take the time during the review process to get the decision right," she wrote in an email.¶ That the grants haven't been given out during a taut campaign season, even as President Obama announces agency actions ranging from trade cases to creating new national monuments to make the case for his re-election, may be a sign that the reactors are ensnared in a broader feud over energy spending.¶ Grant recipients would develop reactor designs with an eye toward eventually turning those into pilot projects -- and the loan guarantees that these first-of-a-kind nuclear plants are using today to get financing would be blocked under the "No More Solyndras" bill that passed the House last week (Greenwire, Sept. 14).

#### That outweighs their links

Squassoni ‘12

[Sharon Squassoni serves as director and senior fellow of the Proliferation Prevention Program at CSIS. Prior to joining CSIS, Ms. Squassoni was a senior associate in the Nuclear Nonproliferation Program at the Carnegie Endowment for International Peace. From 2002-2007, Ms. Squassoni advised Congress as a senior specialist in weapons of mass destruction at the Congressional Research Service. “The Future of Nuclear Power in the US.” Federation of American Scientists, February 2012. ETB]

Concerns about contamination of the soil and water by radioactivity lay relatively dormant in recent years because of the strong support of the U.S. government for nuclear power and the portrayal of nuclear energy as “clean, green and secure.” Marketing campaigns by the Nuclear Energy Institute (NEI) portraying nuclear energy as “clean air” energy and by the NEI-funded the Clean and Safe Energy Coalition were likely influential.16 On the whole, opponents of nuclear energy generally have had less money to spend on media campaigns, and their message is less pithy. ey have stressed that nuclear power is not the solution to climate change and that it is dangerous, polluting, unsafe, and expensive. The accident at Fukushima returned safety and waste concerns to headline news. Shortly after the accident, a Gallup poll showed 44 percent of the public in favor (in contrast to 59 percent the previous year) and 47 percent opposing nuclear power.17 Figure 6 below shows the results of a Pew Research Center poll conducted about a week after Fukushima.18

#### SMRs are popular

Nelson and Northey ‘12

Gabriel and Northey, energy and environment reports for Greenwire, “DOE funding for small reactors languishes as parties clash on debt,” <http://www.eenews.net/public/Greenwire/2012/09/24/3>

It's not just wind and solar projects that are waiting for federal help as Congress duels over the importance of putting taxpayer dollars on the line for cutting-edge energy projects. Some of the nation's largest nuclear power companies are anxious to hear whether they will get a share of a $452 million pot from the Department of Energy for a new breed of reactors that the industry has labeled as a way to lessen the safety risks and construction costs of new nuclear power plants. The grant program for these "small modular reactors," which was announced in January, would mark the official start of a major U.S. foray into the technology even as rising construction costs -- especially when compared to natural-gas-burning plants -- cause many power companies to shy away from nuclear plants. DOE received four bids before the May 21 deadline from veteran reactor designers Westinghouse Electric Co. and Babcock & Wilcox Co., as well as relative newcomers Holtec International Inc. and NuScale Power LLC. Now the summer has ended with no announcement from DOE, even though the agency said it would name the winners two months ago. As the self-imposed deadline passed, companies started hearing murmurs that a decision could come in September, or perhaps at the end of the year. To observers within the industry, it seems that election-year calculations may have sidelined the contest. "The rumors are a'flying," said Paul Genoa, director of policy development at the Nuclear Energy Institute, in an interview last week. "All we can imagine is that this is now caught up in politics, and the campaign has to decide whether these things are good for them to announce, and how." Small modular reactors do not seem to be lacking in political support. The nuclear lobby has historically courted both Democrats and Republicans and still sees itself as being in a strong position with key appropriators on both sides of the aisle. Likewise, top energy officials in the Obama administration have hailed the promise of the new reactors, and they haven't shown any signs of a change of heart. DOE spokeswoman Jen Stutsman said last week that the department is still reviewing applications, but she did not say when a decision will be made.

#### Bipart support

Whitman 12

Christine Todd Whitman 12, CASEnergy Co-Chair, Former EPA Administrator and New Jersey Governor, “Nuclear Power Garners Bipartisan Support”, August 13, <http://energy.nationaljournal.com/2012/08/finding-the-sweet-spot-biparti.php?rss=1&utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+njgroup-energy+%28Energy+%26+Environment+Experts--Q+with+Answer+Previews%29#2237728>

The energy policy that I’ve seen garner consistent support from the left and the right over the years is also one with which I’m deeply familiar. This policy involves building a diverse portfolio of low-carbon energy sources, featuring a renewed investment in nuclear energy. And it’s not just policymakers from both sides of the aisle who support nuclear energy – it’s everyday energy consumers as well. According to a Gallup poll conducted in March of this year, nearly 60 percent of Americans support the use of nuclear energy to meet our nation’s electricity needs, and a majority support expanding America’s use of nuclear power. Next-generation nuclear energy projects are underway in Georgia, South Carolina and Tennessee, thanks in part to steady popular support, as well as support from President Obama, bipartisan congressional leaders and other policymakers at the federal and state levels. An additional 10 combined construction and operating licenses for 16 plants are under review by the Nuclear Regulatory Commission. This support is founded in the fact that nuclear energy, safely managed, provides an efficient, reliable source of energy. In fact, nuclear power is the only baseload source of carbon-free electricity. It provides nearly two-thirds of the nation’s low-carbon electricity, and will continue to be an important source of energy well into the future given the advent of innovative large and small reactor designs. The use of nuclear energy prevents more than 613 million metric tons of carbon dioxide every year – as much CO2 as is emitted by every passenger car in America. Bipartisan support for nuclear energy also stems from the boost that it provides to local job markets and to local and state economies. As nuclear energy expands and as more than half of the industry workforce approaches retirement, the industry offers growing opportunities for well-paying careers. The industry already supports more than 100,000 jobs, and the combination of retirements and the construction of new facilities could create as many as 25,000 new jobs in the near term. What’s more, the construction of a nuclear facility spurs the creation of other local jobs in industries ranging from manufacturing to hospitality. The industry generates between $40 and $50 billion in revenue and electricity sales, or some $470 million in total economic output and $40 million in labor wages at each U.S. facility every year. That’s a powerful economic engine and a positive impact that leaders are embracing. As America refocuses on cleaner energy policies that help boost our economy, nuclear power is becoming a clear and critical part of a secure, sustainable energy portfolio. We need electricity and we want clean air; with nuclear energy we can have both. It’s a source of power that leaders on both sides of the aisle can support.

### 1ar- DoD Shields

#### DOD shields the link – they are insulated from politics regardless of which party has political power – that’s Appelbaum 12

#### DOD energy programs don’t link---conservative won’t oppose

Davenport 12

Coral Davenport, energy and environment correspondent for National Journal. Prior to joining National Journal in 2010, Davenport covered energy and environment for Politico, and before that, for Congressional Quarterly. In 2010, she was a fellow with the Metcalf Institute for Marine and Environmental Reporting. From 2001 to 2004, Davenport worked in Athens, Greece, as a correspondent for numerous publications, including the Christian Science Monitor and USA Today, covering politics, economics, international relations and terrorism in southeastern Europe. She also covered the 2004 Olympic Games in Athens, and was a contributing writer to the Fodor’s, Time Out, Eyewitness and Funseekers’ guidebook series. Davenport started her journalism career at the Daily Hampshire Gazette in Northampton, Massachusetts, after graduating from Smith College with a degree in English literature. National Journal, 2/10/12, White House Budget to Expand Clean-Energy Programs Through Pentagon, ProQuest

The White House believes it has figured out **how to get more money for clean-energy** programs touted by President Obama **without having it become political roadkill** in the wake of the Solyndra controversy: **Put it in the Pentagon**. While details are thin on the ground, **lawmakers who work on both energy- and defense-spending** policy **believe the fiscal 2013 budget** request to be delivered to Congress on Monday probably **won't include** big **increases** for wind and solar power **through the Energy Department, a** major target for Republicans since solar-panel maker Solyndra defaulted last year on a $535 million loan guarantee. But **they** do **expect to see increases in spending on alternative energy in** the **Defense** Department, such as programs to replace traditional jet fuel with biofuels, supply troops on the front lines with solar-powered electronic equipment, build hybrid-engine tanks and aircraft carriers, and increase renewable-energy use on military bases. **While Republicans will** instantly **shoot down requests for fresh spending on Energy Department programs that could be likened to** the one that funded **Solyndra**, **many support** **alternative-energy programs for the military**. "I do expect to see the spending," said Rep. Jack Kingston, R-Ga., a member of the House Defense Appropriations Subcommittee, when asked about increased investment in alternative-energy programs at the Pentagon. "I think in the past three to five years this has been going on, but that it has grown as a culture and a practice - and it's a good thing." "If Israel attacks Iran, and we have to go to war - and the Straits of Hormuz are closed for a week or a month and the price of fuel is going to be high," Kingston said, "the question is, in the military, what do you replace it with? It's not something you just do for the ozone. It's strategic." Sen. **Lindsey Graham**, R-S.C., who sits on both the Senate Armed Services Committee and the Defense Appropriations Subcommittee, **said, "I don't see what they're doing in DOD as being Solyndra**." "We're not talking about putting $500 million into a goofy idea," Graham told National Journal . "We're talking about taking applications of technologies that work and expanding them. I wouldn't be for DOD having a bunch of money to play around with renewable technologies that have no hope. But from what I understand, there are renewables out there that already work." A senior House Democrat noted that **this wouldn't be the first time** that **the Pentagon has been utilized to advance policies that wouldn't otherwise be supported**. "They did it in the '90s with medical research," said Rep. Henry Waxman, D-Calif., ranking member of the House Energy and Commerce Committee. In 1993, when funding was frozen for breast-cancer research programs in the National Institutes of Health, Congress boosted the Pentagon's budget for breast-cancer research - to more than double that of the health agency's funding in that area. **Politically, the strategy makes sense**. **Republicans are ready to fire at the first sign of any pet Obama program, and renewable programs at the Energy Department are an exceptionally ripe target**. That's because of Solyndra, but also because, in the last two years, the Energy Department received a massive $40 billion infusion in funding for clean-energy programs from the stimulus law, a signature Obama policy. When that money runs out this year, a request for more on top of it would be met with flat-out derision from most congressional Republicans. **Increasing renewable-energy initiatives at the Pentagon can** also **help Obama advance his** broader, national **goals** for transitioning the U.S. economy from fossil fuels to alternative sources. As the largest industrial consumer of energy in the world, the U.S. military can have a significant impact on energy markets - if it demands significant amounts of energy from alternative sources, it could help scale up production and ramp down prices for clean energy on the commercial market. Obama acknowledged those impacts in a speech last month at the Buckley Air Force Base in Colorado. "The Navy is going to purchase enough clean-energy capacity to power a quarter of a million homes a year. And it won't cost taxpayers a dime," Obama said. "What does it mean? It means that the world's largest consumer of energy - the Department of Defense - is making one of the largest commitments to clean energy in history," the president added. "That will grow this market, it will strengthen our energy security." Experts also hope that Pentagon engagement in clean-energy technology could help yield breakthroughs with commercial applications. Kingston acknowledged that the upfront costs for alternative fuels are higher than for conventional oil and gasoline. For example, the Air Force has pursued contracts to purchase biofuels made from algae and camelina, a grass-like plant, but those fuels can cost up to $150 a barrel, compared to oil, which is lately going for around $100 a barrel. Fuel-efficient hybrid tanks can cost $1 million more than conventional tanks - although in the long run they can help lessen the military's oil dependence, Kingston said Republicans recognize that the up-front cost can yield a payoff later. "It wouldn't be dead on arrival. But we'd need to see a two- to three-year payoff on the investment," Kingston said. Military officials - particularly Navy Secretary Ray Mabus, who has made alternative energy a cornerstone of his tenure - have been telling Congress for years that the military's dependence on fossil fuels puts the troops - and the nation's security - at risk. Mabus has focused on meeting an ambitious mandate from a 2007 law to supply 25 percent of the military's electricity from renewable power sources by 2025. (Obama has tried and failed to pass a similar national mandate.) Last June, the **DOD rolled out its first department-wide energy policy to coalesce alternative and energy-efficient initiatives across the military services**. In January, the department announced that a study of military installations in the western United States found four California desert bases suitable to produce enough solar energy - 7,000 megawatts - to match seven nuclear power plants. And so far, those **moves have met with approval from congressional Republicans**. Even so, any request for new Pentagon spending will be met with greater scrutiny this year. The Pentagon's budget is already under a microscope, due to $500 billion in automatic cuts to defense spending slated to take effect in 2013. But **even with** those **challenges**, **clean-energy spending** probably **won't stand out** as much **in** the **military budget as it would in the Energy Department budget**. Despite its name, the Energy Department has traditionally had little to do with energy policy - its chief portfolio is maintaining the nation's nuclear weapons arsenal. Without the stimulus money, last year only $1.9 billion of Energy's $32 billion budget went to clean-energy programs. A spending increase of just $1 billion would make a big difference in the agency's bottom line. But **it would** probably **be easier to tuck another** $1 billion or $**2 billion** **on clean-energy spending into the Pentagon's $518 billion budget**. **Last year**, **the Pentagon spent** about $**1 billion on renewable energy** and energy-efficiency programs across its departments.

#### Can’t capitalize---plan spun as a pro-troop measure

Merchant, 10

(Political & Environment Columnist-Discovery, 10/21, “How the US Military Could Bring Solar Power to Mass Market,” http://www.treehugger.com/corporate-responsibility/how-the-us-military-could-bring-solar-power-to-mass-market.html)

Furthermore, Congress is infinitely more likely to approve funding for R&D; and infrastructure if the projects are military-related. Which is depressing, but true -- the one thing that no politician can get caught opposing is the safety of American troops. In fact, the whole premise of the article is rather depressing, on point though it may be: The only way we may end up getting a competitive clean energy industry is through serious military investment, which is of course, serious government spending. Which under any other guise would be vehemently opposed by conservatives.

# Round 5 v George Mason

## 1AC

### Plan

**The United States federal government should obtain, through alternative financing, electricity from small modular reactors for military bases in the United States.**

### Grid

#### Grid disruptions are inevitable - only SMR’s can solve

Robitaille 12

(George, Department of Army Civilian, United States Army War College, “Small Modular Reactors: The Army’s Secure Source of Energy?” 21-03-2012, Strategy Research Project)

In recent years, the U.S Department of Defense (DoD) has identified a security issue at our installations related to the dependence on the civilian electrical grid. 1 The DoD depends on a steady source of electricity at military facilities to perform the functions that secure our nation. The flow of electricity into military facilities is controlled by a public grid system that is susceptible to being compromised because of the age of the infrastructure, damage from natural disasters and the potential for cyber attacks. Although most major functions at military installations employ diesel powered generators as temporary backup, the public grid may not be available to provide electricity when it is needed the most. The United States electrical infrastructure system is prone to failures and susceptible to terrorist attacks. 2 It is critical that the source of electricity for our installations is reliable and secure. In order to ensure that our military facilities possess a secure source of electricity, either the public system of electric generation and distribution is upgraded to increase its reliability as well as reducing its susceptibility to cyber attack or another source of electricity should be pursued. Although significant investments are being made to upgrade the electric grid, the current investment levels are not keeping up with the aging system. Small modular reactors (SMRs) are nuclear reactors that are about an order of magnitude smaller than traditional commercial reactor used in the United States. SMRs are capable of generating electricity and at the same time, they are not a significant contributor to global warming because of green house gas emissions. The DoD needs to look at small modular nuclear reactors (SMRs) to determine if they can provide a safe and secure source of electricity. Electrical Grid Susceptibility to Disruptions According to a recent report by the Defense Science Board, the DoD gets ninety nine percent of their electrical requirements from the civilian electric grid. 3 The electric grid, as it is currently configured and envisioned to operate for the foreseeable future, may not be reliable enough to ensure an uninterrupted flow of electricity for our critical military facilities given the influences of the aging infrastructure, its susceptibility to severe weather events, and the potential for cyber attacks. The DoD dependency on the grid is reflected in the $4.01 Billion spent on facilities energy in fiscal year 2010, the latest year which data was available. 4 The electricity used by military installations amounts to $3.76 billion. 5 As stated earlier, the DoD relies on the commercial grid to provide a secure source of energy to support the operations that ensure the security of our nation and it may not be available when we need it. The system could be taken down for extended periods of time by failure of aging components, acts of nature, or intentionally by cyber attacks. Aging Infrastructure. The U.S electric power grid is made up of independently owned power plants and transmission lines. The political and environmental resistance to building new electric generating power plants combined with the rise in consumption and aging infrastructure increases the potential for grid failure in the future. There are components in the U.S. electric grid that are over one hundred years old and some of the recent outages such as the 2006 New York blackout can be directly attributed to this out of date, aging infrastructure. 6 Many of the components of this system are at or exceeding their operational life and the general trend of the utility companies is to not replace power lines and other equipment until they fail. 7 The government led deregulation of the electric utility industry that started in the mid 1970s has contributed to a three decade long deterioration of the electric grid and an increased state of instability. Although significant investments are being made to upgrade the electric grid, the many years of prior neglect will require a considerable amount of time and funding to bring the aging infrastructure up to date. Furthermore, the current investment levels to upgrade the grid are not keeping up with the aging system. 8 In addition, upgrades to the digital infrastructure which were done to increase the systems efficiency and reliability, have actually made the system more susceptible to cyber attacks. 9 Because of the aging infrastructure and the impacts related to weather, the extent, as well as frequency of failures is expected to increase in the future. Adverse Weather. According to a 2008 grid reliability report by the Edison Electric Institute, sixty seven per cent of all power outages are related to weather. Specifically, lightning contributed six percent, while adverse weather provided thirty one percent and vegetation thirty percent (which was predominantly attributed to wind blowing vegetation into contact with utility lines) of the power outages. 10 In 1998 a falling tree limb damaged a transformer near the Bonneville Dam in Oregon, causing a cascade of related black-outs across eight western states. 11 In August of 2003 the lights went out in the biggest blackout in North America, plunging over fifty million people into darkness over eight states and two Canadian provinces. Most areas did not have power restored four or five days. In addition, drinking water had to be distributed by the National Guard when water pumping stations and/or purification processes failed. The estimated economic losses associated with this incident were about five billion dollars. Furthermore, this incident also affected the operations of twenty two nuclear plants in the United States and Canada. 12 In 2008, Hurricane Ike caused approximately seven and a half million customers to lose power in the United States from Texas to New York. 13 The electric grid suffered numerous power outages every year throughout the United States and the number of outages is expected to increase as the infrastructure ages without sufficient upgrades and weather-related impacts continue to become more frequent. Cyber Attacks. The civilian grid is made up of three unique electric networks which cover the East, West and Texas with approximately one hundred eighty seven thousand miles of power lines. There are several weaknesses in the electrical distribution infrastructure system that could compromise the flow of electricity to military facilities. The flow of energy in the network lines as well as the main distribution hubs has become totally dependent on computers and internet-based communications. Although the digital infrastructure makes the grid more efficient, it also makes it more susceptible to cyber attacks. Admiral Mr. Dennis C. Blair (ret.), the former Director of National Intelligence, testified before Congress that “the growing connectivity between information systems, the Internet, and other infrastructures creates opportunities for attackers to disrupt telecommunications, electrical power, energy pipelines, refineries, financial networks, and other critical infrastructures. 14 ” The Intelligence Community assesses that a number of nations already have the technical capability to conduct such attacks. 15 In the 2009 report, Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee, Adm. Blair stated that “Threats to cyberspace pose one of the most serious economic and national security challenges of the 21st Century for the United States and our allies.”16 In addition, the report highlights a growing array of state and non-state actors that are targeting the U.S. critical infrastructure for the purpose of creating chaos that will subsequently produce detrimental effects on citizens, commerce, and government operations. These actors have the ability to compromise, steal, change, or completely destroy information through their detrimental activities on the internet. 17 In January 2008, US Central Intelligence Agency senior analyst Tom Donahue told a gathering of three hundred international security managers from electric, water, oil & gas, and other critical industry, that data was available from multiple regions outside the United States, which documents cyber intrusions into utilities. In at least one case (outside the U.S.), the disruption caused a power outage affecting multiple cities. Mr. Donahue did not specify who executed these attacks or why, but did state that all the intrusions were conducted via the Internet. 18 During the past twenty years, advances in computer technologies have permeated and advanced all aspects of our lives. Although the digital infrastructure is being increasingly merged with the power grid to make it more efficient and reliable, it also makes it more vulnerable to cyber attack. In October 2006, a foreign hacker invaded the Harrisburg, PA., water filtration system and planted malware. 19 In June 2008, the Hatch nuclear power plant in Georgia shut down for two days after an engineer loaded a software update for a business network that also rebooted the plant's power control system. In April 2009, The Wall Street Journal reported that cyber spies had infiltrated the U.S. electric grid and left behind software that could be used to disrupt the system. The hackers came from China, Russia and other nations and were on a “fishing expedition” to map out the system. 20 According to the secretary of Homeland Security, Janet Napolitano at an event on 28 October 2011, cyber–attacks have come close to compromising the country’s critical infrastructure on multiple occasions. 21 Furthermore, during FY11, the United States Computer Emergency Readiness Team took action on more than one hundred thousand incident reports by releasing more than five thousand actionable cyber security alerts and information products. 22 The interdependence of modern infrastructures and digital based systems makes any cyber attacks on the U.S. electric grid potentially significant. The December 2008 report by the Commission on Cyber Security for the forty fourth Presidency states the challenge plainly: “America’s failure to protect cyberspace is one of the most urgent national security problems facing the new administration”. 23 The susceptibility of the grid to being compromised has resulted in a significant amount of resources being allocated to ensuring the systems security. Although a substantial amount of resources are dedicated to protecting the nation’s infrastructure, it may not be enough to ensure the continuous flow of electricity to our critical military facilities. SMRs as they are currently envisioned may be able to provide a secure and independent alternative source of electricity in the event that the public grid is compromised. SMRs may also provide additional DoD benefit by supporting the recent government initiatives related to energy consumption and by circumventing the adverse ramifications associated with building coal or natural gas fired power plants on the environment.\

**Grid will go down for months - multiple scenarios**

**Slavo 7/12**

(Mac is editor of shftplan, “UPDATE: Cascading Grid Crash: Now 600 Million Without Power in India (Are We Vulnerable?)” <http://www.shtfplan.com/headline-news/paralysis-grid-down-in-india-370-million-left-without-power_07302012>, SEH)

**The power grid in the United States**, while more advanced and apparently better maintained, **is** also **under excessive strain as has been witnessed in recent years with rolling brownouts, blackouts, and unforeseen crashes** resulting from key component failure.¶ **One industry insider** who has worked in the utility industry for nearly two decades **advised** this author recently **that it wouldn’t take much to bring down the system even in the United States**, potentially affecting tens of millions of customers. Though it’s the 21st century, many grid components in operation are, in some cases, as much as 40 years old, thus replacement parts are almost impossible to find. Other components, like massive transformers may take weeks or months to replace. In the event of a scenario where multiple components are targeted simultaneously, by either a man-made EMP or natural event, it is not too far of a stretch to suggest that the afflicted regions would be engulfed in pandemonium.¶ **This potential for widespread failure is so plausible that former Congressman** Roscoe Bartlett, **who has spoken on the vulnerabilities of the US power grid, has advised that Those Who Can, Should Move Their Families Out Of the City**:¶ After Hurricane Ike passed through the Houston area 2008 some 90% of the metropolitan was without power. While hospitals, police and critical infrastructure was restored within a few days, residents in outlying suburban areas experienced the outage for over three weeks. We witnessed the rapid loss of patience, increased anxiety and frustration, and the subsequent breakdown of interpersonal interaction at high-demand venues such as gas stations, where long lines, screaming matches and even fist fights became a common occurrence.¶ **The bottom line: As demonstrated in India today**, Quebec in 1989 (caused by a geo-magnetic storm originating from the sun), Ike in 2008, Hurricane Irene on the East coast in 2012 and the plethora of incidents that have taken place over the last couple of decades, **the North American power grid,** just as India’s, **is susceptible to far-from-equilibrium situations, and sometimes it takes extended periods of time to get power up and running**.¶ **With just three major grids running the United States**, **our dependence on massive flows of electricity to power** our home air conditioners, food refrigeration, communications, water and gas pump systems, and daily business operations **could come to a screeching halt should the grid ever be struck by a natural disaster like a** solar coronal mass ejection or a **large-scale earthquake** in California or on the Madrid fault. Likewise, as we’ve noted previously, **rogue organizations looking to wreak havoc have already demonstrated the staggering security holes in our power**, water and oil **grid infrastructure, with leading cyber security firms noting that** it is just a matter of time before disaster strikes**.**¶ While a short-term, isolated metropolitan outage can be dealt with by sourcing labor and supplies from unaffected areas of the country, **considering that the US operates on three key power grid systems, a region-wide outage affecting just one of these nodes could lead to a cascading breakdown in the electrical power system that envelops the entire country**.¶ The most **dangerous possibility emerges when we look at threats posed by** the sun or **a rogue terror cell or** nation that could deploy **an** Electro-Magnetic Pulse weapon (**EMP /** Super EMP) over American skies**. It’s been surmised that** either one of **these** possibilities **could cause damage so staggering that** the grid would be down for months, leaving millions without just-in-time food and gas delivery systems, medical care, local emergency response, or even clean water. According to one estimate, some 90% of Americans would die in such a scenario if the power wasn’t restored within one year.¶ Thus, it is clear that our power grids are a critical lifeline to keeping life as we know it in the world today operational. And, as we have seen historically and India this morning, power grids can and do crash – even in countries with hundreds of millions of residents.

#### Cyber-attack is coming ---actors are probing grid weaknesses

**Reed 10/11** John, Reports on the frontiers of cyber war and the latest in military technology for Killer Apps at Foreign Policy, "U.S. energy companies victims of potentially destructive cyber intrusions", 2012, killerapps.foreignpolicy.com/posts/2012/10/11/us\_energy\_companies\_victims\_of\_potentially\_destructive\_cyber\_attacks

Foreign actors are probing the networks of key American companies in an attempt to gain control of industrial facilities and transportation systems, Defense Secretary Leon Panetta revealed tonight.¶ "We know that foreign **cyber actors are probing America's critical infrastructure networks**," said Panetta, disclosing previously classified information during a speech in New York laying out the Pentagon's role in protecting the U.S. from cyber attacks. "They are targeting the computer control systems that operate chemical, **electricity** and water plants, and those that guide transportation thorough the country."¶ He went on to say that the U.S. government knows of "specific instances where intruders have gained access" to these systems -- frequently known as Supervisory Control and Data Acquisition (or SCADA) systems -- and that "they are seeking to create advanced tools to attack these systems and cause panic, destruction and even the loss of life," according to an advance copy of his prepared remarks.¶ The secretary said that **a coordinated attack on enough critical infrastructure could be a "cyber Pearl Harbor" that would "cause physical destruction and loss of life, paralyze and shock the nation, and create a profound new sense of vulnerability.**"¶ While there have been reports of criminals using 'spear phishing' email attacks aimed at stealing information about American utilties, Panetta's remarks seemed to suggest more sophisticated, nation-state backed attempts to actually gain control of and damage power-generating equipment. ¶ Panetta's comments regarding the penetration of American utilities echo those of a private sector cyber security expert Killer Apps spoke with last week **who said that the networks of American electric companies were penetrated, perhaps in preparation for a Stuxnet-style attack**.¶ Stuxnet is the famous cyber weapon that infected Iran's uranium-enrichment centrifuges in 2009 and 2010. Stuxnet is believed to have caused some of the machines to spin erratically, thereby destroying them.¶ "**There is hard evidence** that there has been penetration of our power companies, and given Stuxnet, that is a staging step before destruction" of electricity-generating equipment, the expert told Killer Apps. Because uranium centrifuges and power turbines are both spinning machines, "**the attack is identical -- the one to take out the centrifuges and the one to take out our power systems is the same attack**."¶ "If a centrifuge running at the wrong speed can blow apart" so can a power generator, said the expert. "If you do, in fact, spin them at the wrong speeds, you can blow up any rotating device."¶ Cyber security expert Eugene Kaspersky said two weeks ago that one of his greatest fears is someone reverse-engineering a sophisticated cyber weapon like Stuxnet **-- a relatively easy task** -- and he noted that Stuxnet itself passed through power plants on its way to Iran. "Stuxnet infected thousands of computer systems all around the globe, I know there were power plants infected by Stuxnet very far away from Iran," Kaspersky said.

#### SMRs solve – makes bases resilient and deters attacks – alternatives fail

Andres and Breetz 11

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Grid Vulnerability**. DOD is unable to provide its ¶ bases with electricity when the civilian electrical grid is ¶ offline for an extended period of time**. Currently, domestic military installations receive 99 percent of their ¶ electricity from the civilian power grid. As explained in a ¶ recent study from the Defense Science Board:¶ DOD’s key problem with electricity is **that** critical ¶ missions, such as national strategic awareness and ¶ national command authorities, are **almost entirely ¶** dependent on the **national transmission** grid. . . ¶ **[which] is fragile, vulnerable, near its capacity ¶ limit, and outside of DOD control**. In most cases, ¶ **neither the grid nor on-base backup power provides¶ sufficient reliability to ensure continuity of critical ¶ national priority functions and oversight of ¶ strategic missions in the face of** a long term (several ¶ months) **outage**.¶ 7¶ The grid’s fragility was demonstrated during the 2003 ¶ Northeast blackout in which 50 million people in the ¶ United States and Canada lost power, some for up to a ¶ week, when one Ohio utility failed to properly trim trees. ¶ The blackout created cascading disruptions in sewage ¶ systems, gas station pumping, cellular communications, ¶ border check systems, and so forth, and demonstrated the ¶ interdependence of modern infrastructural systems.¶ 8¶ More recently, awareness has been growing that ¶ **the grid is also vulnerable to purposive attacks**. A report sponsored by the Department of Homeland Security suggests **that a coordinated cyberattack on the grid ¶ could result in a third of the country losing power for ¶ a period of weeks or months**.¶ 9¶ Cyberattacks on critical ¶ infrastructure are not well understood. It is not clear, for ¶ instance, whether existing terrorist groups might be able ¶ to develop the capability to conduct this type of attack. **It ¶ is likely, however, that some nation-states either have or ¶ are working on developing the ability to take down the ¶ U.S. grid**. **In the event of a war** with one of these states, ¶ it is possible, if not likely, that **parts of the civilian grid ¶ would cease to function, taking with them military bases ¶ located in affected regions.**¶ Government and private organizations are currently ¶ working to secure the grid against attacks; however, it is ¶ not clear that they will be successful. Most military bases ¶ currently have backup power that allows them to function for a period of hours or, at most, a few days on their ¶ own. If power were not restored after this amount of time, ¶ the results could be disastrous. First, military assets taken ¶ offline by the crisis would not be available to help with disaster relief. Second, **during an extended blackout, global ¶ military operations could be seriously compromised; this ¶ disruption would be particularly serious if the blackout ¶ was induced during major combat operations.** During the ¶ Cold War, this type of event was far less likely because the United States and Soviet Union shared the common understanding that blinding an opponent with a grid blackout could escalate to nuclear war. America’s current opponents, however, may not share this fear or be deterred ¶ by this possibility.¶ In 2008, the Defense Science Board stressed that ¶ DOD should mitigate the electrical grid’s vulnerabilities by turning military installations into “islands” of ¶ energy self-sufficiency.¶ 10¶ **The department has made efforts to do so by promoting efficiency programs** that ¶ lower power consumption on bases and by constructing ¶ renewable power generation facilities on selected bases. ¶ Unfortunately, these programs **will not come close to ¶** reaching the goal of **islanding** thevast majority of bases**. ¶ Even with** massive investment in efficiency and **renewables,** most **bases would not** be able to **function for more ¶ than a few days after the** civilian **grid went offline**. **Unlike other alternative sources of energy, small reactors have the potential to solve DOD’s vulnerability to ¶ grid outages.** **Most bases have relatively light power demands when compared to civilian towns or cities. Small ¶ reactors could easily support bases’ power demands separate from the civilian grid during crises**. In some cases, ¶ the reactors could be designed to produce enough power ¶ not only to supply the base, but also to provide critical ¶ services in surrounding towns during long-term outages.¶ Strategically, islanding bases with small reactors ¶ has another benefit. **One of the main reasons an enemy ¶ might be willing to risk reprisals by taking down the ¶ U.S. grid during a period of military hostilities would ¶ be to affect ongoing military operations. Without the ¶ lifeline of intelligence, communication, and logistics ¶ provided by U.S. domestic bases, American military operations would be compromised in almost any conceivable contingency. Making bases more resilient to ¶ civilian power outages would reduce the incentive for ¶ an opponent to attack the grid.** An opponent might ¶ still attempt to take down the grid for the sake of disrupting civilian systems, but **the powerful incentive to ¶ do so in order to win an ongoing battle or war would ¶ be greatly reduced.**

#### Grid attacks take out command and control – causes relation and nuclear war

**Tilford 12**

Robert, Graduate US Army Airborne School, Ft. Benning, Georgia, “Cyber attackers could shut down the electric grid for the entire east coast” 2012, <http://www.examiner.com/article/cyber-attackers-could-easily-shut-down-the-electric-grid-for-the-entire-east-coa>

To make matters worse **a cyber attack that can take out a civilian power grid, for example could also cripple the U.S. military.**¶ The senator notes that is that the same power grids that supply cities and towns, stores and gas stations, cell towers and heart monitors also power “every military base in our country.”¶ “Although bases would be prepared to weather a short power outage with **backup diesel generators, within hours, not days, fuel supplies would run out”**, he said.¶ Which means military command and control centers could go dark.¶ **Radar systems that detect air threats** to our country would shut Down completely.¶ “**Communication between commanders and their troops would also go silent. And many weapons systems would be left without either fuel or electric power”,** said Senator Grassley.¶ “**So in a few short hours or days, the mightiest military in the world would be left scrambling to maintain base functions**”, he said.¶ We contacted the Pentagon and officials confirmed the threat of a cyber attack is something very real.¶ Top national security officials—including the Chairman of the Joint Chiefs, the Director of the National Security Agency, **the Secretary of Defense, and the CIA Director— have said, “preventing a cyber attack and improving the nation’s electric grids is among the most urgent priorities of our country”** (source: Congressional Record).¶ So how serious is the Pentagon taking all this?¶ Enough to start, or end a war over it, for sure (see video: Pentagon declares war on cyber attacks http://www.youtube.com/watch?v=\_kVQrp\_D0kY&feature=relmfu ).¶ **A cyber attack today against the US could very well be seen as an “Act of War” and could be met with a “full scale” US military response.**¶ That could include the use of “nuclear weapons”, if authorized by the President.

#### Grid failures risks terrorism

Defense Science Board 8

(The DSB is a Federal ¶ Advisory Committee established to provide independent advice to the Secretary of ¶ Defense, “More Fight – Less Fuel” <http://www.acq.osd.mil/dsb/reports/ADA477619.pdf>, SEH)

**DoD’s key problem with electricity is that critical missions, such as national strategic ¶ awareness and national command authorities, are almost entirely dependent on the ¶ national transmission grid.** About 85% of the energy infrastructure upon which DoD ¶ depends is commercially owned, **and 99% of the electrical energy DoD installations ¶ consume originates outside the fence.¶** 3¶ As noted below, however, the grid is fragile, ¶ vulnerable, near its capacity limit, and outside of DoD control. In most cases, neither ¶ the grid nor on-base backup power provides sufficient reliability to ensure continuity of ¶ critical national priority functions and oversight of strategic missions in the face of a long ¶ term (several months) outage. ¶ 2.3.1 State of the Grid ¶ The U.S.-Canadian electric grid is very efficient and cost effective but its design metric ¶ is efficiency more than resiliency. As a consequence, it is vulnerable to natural disaster or deliberate attack. The Task Force received several briefings from the Mission ¶ Assurance Division at Dahlgren (MAD), the Department of Energy and the utility ¶ industry. Based on these briefings, the Task Force is concerned about the condition of ¶ the grid and the ability to effect timely repairs. ¶ This concern extends not only to the complete dependency of critical national security ¶ missions on the grid, but also to its centrality to all facets of the nation’s economic life. ¶ To appreciate the seriousness of the impacts of an extended disruption, consider the ¶ 2003 Northeast blackout. At around 4:15pm EST on August 14, 2003 about 50 million ¶ people living in a 9,300 square mile area in the U.S. and Canada lost electrical power. ¶ More than 500 generating units at 265 power plants shut down during the outage, 22 of ¶ which were nuclear. Those plants took about two weeks to regain full capacity, and lost ¶ an average of more than half their capacity for 12 days. The shutdown was in part ¶ precautionary in nature. If an imbalance between load and supply occurs, power lines ¶ grow longer and sag from overheating and other hardware can fail. These imbalances ¶ can damage equipment that is hard-to-repair, requires long lead time to produce and is ¶ expensive. So, the grid quickly disconnects itself when a threatening imbalance is ¶ detected. Nuclear plants are required for safety reasons to shut down when the grid ¶ they’re connected to is de-energized.¶ 4¶ A U.S.-Canada Task Force found the main cause of the blackout to be the failure of a ¶ utility in Ohio to properly trim trees near a power line, causing the first in what became a ¶ set of cascading failures.¶ 5¶ Secretary of Energy Spencer Abraham said there would be ¶ no punishment for the utility because current U.S. law does not require electric reliability ¶ standards. However, the Energy Policy Act of 2005 (EPAct 2005) gave the Federal ¶ Energy Regulatory Commission (FERC) new authority to direct the industry to develop ¶ reliability standards. It directs FERC to designate an Electric Reliability Organization ¶ (ERO) to develop and propose reliability standards, which only after agreement by the ¶ industry become mandatory. The ERO chosen by the FERC is a volunteer, industry run ¶ organization. While FERC oversight of industry developed standards is an ¶ improvement over the previous situation, the Task Force remains concerned that FERC ¶ may be unable to reduce the risk to critical DoD missions to acceptable levels in a ¶ reasonable timeframe. ¶ **Some have argued that the August 2003 incident shows that the protections built into ¶ the grid worked. Within several hours electricity was restored to many areas, though a ¶ few areas waited nearly a week. However, the incident highlights how easily the power ¶ grid could be taken down. Also, quick restoration was possible because no significant ¶ equipment was damaged, something that might not occur in future incidents**. **Further, ¶ during the blackout most systems failed that would detect unauthorized border ¶ crossings, port landings, or unauthorized access to vulnerable sites. Future such blackouts could be exploited for terrorist activity, with potentially far more catastrophic ¶ results**. ¶ These risks exist elsewhere than in the U.S. For example, on September 28, 2003 Italy ¶ experienced the largest of a series of blackouts suffered through that year, affecting a ¶ total of 56 million people, and spilling into Switzerland.¶ 6¶ It was also the most serious ¶ blackout in Italy in 20 years. DoD installations located outside the continental United ¶ States (OCONUS) are dependent on the commercial grids serving their locations. ¶ Security of their power supplies and continuation of their missions is as important as ¶ within the U.S.

#### Numerous attempts prove our impact

Wagner 9/11

(Dr. Abraham R. Wagner is a Professor of International and Public Affairs at the ¶ Arnold A. Saltzman Institute of War & Peace Studies at Columbia University. “Counter-Terrorism Technologies -- Taking Stock on 9/11” 09/11/2012 2:13 pm accessed online September 11, 2012 at <http://www.huffingtonpost.com/abraham-r-wagner/counterterrorism-technolo_b_1874521.html>, TSW)

On this 11th anniversary of the 9/11 attacks, it makes sense to take stock of where the nation has progressed in its effort to deter and combat future terrorist attacks, both at home and abroad. The **9/11 attacks came** as a shock, and **have** rightfully **come** **to be regarded as a major U.S. intelligence failure**. **In the aftermath**, **the nation undertook significant organizational reforms designed to enable more effective intelligence** and law enforcement operations against evolving terrorist threats. **The** **country also looked to see what science, engineering and technology could do to help addresses these threats**.¶ Technology has long been the nation's strong suit. Americans tend to believe that where there is a problem, there must certainly be a solution and it most likely involves technology and money. **During the decade that followed 9/11, billions of dollars were spent on a vast range of programs and technologies in the name of counter-terrorism**. For the first two years after 9/11, I joined with other scientists and engineers at the Department of Defense and the Intelligence Community in efforts to identify the most promising approaches to the problem. Ultimately we found that there was no magic bullet or perfect solution to this thorny problem, but were able to suggest a range of investments that could be made to address the evolving terrorist threat.¶ An honest assessment of these investments in counter-terrorism technologies reveals that the results have been mixed -- as one might well expect. A combination of **greatly improved intelligence** and law enforcement personnel have **employed some of the better technologies with considerable success**. Indeed, some **45 terrorist plots have been stopped** and others deterred. How much of **this has been** simply luck and how much can be traced to any **new technology program** is a matter of debate, and there are **clearl**y **examples** of both that **can be found.**¶ **One area where technology has made a significant contribution has been in new systems to aid in intelligence and surveillance against terrorist operations.** While terrorists may hold to an eighth century ideology, they have not been reluctant to employ 21st century communications and information technologies. They have utilized the Internet and cell phones for a number of purposes, and at the time of 9/11 the nation was in need of systems to intercept and sort out terrorist communications. While highly sensitive, public disclosures about several key programs show that considerable progress has been made in this critical area, giving the intelligence agencies some key tools in locating terrorists and stopping their plots. Aside from communications intercept, a new area of "data mining" has also shown considerable promise in locating terrorists and their plots.¶ At the same time, several of key surveillance programs used for counter-terrorism have come under fire from civil liberties groups as being unconstitutional violations of the Fourth Amendment privacy protections, and others. Critics of the Bush Administration saw this as "running roughshod over the Constitution." Even now there are still federal court challenges to laws such as the 2008 FISA Amendments Act and others that have enabled counter-terrorist efforts since 9/11. Ultimately a balance needs to be struck between the essential needs for intelligence to thwart future attacks and protected privacy rights, but as yet it remains an unsettled area where the Supreme Court will need to rule at some future point in time.¶ Less controversial have been efforts over the past decade to employ new information technologies to what has been termed the Information Sharing Environment -- collaborative efforts to best utilize available intelligence and other data among the various federal, state and local agencies with counter-terrorism responsibilities. While certainly some progress has been made over the past 11 years, the net result is largely a national embarrassment, and clearly a triumph of politics over physics. The information and communications technologies are all well-developed, but multiple bureaucracies have generated a set of plans and an even larger set of excuses as to why the fundamental problems in this area remain to be solved.

#### Terrorists are targeting Syrian bioweapons now and will use them

Blair ‘12

(Charles P. Blair joined FAS in June 2010. He is the Senior Fellow on State and Non-State Threats. Born and raised in Los Alamos, New Mexico, Mr. Blair was an exchange student in Moscow in the mid-1980s, witnessing firsthand the closing salvos of the Cold War. Since the end of that era, Mr. Blair has worked on issues relating to the diffusion and diversification of weapons of mass destruction (WMD) in the context of proliferation amid the rise of mass casualty terrorism incidents and the centripetal and centrifugal elements of globalization. Mr. Blair’s work focuses on state and violent non-state actors (VNSA) – amid a dystopic and increasingly tribal world. “Fearful of a nuclear Iran? The real WMD nightmare is Syria” 1 MARCH 2012 accessed online August 22, 2012 at http://www.thebulletin.org/web-edition/op-eds/fearful-of-nuclear-iran-the-real-wmd-nightmare-syria)

As possible military action against Iran's suspected nuclear weapons program looms large in the public arena, far **more international concern should be directed toward Syria and its weapons of mass destruction.** When the Syrian uprising began more than a year ago, few predicted the regime of President Bashar al-Assad would ever teeter toward collapse. Now, though, **the demise of Damascus's** current **leadership** **appears inevitable**, **and Syria's revolution will likely be an unpredictable**, protracted, and grim affair. **Some see similarities with Libya's civil wa**r, **during which persistent fears revolved around terrorist seizure of Libyan chemical weapons**, or the Qaddafi regime's use of them against insurgents. **Those fears turned out to be unfounded**.¶ **But the Libyan chemical stockpile consisted of several tons of aging mustard gas** leaking from a half-dozen canisters **that would have been impossible to utilize as weapons**. **Syria** likely **has one of the largest and most sophisticated chemical weapon programs in the world**. Moreover, **Syria may also possess an offensive biol**ogical **weapons capability that Libya did not**.¶ While it is uncertain whether the Syrian regime would consider using WMD against its domestic opponents, Syrianinsurgents, unlike many of their Libyan counterparts, are increasingly sectarian and radicalized; indeed, many observers fear the uprising is being "hijacked" by jihadists. **Terrorist groups active in the Syrian uprising have already demonstrated little compunction about the acquisition and use of WMD**. In short, should Syria devolve into full-blown civil-war, **the security of** **its WMD should be of profound concern**, as sectarian insurgents and Islamist terrorist groups may **stand poised** **to seize** chemical and perhaps even **bio**logical **weapons.**¶ An enormous unconventional arsenal. Syria's chemical weapons stockpile is thought to be massive. One of only eight nations that is not a member of the Chemical Weapons Convention -- an arms control agreement that outlaws the production, possession, and use of chemical weapons -- Syria has a chemical arsenal that includes several hundred tons of blistering agents along with likely large stockpiles of deadly nerve agents, including VX, the most toxic of all chemical weapons. At least four large chemical weapon production facilities exist. Additionally, Syria likely stores its deadly chemical weapons at dozens of facilities throughout the fractious country. In contrast to Libya's unusable chemical stockpile, analysts emphasize that **Syrian** chemical **agents** **are weaponized and deliverable**. Insurgents and **terrorists** with past or present connections to the military **might feasibly be able to effectively disseminate** chemical **agents over large populations**. (The Global Security Newswire recently asserted that "[t]he Assad regime is thought to possess between 100 and 200 Scud missiles carrying warheads loaded with sarin nerve agent. The government is also believed to have several hundred tons of sarin agent and mustard gas stockpiled that could be used in air-dropped bombs and artillery shells, according to information compiled by the James Martin Center.")¶ Given its robust chemical weapons arsenal and its perceived need to deter Israel, **Syria has** long been suspected of having **an active biological weapons program**. Despite signing the Biological Weapons and Toxins Convention in 1972 (the treaty prohibits the development, production, and stockpiling of biological and toxin weapons), Syria never ratified the treaty. Some experts contend that any Syrian biological weapons program has not moved beyond the research and development phase. Still, **Syria's biotechnical infrastructure undoubtedly has the capability to develop numerous biological weapon agents**. After Israel destroyed a clandestine Syrian nuclear reactor in September 2007, Damascus may have accelerated its chemical and biological weapons programs.¶ **It's hard to guard WMD when a government collapses**. **Although the U**nited **S**tates and its allies **are** reportedly **monitoring** **Syria's** chemical **weapons**, **recent history warns that securing them from theft or transfer is an extraordinary challenge**. For example, during Operation Iraqi Freedom, more than 330 metric tons of military-grade high explosives vanished from Iraq's Al-Qaqaa military installation. Almost 200 tons of the most powerful of Iraq's high-explosives, HMX -- used by some states to detonate nuclear weapons -- was under International Atomic Energy Agency seal. Many tons of Al-Qaqaa's sealed HMX reportedly went missing in the early days of the war in Iraq. Forensic tests later revealed that some of these military-grade explosives were subsequently employed against US and coalition forces.¶ Even with a nationwide presence of 200,000 coalition troops, several other sensitive military sites were also looted, including Iraq's main nuclear complex, Tuwaitha. Should centralized authority crumble in Syria, it seems highly unlikely that the country's 50 chemical storage and manufacturing facilities -- and, possibly, biological weapon repositories -- can be secured. The US Defense Department recently estimated that it would take more than 75,000 US military personnel to guard Syria's chemical weapons. This is, of course, if they could arrive before any WMD were transferred or looted -- a highly unlikely prospect.¶ Complicating any efforts to secure Syria's WMD, post-Assad, are its porous borders. **With Syria's government distracted by internal revolt and US forces now fully out of Iraq**, **it is plausible that stolen** chemical or **bio**logical **weapons** **could find their way across the Syrian border** **into Iraq**. Similarly, Syrian WMD could be smuggled into southern Turkey, Jordan, Lebanon, the West Bank, Israel, and, potentially, the United States and Europe.¶ **At least six formal terrorist organizations have long maintained personnel within Syria.** **Three of these groups** -- **Hamas, Hizbollah, and Palestinian Islamic Jihad** -- **have already attempted to acquire** or use chemical or **biological agents**, or both. Perhaps more troubling, **Al Qaeda-affiliated fighters from Iraq have streamed into Syria**, acting, in part, on orders from Al Qaeda leader Ayman al-Zawahiri. In the past, Al Qaeda-in-Iraq fighters attempted to use chemical weapons, most notably attacks that sought to release large clouds of chlorine gas. The entry of Al Qaeda and other jihadist groups into the Syrian crisis underscores its increasingly sectarian manifestation. Nearly 40 percent of Syria's population consists of members of minority communities. Syria's ruling Alawite regime, a branch of Shia Islam, is considered heretical by many of Syria's majority Sunni Muslims -- even those who are not jihadists. Alawites, Druze, Kurds, and Christians could all become targets for WMD-armed Sunni jihadists. Similarly, Shiite radicals could conceivably employ WMD agents against Syria's Sunnis.¶ Religious fanaticism and WMD. Evidence of growing religious fanaticism is also reflected in recent Syrian suicide attacks. Since last December, at least five suicide attacks occurred in Syria. In the 40 years preceding, only two suicide attacks were recorded. Al Qaeda-linked mujahidin are believed to be responsible for all of these recent attacks. Civil wars are often the most violent and unpredictable manifestations of war. With expanding sectarian divisions, the use of seized WMD in Syria's uprising is plausible. To the extent that religious extremists believe that they are doing God's bidding, fundamentally any action they undertake is justified, no matter how abhorrent, since the "divine" ends are believed to legitimize PDF the means.¶ The situation in Syria is unprecedented. Never before has a WMD-armed country fallen into civil war. All states in the region stand poised to lose if these weapons find their way outside of Syria. The best possible outcome, in terms of controlling Syria's enormous WMD arsenal, would be for Assad to maintain power, but such an outcome seems increasingly implausible. And there is painfully little evidence that democratic forces are likely to take over in Syria. Even if they do eventually triumph, it will take months or years to consolidate control over the entire country.¶ If chaos ensues in Syria, the United States cannot go it alone in securing hundreds of tons of Syrian WMD. Regional leaders -- including some, such as Sunni Saudi Arabia and Shiite Iran, that are now backing the insurgency and the regime, respectively -- must come together and begin planning to avert a dispersion of Syrian chemical or **biological weapons** that would **threaten everyone**, of any political or religious persuasion, in the Middle East and around the world.

#### New gene manipulation takes out your defense

MSNBC 2011

(“Clinton warns of bioweapon threat from gene tech,” pg online @ http://www.msnbc.msn.com/id/45584359/ns/… “For an international verification system — akin to that for nuclear weapons — saying it is too complicated to monitor every lab's activities.”)

GENEVA — New gene assembly technologythat offers great benefits for scientific research could also be used by terrorists to create biological weapons, U.S. Secretary of State Hillary Rodham Clinton warned Wednesday. **The** threat from bioweapons has drawn little attention in recent years, as governments focused more on the risk of nuclear weapons proliferation to countries such as Iran and North Korea. But experts have warned that the increasing ease with which bioweapons can be created might be used by terror groups to develop and spread new diseases that could mimic the effects of the fictional global epidemic portrayed in the Hollywood thriller **"**Contagion." Speaking at an international meeting in Geneva aimed at reviewing the 1972 Biological Weapons Convention, Clinton told diplomats that the challenge was to maximize the benefits of scientific research and minimize the risks that it could be used for harm. "The emerging gene synthesis industry is making genetic material more widely available**,"** she said. "This has many benefits for research, but it could also potentially be used to assemble the components of a deadly organism." Gene synthesis allows genetic material — the building blocks of all organisms — to be artificially assembled in the lab, greatly speeding up the creation of artificial viruses and bacteria. The U.S. government has cited efforts by terrorist networks such as al-Qaeda to recruit scientists capable of making biological weapons as a national security concern. "Acrude but effective terrorist weapon can be made using a small sample of any number of widely available pathogens, inexpensive equipment, and college-level chemistry and biology," Clinton told the meeting. "Less than a year ago**,** al-Qaeda in the Arabian Peninsula made a call to arms for, and I quote, 'brothers with degrees in microbiology or chemistry ... to develop a weapon of mass destruction**,'"** she said. Clinton also mentioned the Aum Shinrikyo cult's attempts in Japan to obtain anthrax in the 1990s, and the 2001 anthrax attack**s** in the United States that killed five people. Washington has urged countries to be more transparent about their efforts to clamp down on the threat of bioweapons. But U.S. officials have also resisted calls for an international verification system — akin to that for nuclear weapons — saying it is too complicated to monitor every lab's activities

#### Extinction

Ochs 2

**(**Richard, Naturalist – Grand Teton National park with Masters in Natural Resource Management – Rutgers, “Biological Weapons must be abolished immediately” 6-9, http://www.freefromterror.net/other\_articles/abolish.html)

Of all the weapons of mass destruction, the genetically engineered **biological weapons**, many without a known cure or vaccine, **are an extreme danger to the continued survival of life** on earth. Any perceived **military** value **or deterrence pales in comparison to the great risk these weapons pose just sitting in vials in laboratories.** While a "nuclear winter," resulting from a massive exchange of **nuclear weapons**, could also kill off most of life on earth and severely compromise the health of future generations, they **are easier to control**. **Biological weapons**, on the other hand**, can get out of control very easily**, as the recent anthrax attacks has demonstrated. There is no way to guarantee the security of these doomsday weapons because very tiny amounts can be stolen or accidentally released and then grow or be grown to horrendous proportions. The Black Death of the Middle Ages would be small in comparison to the potential damage bioweapons could cause. Abolition of chemical weapons is less of a priority because, while they can also kill millions of people outright, their persistence in the environment would be less than nuclear or biological agents or more localized. Hence, chemical weapons would have a lesser effect on future generations of innocent people and the natural environment. Like the Holocaust, once a localized chemical extermination is over, it is over. With nuclear and biological weapons, the killing will probably never end. Radioactive elements last tens of thousands of years and will keep causing cancers virtually forever. Potentially worse than that, bio-engineered agents by the hundreds with no known cure could wreck even greater calamity on the human race than could persistent radiation. AIDS and ebola viruses are just a small example of recently emerging plagues with no known cure or vaccine. Can we imagine hundreds of such plagues? **HUMAN EXTINCTION IS NOW POSSIBLE**.

### China

#### Global SMR development is happening– only a question of whether the US leads

Hiruo 10  
(Elaine, Managing Editor of Platts, "SMR technology gives US chance at market leadership, vendors say," 9-2-10, Lexis)

**The US nuclear industry lost its leadership** position **in the global market for large reactors and now has the opportunity to secure that role for s**mall **m**odular **r**eactor**s,** some SMR vendors told a subcommittee of the Blue Ribbon Commission on America's Nuclear Future August 30.¶ But they stressed their **companies will need the federal government's help to beat foreign competitors to the market.**¶ **"We're at a unique crossroads right now**," Christofer Mowry, president of Babcock and Wilcox Nuclear Energy, told the reactor and fuel cycle technology subcommittee during its two-day meeting in Washington. B&W is one of several US companies — including Hyperion Power Generation, NuScale and Westinghouse — developing an SMR design.¶ "Other countries want a technology that has been built in the host country first," Paul Lorenzini, CEO of NuScale, told the panel. "**There are lots of** small reactor **designs out there,**" he said. Both the Koreans and Japanese have SMR programs, according to industry executives on the speakers panel. **The question is**, Mowry said, **who enters the** global **market first with a reactor already operating on its home turf.**

#### Obama pushing SMRs now but its not enough to beat out China

Ervin 12/28

[Dan Ervin is a professor of finance at Salisbury University. <http://www.delmarvanow.com/article/20121230/OPINION03/312300005> ETB]

The Obama administration’s decision to kick-start commercial use of small modular reactors has made one thing clear: The notion that nuclear power is slipping away is wrong. Although nuclear power faces difficult challenges, industry and government are working together to forge a new path.¶ The Department of Energy has earmarked funds for a new public-private partnership to help develop innovative small reactors that are about one-third the size of those in large conventional nuclear plants. These small reactors are modular, meaning they will be built in factories before they are shipped and installed at nuclear sites. This production method has the potential to reduce the cost of nuclear power significantly.¶ Southern Co. has begun building two new nuclear plants in Georgia using new construction techniques that could convince other companies nuclear plants are easier to build than otherwise thought.¶ Congress is planning to take up comprehensive legislation on nuclear waste next year using a “consent-based approach” to finding a site for a deep-geologic repository or an interim storage facility. Both would hold high-level waste and used fuel. Such an approach was recommended earlier in the year by a high-level blue-ribbon commission.¶ With respect to nuclear safety, American companies are adopting lessons learned from the Fukushima nuclear accident in Japan.¶ US industry is playing an active role in the global market for nuclear technology, where as much as $740 billion in business is at stake over the next decade. With 104 reactors, America still leads the world in installed nuclear capacity. This represents about 30 percent of global nuclear generation. Congress needs to authorize funds for projects to demonstrate the feasibility of small modular reactors.¶ Global electricity requirements are projected to grow by an estimated 80 percent by 2030.¶ Nuclear power remains the only proven technology capable of reliably providing zero-carbon energy on a scale that can have a meaningful impact on global warming.¶ A serious threat to the future of American nuclear power is the shortage of government research and development funds for advanced nuclear technologies. Other countries, notably China, are devoting a larger share of their energy funding to nuclear research on fast reactors and other designs that are inherently safe and produce little or no waste. The US needs to do the same.

#### Delaying commercialization allows China to solidify their lead

Wheeler 12  
(Brian, editor of Power Engineering magazine, "Developing Small Modular Reactor Designs in the U.S," 4-1-12, <http://www.power-eng.com/articles/npi/print/volume-5/issue-2/nucleus/developing-small-modular-reactor-designs-in-the-us.html>)

The development of small modular reactors in the U.S. continues to gain support as the country searches for clean energy options. Although concepts are still being designed, **the U.S. D**epartment **o**f **E**nergy **gave the sector a boost** in March **when it released** **a** Funding Opportunity Announcement to establish **cost-shared agreements** **to support the design and licensing of SMRs.** A total of $450 million will be made available to support two SMRs over five years.¶ "America's choice is clear," said Energy Secretary Steven Chu. "We can either develop the next generation of clean energy technologies, which will help create thousands of jobs and export opportunities here in America, or we can wait for other countries to take the lead."¶ The Energy Department said SMRs are about one-third the size of current nuclear power plants and are designed to offer a host of safety, siting, construction and economic benefits. The size, according to DOE, makes SMRs ideal for small electric grids and locations that cannot support large reactors. Also, the reduced cost due to factory production may make the SMR more attractive to utilities seeking to add a smaller amount of power.¶ "We really see a market right now that includes utilities that don't have a large financial base and that are interested in clean, sustainable power. They are looking at the SMR as an investment of a billion dollars versus several billion dollars for large nuclear," said John Goossen, vice president of Innovation and SMR Development at Westinghouse. "These utilities, in most cases, do not need large chunks of power and are looking to add power incrementally as part of their plans for growth." In February, the Electric Power Research Institute and the Oak Ridge National Laboratory released a study that stated the U.S. has the potential to generate 201 GW from SMRs. For their study, a small modular reactor was labeled as 350 MWe or less. The DOE defines an SMR as 300 MWe or less. The study stated that "350 MWe was considered a reasonable bounding estimate of an initial SMR installation."¶ **The U.S. is leading the world in the amount of SMR designs, but China could be the first country to have a SMR design operational.** Launched in 2011, **a** 200 MWe HTR-PM **reactor is under construction with the support of China Huaneng Group, China Nuclear Engineering and Construction, and Tsinghua University's INET,** according to the World Nuclear Association.¶ "**The U.S. needs to move faster if we are going to compete with the** South Koreans, the **Chinese** and the Russians," said Bob Prince, vice chairman and CEO, Gen4 Energy.

**Using the DOD as a first mover leads to rapid commercialization and allows the US to out-compete other countries**

Loudermilk ‘11

(Micah J. Loudermilk is a Research Associate for the Energy & Environmental Security Policy program with the Institute for National Strategic Studies at National Defense University, May 31, 2011, “Small Nuclear Reactors and US Energy Security: Concepts, Capabilities, and Costs,” Journal of Energy Security, <http://www.ensec.org/index.php?option=com_content&view=article&id=314:small-nuclear-reactors-and-us-energy-security-concepts-capabilities-and-costs&catid=116:content0411&Itemid=375>)

Path forward: Department of Defense as first-mover¶ Problematically, despite the immense energy security benefits that would accompany the wide-scale adoption of small modular reactors in the US, with a difficult regulatory environment, anti-nuclear lobbying groups, skeptical public opinion, and of course the recent Fukushima accident, the nuclear industry faces a tough road in the battle for new reactors. While President Obama and Energy Secretary Chu have demonstrated support for nuclear advancement on the SMR front, progress will prove difficult. However, a potential route exists by which small reactors may more easily become a reality: the US military.¶ The US Navy has successfully managed, without accident, over 500 small reactors on-board its ships and submarines throughout 50 years of nuclear operations. At the same time, serious concern exists, highlighted by the Defense Science Board Task Force in 2008, that US military bases are tied to, and almost entirely dependent upon, the fragile civilian electrical grid for 99% of its electricity consumption. To protect military bases’ power supplies and the nation’s military assets housed on these domestic installations, the Board recommended a strategy of “islanding” the energy supplies for military installations, thus ensuring their security and availability in a crisis or conflict that disrupts the nation’s grid or energy supplies.¶ DOD has sought to achieve this through decreased energy consumption and renewable technologies placed on bases, but these endeavors will not go nearly far enough in achieving the department’s objectives. However, by placing small reactors on domestic US military bases, DOD could solve its own energy security quandary—providing assured supplies of secure and constant energy both to bases and possibly the surrounding civilian areas as well. Concerns over reactor safety and security are alleviated by the security already present on installations and the military’s long history of successfully operating nuclear reactors without incident.¶ Unlike reactors on-board ships, small reactors housed on domestic bases would undoubtedly be subject to Nuclear Regulatory Commission (NRC) regulation and certification, however, with strong military backing, adoption of the reactors may prove significantly easier than would otherwise be possible. Additionally, as the reactors become integrated on military facilities, general fears over the use and expansion of nuclear power will ease, creating inroads for widespread adoption of the technology at the private utility level. Finally, and perhaps most importantly, action by DOD as a “first mover” on small reactor technology will preserve America’s badly struggling and nearly extinct nuclear energy industry. The US possesses a wealth of knowledge and technological expertise on SMRs and has an opportunity to take a leading role in its adoption worldwide. With the domestic nuclear industry largely dormant for three decades, the US is at risk of losing its position as the global leader in the international nuclear energy market. If the current trend continues, the US will reach a point in the future where it is forced to import nuclear technologies from other countries—a point echoed by Secretary Chu in his push for nuclear power expansion. Action by the military to install reactors on domestic bases will guarantee the short-term survival of the US nuclear industry and will work to solidify long-term support for nuclear energy.¶ Conclusions¶ In the end, small modular reactors present a viable path forward for both the expansion of nuclear power in the US and also for enhanced US energy security. Offering highly safe, secure, and proliferation-resistant designs, SMRs have the potential to bring carbon-free baseload distributed power across the United States. Small reactors measure up with, and even exceed, large nuclear reactors on questions of safety and possibly on the financial (cost) front as well. SMRs carry many of the benefits of both large-scale nuclear energy generation and renewable energy technologies. At the same time, they can reduce US dependence on fossil fuels for electricity production—moving the US ahead on carbon dioxide and GHG reduction goals and setting a global example. While domestic hurdles within the nuclear regulatory environment domestically have proven nearly impossible to overcome since Three Mile Island, military adoption of small reactors on its bases would provide energy security for the nation’s military forces and may create the inroads necessary to advance the technology broadly and eventually lead to their wide-scale adoption.

#### SMR commercialization recovers leadership lost to china

Rosner and Goldberg 11

(Robert Rosner, astrophysicist and founding director of the Energy Policy Institute at Chicago. He was the director of Argonne National Laboratory from 2005 to 2009, Stephen Goldberg, Special Assistant to the Director, Argonne National Laboratory ¶ Senior Fellow, Energy Policy Institute at Chicago¶ Research Coordinator, Global Nuclear Future Initiative ¶ American Academy of Arts and Sciences, “Small Modular Reactors – Key to Future Nuclear Power ¶ Generation in the U.S.” Energy Policy Institute at Chicago, <http://csis.org/files/attachments/111129_SMR_White_Paper.pdf>, SEH)

As stated earlier, SMRs have the potential to achieve significant greenhouse gas emission¶ reductions. They could provide alternative baseload power generation to facilitate the retirement¶ of older, smaller, and less efficient coal generation plants that would, otherwise, not be good¶ candidates for retrofitting carbon capture and storage technology. They could be deployed in¶ regions of the U.S. and the world that have less potential for other forms of carbon-free¶ electricity, such as solar or wind energy. There may be technical or market constraints, such as¶ projected electricity demand growth and transmission capacity, which would support SMR¶ deployment but not GW-scale LWRs. From the on-shore manufacturing perspective, a key point¶ is that the manufacturing base needed for SMRs can be developed domestically. Thus, while the¶ large commercial LWR industry is seeking to transplant portions of its supply chain from current¶ foreign sources to the U.S., **the SMR industry offers the potential to establish a large domestic¶ manufacturing base building upon already existing U.S. manufacturing infrastructure and¶ capability,** **including the Naval shipbuilding and underutilized domestic nuclear component and¶ equipment plants**. The study team learned that a number of sustainable domestic jobs could be¶ created – that is, the full panoply of design, manufacturing, supplier, and construction activities –¶ if the U.S. can establish itself as a credible and substantial designer and manufacturer of SMRs.¶ While many SMR technologies are being studied around the world, a **strong U.S.¶ commercialization** program **can enable U.S. industry to be first to market SMRs,** thereby **serving¶ as a fulcrum for** export growth as well as a lever in **influencing international decisions on¶ deploying both** nuclear **reactor and** nuclear **fuel cycle tech**nology. **A** viable **U.S.-centric SMR¶ industry would** enablethe U.S. to **recapture** technological **leadership in** commercial **nuclear¶ tech**nology, **which has been lost to** suppliers in France, Japan, Korea, Russia, and, now rapidly¶ emerging, **China**.

**Ceding nuclear leadership to China leads to unchecked Chinese hege in Asia – kills US regional leadership**

**Cullinane ‘11**

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Due to a confluence of events the United States has recently focused more attention on nuclear weapons policy than it has in previous years; however, the proliferation of commercial nuclear technology and its implications for America’s strategic position have been largely ignored. While the Unites States is currently a participant in the international commercial nuclear energy trade, **America’s** own **domestic construction of nuclear power plants has atrophied severely and the US risks losing its competitive edge in** the **nuclear energy** arena.¶ Simultaneously, the People’s Republic of **China** (PRC) **has made great strides in closing the nuclear** energy **development gap with America**. **Through a combination of importing technology, research from within China itself, and a disciplined policy approach the PRC is increasingly able to leverage the export of commercial nuclear power as part of its national strategy**. **Disturbingly, China does not share America’s commitment to stability, transparency, and responsibility when exporting nuclear technology**. This is a growing strategic weakness and risk for the United States**. To remain competitive and to be in a position to offset the PRC when required the American government should encourage** the **domestic** use of **nuclear power and spur** the forces of **tech**nological **innovation**.¶ History has recorded well American wartime nuclear developments which culminated in the July 1945 Trinity Test, but what happened near Arco, Idaho six years later has been overlooked. In 1951, scientists for the first time produced usable electricity from an experimental nuclear reactor. Once this barrier was conquered the atom was harnessed to generate electricity and permitted America to move into the field of commercial nuclear power. In the next five years alone the United States signed over 20 nuclear cooperation agreements with various countries. Not only did the US build dozens of power plants domestically during the 1960s and 1970s, the US Export-Import Bank also distributed $7.1 billion dollars in loans and guarantees for the international sale of 49 reactors. American built and designed reactors were exported around the world during those years. Even today, more than 60% of the world’s 440 operating reactors are based on technology developed in the United States. The growth of the US civilian nuclear power sector stagnated after the Three Mile Island incident in 1979 – the most serious accident in American civilian nuclear power history. Three Mile Island shook America’s confidence in nuclear power and provided the anti-nuclear lobby ample fuel to oppose the further construction of any nuclear power plants. In the following decade, 42 planned domestic nuclear power plants were cancelled, and in the 30 years since the Three Mile Island incident the American nuclear power industry has survived only through foreign sales and merging operations with companies in Asia and Europe. Westinghouse sold its nuclear division to Toshiba and General Electric joined with Hitachi. Even the highest levels of the American government came to cast nuclear power aside. President Bill Clinton bragged in his 1993 State of the Union Address that “we are eliminating programs that are no longer needed, such as nuclear power research and development.” ¶ **America’s slow pace of reactor construction over the past three decades has stymied innovation and caused the nuclear sector and its industrial base to shrivel**. While some aspects of America’s nuclear infrastructure still operate effectively, **many critical areas have atrophied.** For example, one capability that America has entirely lost is the means to cast ultra heavy forgings in the range of 350,000 – 600,000 pounds, which impacts the construction of containment vessels, turbine rotors, and steam generators. In contrast, Japan, China, and Russia all possess an ultra heavy forging capacity and South Korea and India plan to build forges in this range. Likewise, the dominance America enjoyed in uranium enrichment until the 1970s is gone. The current standard centrifuge method for uranium enrichment was not invented in America and today 40% of the enriched uranium US power plants use is processed overseas and imported. Another measure of how much the US nuclear industry has shrunk is evident in the number of companies certified to handle nuclear material. In the 1980s the United States had 400 nuclear suppliers and 900 holders of N-stamp certificates (N-stamps are the international nuclear rating certificates issued by the American Society of Mechanical Engineers). By 2008 that number had reduced itself to 80 suppliers and 200 N-stamp holders. A recent Government Accountability Office report, which examined data from between 1994 and 2009, found the US to have a declining share of the global commercial nuclear trade. However, during that same period over 60 reactors were built worldwide. Nuclear power plants are being built in the world increasingly by non-American companies.¶ The American nuclear industry entered the 1960s in a strong position, yet over the past 30 years other countries have closed the development gap with America. **The implications of this change go beyond economics or prestige to include national security. These changes would be less threatening if friendly allies were the ones moving forward with developing a nuclear export industry; however, the quick advancement of the PRC in nuclear energy changes the strategic calculus for America.**¶ The shifting strategic landscape¶ **While America’s nuclear industry has languished, current changes in the world’s strategic layout no longer allow America the option of maintaining the status quo without being surpassed.** The drive for research, development, and scientific progress that grew out of the Cold War propelled America forward, but those priorities have long since been downgraded by the US government. **The economic development of formerly impoverished countries means that the US cannot assume continued dominance by default**. **The rapidly industrializing PRC is seeking its own place among the major powers of the world and is vying for hegemony in Asia; nuclear power is an example of their larger efforts to marshal their scientific and economic forces as instruments of national power.**¶ The rise of China is a phrase that connotes images of a backwards country getting rich off of exporting cheap goods at great social and environmental costs. Yet, this understanding of the PRC has lead many in the United States to underestimate China’s capabilities. The Communist Party of China (**CPC) has undertaken a comprehensive long-term strategy to transition from a weak state that lags behind the West to a country that is a peer-competitor to the United States. Nuclear technology provides a clear example of this.** ¶ In 1978, General Secretary Deng Xiaoping began to move China out of the destructive Mao era with his policies of 'reform and opening.' As part of these changes during the 1980s, the CPC began a concerted and ongoing effort to modernize the PRC and acquire advanced technology including nuclear technology from abroad. This effort was named Program 863 and included both legal methods and espionage. By doing this, the PRC has managed to rapidly catch up to the West on some fronts. In order to eventually surpass the West in scientific development the PRC launched the follow-on Program 973 to build the foundations of basic scientific research within China to meet the nation’s major strategic needs. These steps have brought China to the cusp of the next stage of technological development, a stage known as “indigenous innovation.”¶ ¶ In 2006 the PRC published their science and technology plan out to 2020 and defined indigenous innovation as enhancing original innovation, integrated innovation, and re-innovation based on assimilation and absorption of imported technology in order improve national innovation capability. The Chinese seek to internalize and understand technological developments from around the world so that they can copy the equipment and use it as a point to build off in their own research. This is a step beyond merely copying and reverse engineering a piece of technology. The PRC sees this process of absorbing foreign technology coupled with indigenous innovation as a way of leapfrogging forward in development to gain the upper hand over the West. **The PRC’s official statement on energy policy lists nuclear power as one of their target fields. When viewed within this context, the full range of implications from China’s development of nuclear technology becomes evident**. **The PRC is** now **competing with the U**nited **St**ates **in the areas of innovation and high-technology, two fields that have driven American power since World War Two**. **China’s economic appeal** is no longer merely the fact that it has cheap labor, but **is expanding its economic power in a purposeful way that directly challenges America’s position in the world**.¶ ¶ **The CPC uses the market to their advantage to attract nuclear technology and intellectual capital to China**. The PRC has incentivized the process and encouraged new domestic nuclear power plant construction with the goal of having 20 nuclear power plants operational by 2020. The Chinese Ministry of Electrical Power has described PRC policy to reach this goal as encouraging joint investment between State Owned Corporations and foreign companies. 13 reactors are already operating in China, 25 more are under construction and even more reactors are in the planning stages. ¶ In line with this economic policy, China has bought nuclear reactors from Westinghouse and Areva and is cooperating with a Russian company to build nuclear power plants in Taiwan. By stipulating that Chinese companies and personnel be involved in the construction process, China is building up its own domestic capabilities and expects to become self-sufficient. **China’s** State Nuclear Power Technology Corporation has **partnered with Westinghouse to build a new and larger reactor** based on the existing Westinghouse AP 1000 reactor. **This will give the PRC a reactor design of its own to then export**. **If the CPC is able to combine their control over raw materials, growing technical know-how, and manufacturing base, China will not only be a powerful economy, but be able to leverage this power to service its foreign policy goals as well.**¶ Even though the PRC is still working to master third generation technology, their scientists are already working on what they think will be the nuclear reactor of the future. China is developing Fourth Generation Fast Neutron Reactors and wants to have one operational by 2030. Additionally, a Chinese nuclear development company has announced its intentions to build the “world’s first high-temperature, gas-cooled reactor” in Shandong province which offers to possibility of a reactor that is nearly meltdown proof. A design, which if proved successful, could potentially redefine the commercial nuclear energy trade.¶ The risk to America¶ **The international trade of nuclear material is hazardous in that every sale and transfer increases the chances for an accident or for willful misuse of the material. Nuclear commerce must be kept safe in order for the benefits of nuclear power generation to be realized. Yet, China has a record of sharing dangerous weapons and nuclear material with unfit countries**. **It is a risk for America to allow China to become a nuclear exporting country with a competitive technical and scientific edge. In order to limit Chinese influence and the relative attractiveness of what they can offer, America must ensure its continuing and substantive lead in reactor technology.**¶ ¶ The PRC’s record of exporting risky items is well documented. It is known that during the 1980s **the Chinese shared nuclear weapon designs with Pakistan and continues to proliferate WMD-related material.** According to the Office of the Director of National Intelligence to Congress, **China sells technologies and components in the Middle East and South Asia that are dual use and could support WMD and missile programs.** Jane’s Intelligence Review reported in 2006 that China,¶ Despite a 1997 promise to Washington to halt its nuclear technology sales to Iran, such assistance is likely to continue. In 2005, Iranian resistance groups accused China of selling Iran beryllium, which is useful for making nuclear triggers and maraging steel (twice as hard as stainless steel), which is critical for fabricating centrifuges needed to reprocess uranium into bomb-grade material. ¶ **China sells dangerous materials in order to secure its geopolitical objectives, regardless if those actions harm world stability. There is little reason to believe China will treat the sale of nuclear reactors any differently. Even if the PRC provides public assurances that it will behave differently in the future, the CPC has not been truthful for decades about its nuclear material and weapons sales and hence lacks credibility**. For example, in 1983 Chinese Vice Premier Li Peng said that China does not encourage or support nuclear proliferation. In fact, it was that same year that China contracted with Algeria, then a non-NPT [Non-Proliferation Treaty] state, to construct a large, unsafeguarded plutonium production reactor. In 1991 a Chinese Embassy official wrote in a letter to the The Washington Post that 'China has struck no nuclear deal with Iran.' In reality, China had provided Iran with a research reactor capable of producing plutonium and a calutron, a technology that can be used to enrich uranium to weapons-grade. It has been reported that even after United Nation sanctions were put on Iran, Chinese companies were discovered selling “high-quality carbon fiber” and “pressure gauges” to Iran for use in improving their centrifuges.¶ In 2004 the PRC joined the Nuclear Suppliers Groups (NSG), gaining international recognition of their growing power in the nuclear field. In spite of this opportunity for China to demonstrate its responsibility with nuclear energy, it has not fulfilled it NSG obligations. The PRC has kept the terms of its nuclear reactor sale to Pakistan secret and used a questionable legal technicality to justify forgoing obtaining a NSG waiver for the deal. Additionally, China chose to forgo incorporating new safety measures into the reactors in order to avoid possible complications.¶ A further consequence of China exporting reactors is that these countries may wish to control the fuel cycle which provides the uranium to power their new reactors. The spread of fuel cycle technology comes with two risks: enrichment and reprocessing. Uranium can be enriched to between 3% and 5% for reactor use, but the process can be modified to produce 90% enriched uranium which is weapons-grade. Even if a country only produces low enriched uranium they could easily begin enriching at a higher level if they so choose**. Every new country that nuclear technology or information is spread to exponentially increases the risk of material being stolen, given to a third party or being used as the launching point for a weapons program**. **China’s history of proliferation and willingness to engage economically with very unsavory governments seems likely to increase the risks involving nuclear material.**

**U.S. leadership in Asia checks escalation in multiple hostpots**

**Goh 8**

(Evelyn, Lecturer in International Relations in the Department of Politics and International Relations at the Univ of Oxford, International Relations of the Asia-Pacific, “Hierarchy and the role of the United States in the East Asian security order,” 2008 8(3):353-377, Oxford Journals Database)

This is the main structural dilemma: **as long as the U**nited **S**tates **does not give up its primary position in the Asian regional hierarchy**, China is very unlikely to act in a way that will provide comforting answers to the two questions. Yet**, the East Asian regional order has been and still is constituted by US hegemony**, and **to change that could be extremely disruptive and may lead to regional actors acting in highly destabilizing ways**. **Rapid Japanese remilitarization, armed conflict across the Taiwan Straits, Indian nuclear brinksmanship directed toward Pakistan, or a highly destabilized Korean peninsula are all illustrative of potential regional disruptions**. 5 Conclusion To construct a coherent account of East Asia’s evolving security order, I have suggested that the United States is the central force in constituting regional stability and order. **The major patterns of equilibrium and turbulence in the region since 1945 can be explained by the relative stability of the US position at the top of the regional hierarchy**, **with periods of greatest insecurity being correlated with greatest uncertainty over the American commitment to managing regional order**. Furthermore, relationships of hierarchical assurance and hierarchical deference explain the unusual character of regional order in the post-Cold War era. However, **the greatest contemporary challenge to East Asian order is the potential conflict between China and the United States over rank ordering in the regional hierarchy**, a contest made more potent because of the intertwining of regional and global security concerns. Ultimately, though, investigating such questions of positionality requires conceptual lenses that go beyond basic material factors because it entails social and normative questions. How can China be brought more into a leadership position, while being persuaded to buy into shared strategic interests and constrain its own in ways that its vision of regional and global security may eventually be reconciled with that of the United States and other regional players? How can Washington be persuaded that its central position in the hierarchy must be ultimately shared in ways yet to be determined? The future of the East Asian security order is tightly bound up with the durability of the United States’ global leadership and regional domination. **At the regional level, the main scenarios of disruption are an outright Chinese challenge to US leadership, or the defection of key US allies, particularly Japan**. Recent history suggests, and the preceding analysis has shown, that challenges to or defections from **US leadership will come at junctures where it appears that the US commitment to the region is in doubt**, which in turn destabilizes the hierarchical order. At the global level, American geopolitical over-extension will be the key cause of change. This is the one factor that Hierarchy and the role of the United States in the East Asian security order 373lead to both greater regional and global turbulence, if only by the attendant strategic uncertainly triggering off regional challenges or defections. However, it is notoriously difficult to gauge thresholds of over-extension. More positively, East Asia is a region that has adjusted to previous periods of uncertainty about US primacy. Arguably, the regional consensus over the United States as primary state in a system of benign hierarchy could accommodate a shifting of the strategic burden to US allies like Japan and Australia as a means of systemic preservation. **The alternatives that could surface as a result of not doing so would appear to be much worse.**

**Those go nuclear**

**Landy 2k**

National Security Expert @ Knight Ridder, 3/10 ¶ (Jonathan, Knight Ridder, lexis)

Few if any experts think China and Taiwan, North Korea and South Korea, or India and Pakistan are spoiling to fight. But **even a minor miscalculation** by any of them **could destabilize Asia,** jolt the global economy **and** even **start** a **nuclear war. India, Pakistan and** **China all have nuclear weapons, and North Korea** may have a few, **too. Asia lacks the** kinds of organizations, negotiations and diplomatic **relationships that helped keep** an uneasy **peace** for five decades **in Cold War Europe. “Nowhere else** on Earth **are the stakes as high and relationships so fragile,”** said Bates Gill, director of northeast Asian policy studies at the Brookings Institution, a Washington think tank. “We see the convergence of great power interest overlaid with lingering confrontations with no institutionalized security mechanism in place. There are elements for potential disaster.” In an effort to cool the region’s tempers, President Clinton, Defense Secretary William S. Cohen and National Security Adviser Samuel R. Berger all will hopscotch Asia’s capitals this month. For America, the stakes could hardly be higher. **There are 100,000 U.S. troops in Asia** committed to defending Taiwan, Japan and South Korea, and **the U**nited **St**ates **would instantly** **become embroiled** if Beijing moved against Taiwan or North Korea attacked South Korea. While Washington has no defense commitments to either **India or Pakistan**, a conflict between the two **could end the** global **taboo against using nuclear weapons** and demolish the already shaky international nonproliferation regime. In addition, globalization has made a stable Asia \_ with its massive markets, cheap labor, exports and resources \_ indispensable to the U.S. economy. Numerous U.S. firms and millions of American jobs depend on trade with Asia that totaled $600 billion last year, according to the Commerce Department.

#### China will risk open conflict by asserting hegemony in the South China Sea- US leadership key to solve

Hung December ‘12

[Nguyen Manh Hung is associate professor of government and international politics, and faculty associate of the Center of Global Studies, George Mason University. <http://www.globalasia.org/V7N4_Winter_2012/Nguyen_Manh_Hung.html> ETB]¶

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| By 2009-2010, the heightened tension between China and the ASEAN claimants over the contested islands led to an internationalization of the conflict, with the US and other powers beginning to express a view on the disputes. That’s understandable, given that the South China Sea is the world’s second-busiest sea-lane, with more than half of the world’s super tankers and $5.3 trillion in annual trade passing through the area (US trade alone accounts for $1.2 trillion of that figure). The concern over China’s claims and assertive behavior, coupled with China’s lack of transparency in its military modernization program, have created an arms race in Southeast Asia and elicited strong reactions from major powers worried about the situation. India and Japan, for their part, are also concerned over freedom of navigation. Both countries have advocated peaceful resolution of the disputes, but have also increased their diplomatic, economic and naval presence in the area. The US, meanwhile, is in the midst of a policy pivot to the Asia-Pacific, committing 60 percent of its naval assets to the Pacific Ocean, and taking actions to strengthen and modernize “historic alliances” with Japan, South Korea, Australia, the Philippines and Thailand, as well as building “robust partnerships” throughout the region.4 Russia has also begun to voice its concern over the issue of freedom of navigation and “outside meddling” in the South China Sea. In May 2009, as the deadline for claims based on the United Nations Convention on the Law of the Sea (UNCLOS) approached, China was forced to put its cards on the table and Beijing officially presented its nine-dashed-line map, claiming control over 80 percent of the South China Sea and encroaching on territories claimed by other Southeast Asian countries. Almost immediately, the US Senate held a hearing on the South China Sea and in June unanimously passed a resolution “deploring China’s use of force in the South China Sea and supporting the continuation of operations by US armed forces in support of freedom of navigation rights in international water and air space in the South China Sea.” In June 2010, at the Shangri-La Dialogue in Singapore, heated exchanges over the South China Sea took place between China and the US, joined by other ASEAN countries. A month earlier, at the Strategic and Economic Dialogue between the US and China in Beijing, Chinese officials, in a move viewed as raising the stakes in the conflict, declared the country’s claims in the South China Sea to be a “core interest.”5 Influential elites in China view the South China Sea as “blue territory” — that is, as much a part of China’s sovereign territory as Tibet, Xinjiang or Taiwan.6 The US response came in the form of a speech by US Secretary of State Hillary Clinton at the ASEAN Regional Forum (ARF) in Hanoi in July, in which she made it clear that “The United States has a national interest in freedom of navigation, open access to Asia’s maritime commons and respect for international law in the South China Sea.” Significantly, American and Chinese understandings of “freedom of navigation” differ. The US believes it includes the right to conduct military exercises and collect intelligence and militarily useful data, while China wants foreign naval ships and aircraft to seek China’s permission before entering its “internal waters” in the South China Sea.7 Since conflicts of national interests between major world powers can easily lead to friction and war, the escalating tensions between China and the US over these maritime disputes should be a serious cause for concern. The Systemic Conflict From a systemic perspective, the US-China conflict over the South China Sea may be seen as conflict between a rising power and a status quo power. For decades the US, through its Seventh Fleet and its Pacific Command, was the undisputed naval power in the Pacific. The American defeat in Vietnam in the 1970s and its later involvement in the wars in Afghanistan and Iraq have changed the situation. While the US reduced its military presence in Asia and got bogged down in two costly and draining wars, China’s economy was growing and its military modernization program was gaining momentum; Beijing, as a result, has become a dominant regional power economically, politically and militarily. Chinese leaders departed from Deng Xiaoping’s famous dictum to “hide your intention, bide for time,” and began to flex China’s muscles, particularly over the South China Sea. China’s assertion of its “historical right” to claim the sea is weak and doesn’t conform to either UNCLOS or customary international law. What China has been doing represents nothing less than an attempt to rewrite international law and impose its will on the region, shape global political realities and influence the “rules of the road” for the international order.8 The US, in both words and deeds, has signaled that it does not accept this. It has strengthened its military presence in Asia, revitalized its strategic relations with old allies and helped improve the defense capabilities of small countries in the region. In July 2012, when China created a prefectural-level city at Sansha, a small island in the South China Sea, and established a military garrison there to “exercise sovereignty over all land features inside the South China Sea,” the US State Department reacted by publicly denouncing China’s action as “counter to collaborative diplomatic efforts to resolve differences and risks further escalating tensions in the region,” while Congressman Howard Berman, a leading member of the House Committee on Foreign Relations, confirmed that the administration of US President Barack Obama had “repeatedly made clear to Beijing that the US will not allow China to assert hegemony over the region.”9 Conflicts of interests between rising powers and status quo powers have in the past accelerated arms races and led to war. The key questions are, can such a collision course be altered, and can the core conflicts between the two powers be resolved? **Possible End Games** There are a number of possible scenarios for resolving the South China Sea disputes. The first is that China moderates its excessive claims and strikes a deal with other coastal nations, with third-party arbitration or adjudication if necessary, based on recognized international law on territorial seas, exclusive economic zones and continental shelves. Before adopting its nine-dashed line, China had drawn an eleven-dashed line map, two lines of which were in the Gulf of Tonkin.10 This, however, did not prevent China and Vietnam from achieving an agreement on the demarcation of sea borders in that gulf. Moreover, Chinese officials have repeatedly denied that China has officially declared the South China Sea its “core interest,” leaving open the possibility of coming to an understanding regarding conflicting claims. Some Chinese scholars and experts working in government think tanks have privately acknowledged “the problematic nature of China’s policy in the South China Sea,” particularly with regard to “the status of the nine-dotted line.” These analysts and strategic thinkers have expressed concern that the tense situation in the South China Sea could sidetrack China’s “course of reform.”11 This leaves the door open for discussion and provides the space in which China might entertain possible concessions that would avoid embroiling China and its Southeast Asian neighbors in a long argument over China’s excessive claims. The second scenario is one in which China, taking advantage of the differential in power between it and other rival claimants, relies on a combination of unilateral actions, brinkmanship, piecemeal advances and divide-and-conquer tactics to gradually and steadily establish actual control of the sea area within the nine-dashed line. The standoff between China and the Philippines at Scarborough Shoal was a perfect example of how this possible scenario might unfold. The Scarborough Shoal standoff began in May 2012 when a Philippine Navy frigate was sent to investigate the area and boarded Chinese fishing boats in an area it claimed belonged to the Philippines’ EEZ. China responded by sending two unarmed China Maritime Surveillance vessels to interpose themselves between the frigate and the fishing boats and let them escape. Both sides sent in reinforcements. At the height of the standoff, there were a handful of Philippine boats facing almost 100 Chinese vessels. Faced with the overwhelming number of Chinese ships and without international support, the Philippine had to cut a deal in which both sides withdrew their ships. But after all the Philippine boats had withdrawn, China roped off the entrance to the shoal, effectively establishing its de facto control over the contested area. With that fait accompli, a new status quo in favor of China was established. This tactic of resorting to low-grade pressure to create a series of new “facts” may lead to what Toshi Yoshihara termed “strategic fatigue,” which could, in the long run, weaken resistance by rival claimants and lead to a grudging acceptance by the US of China’s claims.12 With this achieved, China would have effective control of navigation in the South China Sea and could dictate the use of that important sea-lane of communication. This approach is being resisted by ASEAN claimants and by other major powers that share the Pacific Ocean. Its success or failure will depend on two things: 1) whether China succeeds in its “divide-and-conquer” approach to ASEAN; and 2) whether ASEAN can summon the determination and capacity to act with a united front to resist China’s pressure and involve other major powers, especially the US. China’s current aggressive approach has caused friction and tension and, if unrestrained, may lead to military conflicts.13 In the long run, it will push many Asian countries closer to the US and may lead to a new kind of Cold War and containment, pitting a bloc of countries supporting the American vision of an Asian regional order against a group supporting the Chinese vision of an Asian regional order. This scenario is a nightmare for Southeast Asian countries that have worked so hard to strengthen ASEAN solidarity and promote the concept of ASEAN centrality, in order to avoid being caught up in the rivalry between the US and China. The third scenario is that China reaches an accommodation with the US, based on American recognition of China as an undisputed leader in the South China Sea, and a peaceful transition of leadership in the Asia-Pacific area from the US to China occurs. If this were to happen, it would unsettle all other Asian nations, big and small, but once the US began the accommodation process, other countries would simply have to fall in line. This process, however, would be dangerous globally and regionally. There is no guarantee, however, that if China were to dominate Asia, she would stop there. In response to the reality of a spectacularly rising China and an America burdened with economic problems and a dysfunctional government, scholars such as Adam Quinn have focused on the beginning of a power transition from the US, a declining power, to China, a rising power.14 Chinese strategic thinkers have not missed the possibility that the current contest over the South China Sea may represent the first steps toward this transition. Ding Gang, a senior editor at the Communist Party’s People’s Daily, commented: “It’s still unknown if the US plans to input equally massive manpower and financial resources as China has injected into this region. It’s very likely that the US lacks the motivation to do this in the long run. And China may become the strongest economic, political and military power in Asia.”15 The problem with this scenario is that it neglects the extent to which the two key players involved in this transition — China and the US — are regimes that represent incompatible visions of the future of the region and the world. A peaceful transition of power took place from the British Empire to the American Empire, largely because it was a case of one democracy replacing another, trading roles as the sentinels of shared regional interests. The British were willing to relinquish their dominance and were assured that, with another democracy taking the helm, its security and wellbeing were not threatened. But the clash between undemocratic revisionist powers (Germany, Italy and Japan) and democratic powers in the 1930s led to the Second World War. Regionally, this scenario would be most undesirable for smaller ASEAN countries and is unlikely to occur so long as the US has the capacity and the determination to maintain its supremacy in the Asia-Pacific region, a determination that has been strongly restated by US leaders, from the president to the secretaries of defense and state as well as by leading members of Congress.16 Aaron Friedberg points out that the ideological gap between China and the US is too great and the level of trust too low to facilitate an accommodation. He makes the case that China’s ultimate goal of regional hegemony would run counter to the US “grand strategy, which has remained constant for decades: to prevent the domination of either end of the Eurasian landmass by one or more potentially hostile powers.”17 |

#### Emerging dynamics means conflict will escalate- 6 reasons

- no cooling off periods

- New ASEAN secretary general is anti-China

- New ASEAN chair is too weak to hammer out a deal

- India getting involved

- more resources will be found

- new Chinese leadership won’t back down

Kurlantzick 12/6/12

[Joshua Kurlantzick, Fellow for Southeast Asia @ Council on Foreign Relations. <http://blogs.cfr.org/asia/2012/12/06/south-china-sea-going-to-get-worse-before-it-might-gets-better/> ETB]

This week’s latest South China Sea incident, in which a Chinese fishing boat cut a Vietnamese seismic cable —at least according to Hanoi— is a reminder that, despite the South China Sea dominating nearly every meeting in Southeast Asia this year, the situation in the Sea appears to be getting worse. This is in contrast to flare-ups in the past, when after a period of tension, as in the mid-1990s, there was usually a cooling-off period. Although there have been several brief cooling-off periods in the past two years, including some initiated by senior Chinese leaders traveling to Southeast Asia, they have not stuck, and the situation continues to deteriorate and get more dangerous.¶ In the new year, it will likely get even worse. Here’s why:¶ The new Association of Southeast Asian Nations (ASEAN) secretary-general comes from Vietnam. Over the past three years, a more openly forceful China has found it difficult to deal with ASEAN leaders who even voice ASEAN concerns. But these leaders, like former Thai foreign minister and ASEAN Secretary-General Surin Pitsuwan, were nothing compared to the new ASEAN secretary-general, Vietnamese Deputy Foreign Minister Le Luong Minh. Although he is a career diplomat and certainly can be suave and attentive, he is still a former Vietnamese official, and undoubtedly will bring with him some of the Vietnamese perspective toward China, which is quickly turning more acrid.¶ This year’s ASEAN chair is Brunei. Keeping to its tradition of rotating the chair every year, in 2013 ASEAN will be headed by Brunei. Although some might think Brunei’s leadership will be better for stability than the 2012 ASEAN leadership of Cambodia, perceived by many other ASEAN members as carrying China’s water, the fact that Brunei is just as much of a diplomatic minnow as Cambodia will mean there is no powerful wrangler in the chair’s seat to hammer out a common ASEAN perspective. Were Indonesia or Singapore the chair, the situation might be different.¶ India is playing a larger and larger role in the South China Sea, adding even more potential players to the mix, and more powerful navies. The recent warning by Beijing that India and Vietnam should not engage in joint exploration is only going to lead to a harsher Indian response, since Indian elites pay far more attention to —and are more easily aggrieved by— China than the reverse.¶ The more they look, the more likely they will find. As reported by the New York Times, “On Monday, China’s National Energy Administration named the South China Sea as the main offshore site for natural gas production. Within two years, China aims to produce 150 billion cubic meters of natural gas from fields in the sea, a significant increase from the 20 billion cubic meters produced so far, the agency said.” Although I do not think that the oil and gas potential in the Sea is the biggest driver of conflict, compared to its strategic value, the more China (and anyone else) explores for energy in the Sea, the more likely they will (eventually) come up with potential deposits that will only raise the stakes, if the forecasts of the Sea’s petroleum potential are to be believed.¶ A new Chinese leadership is unlikely to want to show any weakness. With the leadership of this generation even more split than in the past, following a contentious Party Congress, continued infighting among acolytes of the major Chinese leaders, and the Bo Xilai fiasco, the new leadership is in no position, with Party members and the general educated public, to give any room on a contentious issue like the South China Sea.¶ The Obama administration has passed its period of focusing on more effective dialogue and crisis mediation with China. Officials from the administration’s first term, who naturally had the highest hopes for better dialogue, are gone, with many of them leaving just as convinced as their Bush predecessors that real dialogue was difficult if not impossible. Don’t expect a second term to yield better results with such a dialogue.

#### Risk of miscalc and escalation are high- triggers global war- US, Russia, and India get drawn in

Canberra Times 1/21/13

<http://www.canberratimes.com.au/opinion/editorial/a-real-risk-in-south-china-sea-20130120-2d14p.html> ETB

The close student of history might think that the stand-off between Japan and China over the sovereignty of a few small islands in the South China Sea has a very close resemblance to the international landscape just before the start of the First World War 99 years ago. In the past week, Japan and China have been playing military chicken, each hoping the other blinks before a massive conflagration. The resemblance to August 1914 goes beyond the way in which both sides are ratcheting up the bluster, threats and the pressure, primarily for domestic political consumption rather than tactical or serious strategic advantage, against the risk that even a slight political or military miscalculation or chance event (like an assassination in Sarajevo) actually sets off conflicts no one intended, expected or actually wanted. It also has parallels with the potential for such a conflict, whether started by China or Japan, to explode domino-like into a much wider brawl, inevitably causing confrontation between China and the US, and, unwilling but unavoidable entry by most of the northern Pacific nations, including Russia, Vietnam, the Koreas, the Philippines and Australia, and, probably India. It is impossible to calculate how such a conflict would go, but it would be catastrophic for millions of people, with survivors wondering why it came to escalate so quickly and to become, so suddenly, for two countries such a critical matter worth staking their national survival.¶ No one can firmly say which nation ''has'' sovereignty over the Diaoyu or Senkaku Islands. Of themselves, they have little economic value, other than that the nation which can claim to ''own'' them can claim the right to exploit the adjacent sea for any mineral or petroleum wealth. Ownership depends on where one starts the clock, and China has as good a case as Japan, of itself a reason why Japan must negotiate. China had practical ownership and control until the late 19th century when an awakening and expansionist Japan annexed it during a period when China had been weakened by confrontations and concession to western powers and Japan. China claims that it protested strongly at the time, and certainly, laid claim for their return at the end of the Second World War. At one stage both countries agreed to hold their competing claims in suspense, but neither withdrew them.¶ The US has tacitly recognised the Japanese claim, and, foolishly, intimated that it would go to war to defend it. But the US rationale does not resolve an issue that precedes its treaty relationships, and its status quo argument might suggest, wrongly, that it likewise admits Russia's claim both to the former Japanese territory of Sakhalin and all the Kuril Islands, including the ones Japan denies ever ceding.¶ Like China's disputes over other islands with Vietnam, Russia, the Philippines, Brunei, Indonesia and Malaysia, argument is kept alive by the prospect of oil and mineral claims as well as economic zones, but, in recent times, a generally peaceful status quo has been aggravated by nationalistic bombast, in Japan as much as in China. China's belligerence is aggravated by unresolved anger at Japanese aggression against China in the 1930s and 1940s, and its fear that Japan's raising of the temperature is part of an American strategy of ''encircling'' China.

**US-China war goes nuclear**

**Hunkovic 9**

Lee J. Hunkovic -- professor at American Military University, 09, [“The Chinese-Taiwanese Conflict Possible Futures of a Confrontation between China, Taiwan and the United States of America”, American Military University, p.54]

**A war between China**, Taiwan **and the U**nited **S**tates **has the potential to escalate into a nuclear conflict and a third world war**, therefore, **many countries other than the primary actors could be affected by such a conflict, including Japan, both Koreas, Russia, Australia, India and Great Britain,** if they were drawn into the war, as well as all other countries in the world that participate in the global economy, in which the United States and China are the two most dominant members. If China were able to successfully annex Taiwan, the possibility exists that they could then plan to attack Japan and begin a policy of aggressive expansionism in East and Southeast Asia, as well as the Pacific and even into India, which could in turn create an international standoff and deployment of military forces to contain the threat. In any case, **if China and the U**nited **S**tates **engage in** a full-scale **conflict, there are few countries** in the world **that will not be** economically and/or militarily **affected by it.** However, China, Taiwan and United States are the primary actors in this scenario, whose actions will determine its eventual outcome, therefore, other countries will not be considered in this study.

**Sino-Indian war goes nuclear**

**Caryl ‘10**

(CHRISTIAN CARYL “Nuclear arms race between China and India” JULY 13, 2010http://www.defence.pk/forums/indian-defence/65480-nuclear-arms-race-between-china-india.html, TSW)

Europeans and Americans, who have dominated world affairs for so long, are understandably fascinated by the recent rise of China and India. **It's obvious that the rapid economic resurgence of these two great Asian powers fundamentally alters the global rules of the game**.¶ China and India have built up a $60-billion-per-year trading relationship, and for years they've insisted that they want to work more closely on a variety of fronts. **Yet** **that expressed desire for collaboration co-exists uneasily with a long-running strategic rivalry**. **Parts of their mutual border remain in dispute. China has long supported Pakistan, India's main enemy**, **while the Indians have often befriended competitors of the Chinese** (**be it Moscow or Washington**). Lately Beijing has been cultivating relationships among countries in Southeast Asia and the Indian Ocean -- including Bangladesh, Myanmar, and Sri Lanka -- to protect the flow of commerce and access to supplies of natural resources. That has the Indians fearing encirclement. ¶ Lately, though, another **element is threatening to complicate the strategic calculus: the nuclear factor.** In themselves, of course, nuclear weapons are nothing new to either country. China has been a nuclear power for decades, while India conducted its first nuclear test in 1974 (though most outsiders tend to think of 1998, when New Delhi conducted a series of underground explosions designed to establish its bona fides as a genuine nuclear power). **Although both countries have sworn off first use, both have built up formidable deterrents designed to retaliate against any attackers.**¶ So what's new? A lot. **Concurrent with their rising economic might, China and India have set about modernizing their militaries to lend extra muscle to their growing strategic ambitions** -- and **given their complicated history, that can't help but spark worries**. "**China has the most active and diverse ballistic missile development program in the world**," noted one U.S. report. "**China's ballistic missile force is expanding in both size and types of missiles**." China's Dongfeng long-range missiles boast independently controlled multiple warheads, mobility, and solid fuel (meaning that they can be fired with little notice). That's just one of many areas in which the Chinese have demonstrated their advanced technological capabilities. In January China shot down one of its own satellites with a missile -- once again demonstrating, as it did with a previous test in 2007, that it's well down the path toward a ballistic missile defense system.¶ **That test unnerved the Indians, who saw the prospect of Chinese space weapons as a potential threat to the credibility of their own nuclear deterrent**. The **Indians**, meanwhile, **have been hard at work on a new generation of long-range missiles of their own.** The Agni-5, which is set for a test flight by the end of this year, has a projected range of 5,000 to 6,000 kilometers -- meaning that it would be able to hit even the northernmost of China's cities. The Indians are also conducting sea trials of their first ballistic missile submarine, the Arihant, which could be ready for deployment within another year or two.¶ It is undoubtedly true that the two countries mainly have other potential enemies in mind. China is primarily concerned about deterring potential attacks by the world's leading nuclear power, the United States, while India's strategic calculations focus on the threat from Pakistan. **Yet strategic logic is creating the potential for direct friction between Beijing and New Delhi on several fronts**. **The two countries are already engaged in a naval arms race** as **they jockey for influence in the waters around South Asia**. **Tensions have also been mounting over the two countries' border disputes** -- **especially the one involving the disputed area of Arunachal Pradesh (which is controlled by the Indians)**. The **Indians complain of a rising number of Chinese incursions into the area**; a remark by the Chinese ambassador to India a few years ago, when he claimed the territory as China's, stirred up public outrage. The Chinese, who regard Arunachal Pradesh as part of Tibet, worry in turn about a buildup of Indian troops in the region.¶ Rajeswari Pillai Rajagopalan of the Observer Research Foundation in New Delhi notes one concern. Starting in 2007, the Chinese military began a major upgrade of its missile base near the city of Delingha in Qinghai province, next to Tibet. **In addition to the intermediate-range missiles already stationed in the region, Rajagopalan says there are indications the Chinese** may **have beefed up the force** with long-range DF-31s and DF-31As -- **thus threatening not only northern India, including Delhi, but targets in the south as well.** It's entirely possible, she acknowledges in a 2007 paper, that the Chinese move could be aimed primarily at countering Russian missiles stationed in Siberia, but warns that "what the Chinese may consider a routine exercise may send a wrong signal and have serious implications." For his part, former U.S. diplomat Charles Freeman says that he regards Indian fears of a Chinese nuclear buildup as exaggerated, but worries thatafateful **mismatch of perceptions could already be spur**ring both countries toward **a** genuine **nuclear arms race**.¶ **The extent to which the two militaries are getting on each other's nerves became apparent in a bit of high-ranking trash-talking earlier this year**. **India's chief military science office**r, V.K. Saraswat, **declared that new advances in his country's ballistic missile technology meant that "**as far as cities in China and Pakistan are concerned, **there will be no target that we want to hit but can't hit**." **That prompted a retort from Rear Adm. Zhang Zhaozhong of China's National Defense University, who pointedly derided the "low level" of Indian technology**. "In developing its military technology," Zhang said, "China has never taken India as a strategic rival, and none of its weapons were specifically designed to contain India." **If that was meant to console anyone south of the border, it doesn't seem to have worked**.¶ **The best time to talk about an arms race, of course, is before it really gathers steam.** Krishnaswami Subrahmanyam, former chairman of India's National Security Advisory Board, says that China and India should take their nuclear concerns to the Conference on Disarmament, a multilateral negotiating forum at the United Nations. **But that, of course, would require the Chinese to acknowledge that there's a problem, which they might not be willing to do.** Rajagopalan notes that India and Pakistan have managed to set up some effective confidence-building measures on their common border, but that India and China have yet to do the same (aside from a few stillborn efforts in the early 1990s). Instituting mechanisms to warn each other of pending missile tests might be a start. "I think there's a great need for that," she says. "**Otherwise these kinds of tensions can spiral out of control." You can say that again.**

#### Russia-China war goes nuclear

Alexander **Sharavin** 200**1** Director of the Institute for Military and Political Analysis, What the Papers Say, Oct 3)

The strength of the Chinese People's Liberation Army (CPLA) has been growing quicker than the Chinese economy. A decade ago the CPLA was equipped with inferior copies of Russian arms from late 1950s to the early 1960s. However, through its own efforts Russia has nearly managed to liquidate its most significant technological advantage. Thanks to our zeal, from antique MiG-21 fighters of the earliest modifications and S-75 air defense missile systems the Chinese antiaircraft defense forces have adopted Su-27 fighters and S-300 air defense missile systems. China's air defense forces have received Tor systems instead of anti-aircraft guns which could have been used during World War II. The shock air force of our "eastern brethren" will in the near future replace antique Tu-16 and Il-28 airplanes with Su-30 fighters, which are not yet available to the Russian Armed Forces! Russia may face the "wonderful" prospect of combating the Chinese army, which, if full mobilization is called, is comparable in size with Russia's entire population, which also has nuclear weapons (even tactical weapons become strategic if states have common borders) and would be absolutely insensitive to losses (even a loss of a few million of the servicemen would be acceptable for China). Such a war would be more horrible than the World War II. It would require from our state maximal tension, universal mobilization and complete accumulation of the army military hardware, up to the last tank or a plane, in a single direction (we would have to forget such "trifles" like Talebs and Basaev, but this does not guarantee success either). Massive nuclear strikes on basic military forces and cities of China would finally be the only way out, what would exhaust Russia's armament completely. We have not got another set of intercontinental ballistic missiles and submarine-based missiles, whereas the general forces would be extremely exhausted in the border combats. In the long run, even if the aggression would be stopped after the majority of the Chinese are killed, our country would be absolutely unprotected against the "Chechen" and the "Balkan" variants both, and even against the first frost of a possible nuclear winter.

### Solvency

#### DoD acquisition of SMR’s ensures rapid military adoption and commercialization, and prevents unfavorable tech lock-in

**Andres and Breetz 11**

Richard Andres, Professor of National Security Strategy at the National War College and a Senior Fellow and Energy and Environmental Security and Policy Chair in the Center for Strategic Research, Institute for National Strategic Studies, at the National Defense University, and Hanna Breetz, doctoral candidate in the Department of Political Science at The Massachusetts Institute of Technology, Small Nuclear Reactorsfor Military Installations:Capabilities, Costs, andTechnological Implications, [www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf](http://www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf)

Thus far, this paper has reviewed two of DOD’s most pressing energy vulnerabilities—grid insecurity and fuel convoys—and explored how they could be addressed by small reactors. We acknowledge that there are many uncertainties and risks associated with these reactors. On the other hand, **failing to pursue these technologies raises its own set of risks for DOD,** which we review in this section: first, **small reactors may fail to be commercialized in the U**nited **S**tates; second, **the designs that get locked in by the private market may not be optimal for DOD’s needs**; and third, **expertise on small reactors may become concentrated in foreign countries**. **By taking an early “first mover” role in the small reactor market, DOD could mitigate these risks and secure the long-term availability and appropriateness of these technologies for U.S. military applications.** The “Valley of Death.” Given the promise that small reactors hold for military installations and mobility, **DOD has a compelling interest in ensuring that they make the leap from paper to production**. However, **if DOD does not provide an initial** demonstration and **market, there is a chance that the U.S. small reactor industry may never get off the ground**. **The leap from the laboratory to the marketplace is so difficult to bridge that it is widely referred to as the “Valley of Death.”** **Many promising technologies are never commercialized due to a variety of market failures**— **including technical and financial uncertainties**, information asymmetries, **capital market imperfections, transaction costs**, and environmental and security externalities— **that impede financing and early adoption** **and can lock innovative technologies out of the marketplace**. 28 In such cases, **the Government can help a worthy technology to bridge the Valley of Death by accepting the first mover costs and demonstrating the technology’s scientific and economic viability**.29 [FOOTNOTE 29: **There are** numerous **actions that the Federal Government could take**, such as conducting or funding research and development, stimulating private investment, demonstrating technology, mandating adoption, and guaranteeing markets. **Military procurement** is thus only one option, but it has often **played a decisive role in technology development and is likely to be the catalyst for the U.S. small reactor industry.** See Vernon W. Ruttan, Is War Necessary for Economic Growth? (New York: Oxford University Press, 2006); Kira R. Fabrizio and David C. Mowery, “The Federal Role in Financing Major Inventions: Information Technology during the Postwar Period,” in Financing Innovation in the United States, 1870 to the Present, ed. Naomi R. Lamoreaux and Kenneth L. Sokoloff (Cambridge, MA: The MIT Press, 2007), 283–316.] Historically, **nuclear power has been “the most clear-cut example . . . of an important general-purpose technology that in the absence of military** and defense related **procurement would not have been developed at all.”**30 **Government involvement is likely to be crucial for innovative, next-generation nuclear technology** as well. Despite the widespread revival of interest in nuclear energy, Daniel Ingersoll has argued that radically innovative **designs face an uphill battle, as “the high capital cost of nuclear plants and the painful lessons learned during the first nuclear era have created a prevailing fear of first-of-a-kind designs**.”31 In addition, **M**assachusetts **I**nstitute of **T**echnology reports on the Future of Nuclear Power **called for the Government to provide modest “first mover” assistance to the private sector due to several barriers that have hindered the nuclear renaissance**, such as securing high up-front costs of site-banking, gaining NRC certification for new technologies, and demonstrating technical viability.32 It is possible, of course, that small reactors will achieve commercialization without DOD assistance. As discussed above, they have garnered increasing attention in the energy community. Several analysts have even argued that small reactors could play a key role in the second nuclear era, given that they may be the only reactors within the means of many U.S. utilities and developing countries.33 However, **given the tremendous regulatory hurdles and technical and financial uncertainties, it appears far from certain that the U.S. small reactor industry will take off. If DOD wants to ensure that small reactors are available in the future, then it should pursue a leadership role now.** Technological Lock-in. **A second risk is that if small reactors do reach the market without DOD assistance, the designs that succeed may not be optimal for DOD’s applications**. **Due to a variety of positive feedback and increasing returns to adoption** (including demonstration effects, technological interdependence, network and learning effects, and economies of scale), **the designs that are initially developed can become “locked in.”**34 **Competing designs**—even if they are superior in some respects or better for certain market segments— **can face barriers to entry that lock them out of the market. If DOD wants to ensure that its preferred designs are not locked out, then it should take a first mover role on small reactors.** It is far too early to gauge whether the private market and DOD have aligned interests in reactor designs. On one hand, Matthew Bunn and Martin Malin argue that what the world needs is cheaper, safer, more secure, and more proliferation-resistant nuclear reactors; presumably, many of the same broad qualities would be favored by DOD.35 **There are many varied market niches that could be filled by small reactors, because there are many different applications** and settings in which they can be used, and it is quite possible that some of those niches will be compatible with DOD’s interests.36 On the other hand, **DOD may have specific needs** (transportability, for instance) **that would not be a high priority for any other market segment.** Moreover, while DOD has unique technical and organizational capabilities that could enable it to pursue more radically innovative reactor lines, DOE has indicated that it will focus its initial small reactor deployment efforts on LWR designs.37 **If DOD wants to ensure that its preferred reactors are developed and available in the future, it should take a leadership role now. Taking a first mover role does not** necessarily **mean that DOD would be “picking a winner” among small reactors**, as the market will probably pursue multiple types of small reactors. **Nevertheless, DOD leadership would likely have a profound effect on the industry’s timeline and trajectory.** Domestic Nuclear Expertise. From the perspective of larger national security issues, **if DOD does not catalyze the small reactor industry, there is a risk that expertise in small reactors could become dominated by foreign companies**. A 2008 Defense Intelligence Agency report warned that the United States will become totally dependent on foreign governments for future commercial nuclear power unless the military acts as the prime mover to reinvigorate this critical energy technology with small, distributed power reactors.38 **Several of the most prominent small reactor concepts rely on technologies perfected at Federally funded laboratories and research programs**, including the Hyperion Power Module (Los Alamos National Laboratory), NuScale (DOE-sponsored research at Oregon State University), IRIS (initiated as a DOE-sponsored project), Small and Transportable Reactor (Lawrence Livermore National Laboratory), and Small, Sealed, Transportable, Autonomous Reactor (developed by a team including the Argonne, Lawrence Livermore, and Los Alamos National Laboratories). **However, there are scores of competing designs under development from over a dozen countries. If DOD does not act early to support the U.S. small reactor industry, there is a chance that the industry could be dominated by foreign companies**. Along with other negative consequences, **the decline of the U.S. nuclear industry decreases the NRC’s influence on the technology that supplies the world’s rapidly expanding demand for nuclear energy. Unless U.S. companies begin to retake global market share, in coming decades France, China, South Korea, and Russia will dictate standards on nuclear reactor reliability, performance, and proliferation resistance**.

**Alternative financing cuts costs and supercharges commercialization**

**Fitzpatrick 11**

Ryan Fitzpatrick, Senior Policy Advisor for Clean Energy at Third Way, Josh Freed, Vice President for Clean Energy at Third Way, and Mieke Eoyan, Director for National Security at Third Way, June 2011, Fighting for Innovation: How DoD Can Advance CleanEnergy Technology... And Why It Has To, content.thirdway.org/publications/414/Third\_Way\_Idea\_Brief\_-\_Fighting\_for\_Innovation.pdf

The DoD has over $400 billion in annual purchasing power, **which means the Pentagon could provide a sizeable market for new technologies**. **This can increase a technology’s scale of production, bringing down costs, and making the product more likely to successfully reach commercial markets**. **Unfortunately**, many potentially significant clean energy **innovations never get to the marketplace, due to a lack of capital during** the development and **demonstration stages. As a result, technologies that could help the military** meet its clean energy security and cost goals **are being abandoned or co-opted by competetors like China** before they are commercially viable here in the U.S. **By focusing its purchasing power on innovative products that will** help **meet its energy goals, DoD can provide** more **secure** and **cost-effective energy to the military—producing tremendous long-term savings**, while also **bringing** potentially **revolutionary technologies to the public**. Currently, many of these **technologies are passed over during** the **procurement** process **because of** higher **upfront costs—even if these technologies can reduce life-cycle costs** to DoD. The Department has only recently begun to consider life-cycle costs and the “fullyburdened cost of fuel” (FBCF) when making acquisition decisions. However, initial reports from within DoD suggest that the methodology for determining the actual FBCF needs to be refined and made more consistent before it can be successfully used in the acquisition process.32 The Department should fast-track this process to better maximize taxpayer dollars. Congressional appropriators— and the Congressional Budget Office—should also recognize the **savings that can be achieved by procuring advanced technologies to promote DoD’s energy goals**, even if these procurements come with higher upfront costs. **Even if the Pentagon makes procurement of emerging clean energy technologies a higher priority, it still faces real roadblocks in developing relationships with the companies that make them. Many clean energy innovations are developed by small businesses or companies that have no previous experience working with military procurement officers. Conversely, many procurement officers do not know the clean energy sector and are not incentivized to develop relationships with emerging clean energy companies**. Given the stakes in developing domestic technologies that would help reduce costs and improve mission success, the Pentagon should develop a program to encourage a better flow of information between procurement officers and clean energy companies—especially small businesses. Leverage Savings From Efficiency and Alternative Financing to Pay for Innovation. **In an age of government-wide austerity and tight** Pentagon **budgets**, current congressional **appropriations are simply not sufficient** to fund clean energy innovation. **Until Congress decides to direct additional resources** for this purpose, the **Defense** Department **must leverage** the money and other **tools it already has** to help develop clean energy. This can take two forms: repurposing money that was saved through energy efficiency programs for innovation and using alternative methods of financing to reduce the cost to the Pentagon of deploying clean energy. For several decades **the military has made** modest **use alternative financing** **mechanisms to fund** clean **energy** and efficiency **projects when appropriated funds were insufficient**. In a 2010 report, GAO found that while only 18% of renewable energy projects on DoD lands used alternative financing, these projects account for 86% of all renewable energy produced on the Department’s property.33 This indicates that **alternative financing can be particularly helpful to DoD in terms of bringing larger and more expensive projects to fruition**. One advanced financing tool available to DoD is **the energy savings performance contract** (ESPC). These agreements **allow DoD to contract a private firm to make upgrades to a building or other facility that result in energy savings, reducing overall energy costs without appropriated funds**. **The firm finances the cost, maintenance and operation of these upgrades and recovers a profit over the life of the contract**. While mobile applications consume 75% of the Department’s energy,34 DoD is only authorized to enter an ESPC for energy improvements done at stationary sites. As such, Congress should allow DoD to conduct pilot programs in which ESPCs are used to enhance mobile components like aircraft and vehicle engines. This could accelerate the needed replacement or updating of aging equipment and a significant reduction of energy with no upfront cost. To maximize the potential benefits of ESPCs, DoD should work with the Department of Energy to develop additional training and best practices to ensure that terms are carefully negotiated and provide benefits for the federal government throughout the term of the contract.35 This effort could possibly be achieved through the existing memorandum of understanding between these two departments.36 The Pentagon should also consider using any long-term savings realized by these contracts for other energy purposes, including the promotion of innovative technologies to further reduce demand or increase general energy security. In addition to ESPCs, **the Pentagon** also **can enter into** extended agreements with utilities to use DoD land to generate electricity, or for the **long-term purchase of energy**. **These** **innovative financing mechanisms**, known respectively as enhanced use leases (EULs) and power purchase agreements (PPAs), **provide a valuable degree of certainty to third party generators**. In exchange, the **Department can leverage its existing resources**—either its land or its purchasing power—**to negotiate lower electricity rates** and dedicated sources of locallyproduced power with its utility partners. **DoD has unique authority among federal agencies to enter extended 30-year PPAs**, **but only for geothermal energy projects and only with direct approval from the Secretary of Defense**. Again, limiting incentives for clean energy generation to just geothermal power inhibits the tremendous potential of other clean energy sources to help meet DoD’s energy goals. **Congress should consider opening this incentive up to other forms of clean energy generation**, including the production of advanced fuels. Also, given procurement officials’ lack of familiarity with these extended agreements and the cumbersome nature of such a high-level approval process, the unique authority to enter into extended 30-year PPAs is very rarely used.37 DoD should provide officials with additional policy guidance for using extended PPAs and Congress should simplify the process by allowing the secretary of each service to approve these contracts. Congress should also investigate options for encouraging regulated utility markets to permit PPA use by DoD. Finally, when entering these agreements, the Department should make every effort to promote the use of innovative and fledgling technologies in the terms of its EULs and PPAs. CON C L U S ION **The Defense Department is in a unique position to foster and deploy innovation in clean energy technologies**. This has two enormous benefits for our military: it will make our troops and our facilities more secure and it will reduce the amount of money the Pentagon spends on energy, freeing it up for other mission critical needs. If the right steps are taken by Congress and the Pentagon, the military will be able to put its resources to work developing technologies that will lead to a stronger fighting force, a safer nation, and a critical emerging sector of the American economy. **The Defense Department has helped give birth to technologies and new economic sectors dozens of times before**. For its own sake and the sake of the economy, **it should make clean energy innovation its newest priority**.

**DoD key- avoids regulations**

Glen **Butler**, Lt. Col., 20**11**, Not Green Enough, [www.mca-marines.org/gazette/not-green-enough](http://www.mca-marines.org/gazette/not-green-enough)

**SMRs have relatively low plant cost**, can replace aging fossil plants, and do not emit greenhouse gasses. Some are as small as a “hot tub” and can be stored underground, dramatically increasing safety and security from terrorist threats.25 Encouragingly, in fiscal year 2010 (FY10) the **DoE allocated** $0 to **the U.S. SMR Program**; in FY11, they’ve requested $38.9 million. This **funding is to support** two main activities—**public/private partnerships to advance** SMR **designs and research** **and** development and **demonstrations**. According to the DoE’s website, one of the planned program accomplishments for FY11 is to “collaborate with the Department of Defense (DoD) . . . to assess the feasibility of SMR designs for energy resources at DoD installations.”26 The Marine Corps should vigorously seek the opportunity to be a DoD entity providing one platform for this feasibility assessment.27 Fourth, **SMR** technology **offers** the Marine Corps **a**nother **unique means to lead from the front**—not just of the other Services but also of **the Nation, and** even **the world**.28 **This** potential Pete Ellis **moment should be seized**. There are simple steps we could take, and others stand ready to lead if we are not.30 But **the temptation to “wait and see” and “let the others do it; then we’ll adopt it” mentality is not** always **best**. **Energy security demands boldness**, not timidity. To be fair, nuclear technology comes with challenges, of course, and with questions that have been kicked around for decades. An April 1990 Popular Science article asked, “Next Generation Nuclear Reactors—Dare we build them?” and included some of the same verbiage heard in similar discussions today.31 Compliance with National Environment Policy Act requirements necessitates lengthy and detailed preaction analyses, critical community support must be earned, and disposal challenges remain. Still, none of these hurdles are insurmountable. Yet despite the advances in safety, security, and efficiency in recent years, nuclear in the energy equation remains the new “n-word” for most military circles. And despite the fact that the FY10 National Defense Authorization Act called on the DoD to “conduct a study [of] the feasibility of nuclear plants on military installations,” the Office of the Secretary of Defense has yet to fund the study. Fifth**, the** **cumbersome, bureaucratic certification** **process** **of** **the** Nuclear Regulatory Commission (**NRC**), often **enough to scare away potential entrepreneurs and investors, is not** **necessarily** **a roadblock to success**. The NRC is “responsible for licensing and regulating the operation of commercial nuclear power plants in the United States.” **Military installations offer unique platforms that** could likely **bypass** an extended **certification** process. **With established expertise and a long safety record in nuclear reactor certification**, operations, training, and maintenance, the Naval Nuclear Propulsion Program comprises the civilian and military personnel who: . . . design, build, operate, maintain, and manage the nuclear-powered ships and the many facilities that support the U.S. nuclear-powered naval fleet.”34 **Bypassing the NRC and initiating SMR experimentation** under ADM Hyman Rickover’s legacy umbrella of naval reactors **could shorten the process to a reasonable level for** Marine and naval **installations**.35

#### They have the personnel and expertise

Robitaille 12

(George, Department of Army Civilian, United States Army War College, “Small Modular Reactors: The Army’s Secure Source of Energy?” 21-03-2012, Strategy Research Project)

Section 332 of the FY2010 National Defense Authorization Act (NDAA), “Extension and Expansion of Reporting Requirements Regarding Department of Defense Energy Efficiency Programs,” requires the Secretary of Defense to evaluate the cost and feasibility of a policy that would require new power generation projects established on installations to be able to provide power for military operations in the event of a commercial grid outage.28 A potential solution to meet this national security requirement, as well as the critical needs of nearby towns, is for DoD to evaluate SMRs as a possible source for safe and secure electricity. **Military facilities depend on reliable sources of energy to operate, train, and support national security missions. The power demand for most military facilities is not very high, and could easily be met by a SMR.** Table 1 provides the itemized description of the annual energy requirements in megawatt of electricity (MWe) required for the three hundred seventy four DoD installations.29 DoD History with SMRs **The concept of small reactors for electrical power generation is not new**. In fact, **the DoD built and operated small reactors for applications on land and at sea**. **The U.S. Army operated eight nuclear power plants from 1954 to 1977. Six out of the eight reactors built by the Army produced operationally useful power for an extended period, including the first nuclear reactor to be connected and provide electricity to the commercial grid**. 30 The Army program that built and operated compact nuclear reactors was ended after 1966, not because of any safety issues, but strictly as a result of funding cuts in military long range research and development programs. In essence, it was determined that the program costs could only be justified if there was a unique DoD specific requirement. At the time there were none.31 Although it has been many years since these Army reactors were operational, the independent source of energy they provided at the time is exactly what is needed again to serve as a secure source of energy today. Many of the nuclear power plant designs used by the Army were based on United States Naval reactors. Although the Army stopped developing SMRs, **the Navy as well as the private sector has continued to research, develop, and implement improved designs** to improve the safety and efficiency of these alternative energy sources. The U.S. Navy nuclear program developed twenty seven different power plant systems and almost all of them have been based on a light water reactor design.32 This design focus can be attributed to the inherent safety and the ability of this design to handle the pitch and roll climate expected on a ship at sea. **To date, the U. S Navy operated five hundred twenty six reactor cores in two hundred nineteen nuclear powered ships, accumulated the equivalent of over six thousand two hundred reactor years of operation and safely steamed one hundred forty nine million miles**. **The U.S. Navy has never experienced a reactor accident**.33 All of the modern Navy reactors are design to use fuel that is enriched to ninety three percent Uranium 235 (U235) versus the approximate three percent U235 used in commercial light water reactors. The use of highly enriched U235 in Navy vessels has two primary benefits, long core lives and small reactor cores.34 The power generation capability for naval reactors ranges from two hundred MWe (megawatts of electricity) for submarines to five hundred MWe for an aircraft carrier. A Naval reactor can expect to operate for at least ten years before refueling and the core has a fifty year operational life for a carrier or thirty to forty years for a submarine.35 As an example, the world’s first nuclear carrier, the USS Enterprise, which is still operating, celebrated fifty years of operations in 2011.36 The Navy nuclear program has set a precedent for safely harnessing the energy associated with the nuclear fission reaction. In addition, **the Navy collaborates with the private sector to build their reactors and then uses government trained personnel to serve as operators**.

**Implementing the use of SMRs as a secure source of energy for our critical military facilities will leverage this knowledge and experience**.

**SMRs are cost-effective, safe, can be quickly deployed, and solve waste**

**Szondy 12**

David, freelance writer based in Monroe, Washington. An award-winning playwright, he has contributed to Charged and iQ magazine and is the author of the website Tales of Future Past, February 16, "Feature: Small modular nuclear reactors - the future of energy?", [www.gizmag.com/small-modular-nuclear-reactors/20860/](http://www.gizmag.com/small-modular-nuclear-reactors/20860/)

One way of getting around many of these problems is through the development of small modular reactors (**SMR**). These **are** reactors **capable of generating** about **300 megawatts** of power or less, **which is enough to run 45,000** US **homes**. Though small, SMRs are proper reactors. They are quite different from the radio-thermal generators (RTG) used in spacecraft and remote lighthouses in Siberia. Nuclear reactors such as **SMRs use controlled nuclear fission to generate power while RTGs use** natural **radioactive decay to power a** relatively simple **thermoelectric generator that can only produce**, at most, about **two kilowatts.¶** In terms of power, RTGs are the equivalent of batteries while small nuclear reactors are only "small" when compared to conventional reactors. They are hardly the sort that you would keep in the garage. In reality, SMR power plants would cover the area of a small shopping mall. Still, such an installation is not very large as power plants go and a reactor that only produces 300 megawatts may not seem worth the investment, but the US Department of Energy is offering US$452 million in matching grants to develop SMRs and private investors like the Bill Gates Foundation and the company of Babcock and Wilcox are putting up money for their own modular reactor projects.¶ The 60-year old breakthrough¶ **One reason for government and private industry to take an interest in SMRs is that they've** **been successfully employed for much longer than most people realize.** In fact, **hundreds have been steaming around the world inside** the hulls **of nuclear submarines and other warships for sixty years. They've also been used in merchant ships, icebreakers and as research and medical isotope reactors** at universities. There was even one installed in the Antarctic at McMurdo Station from 1962 to 1972. Now they're being considered for domestic use.¶ The case for SMRs¶ SMRs have a number of advantages over conventional reactors. For one thing, **SMRs are cheaper to construct and run.** This makes them very attractive to poorer, energy-starved countries; small, growing communities that don't require a full-scale plant; and remote locations such as mines or desalination plants. Part of the reason for this is simply that the reactors are smaller. Another is that, not needing to be custom designed in each case, the **reactors can be standardized and some types built in factories that are able to employ economies of scale.** The factory-built aspect is also important because **a factory is more efficient than on-site construction by as much as eight to one in terms of building time.** **Factory construction also allows SMRs to be built, delivered to the site, and then returned to the factory for dismantling** at the end of their service lives - **eliminating a major problem with old** conventional **reactors, i.e. how to dispose of them.¶** **SMRs** also **enjoy** a good deal of **design flexibility. Conventional reactors are** usually **cooled by water** - a great deal of water - **which means that the reactors need to be situated near rivers or coastlines. SMRs**, on the other hand, **can be cooled by air, gas, low-melting point metals or salt.** This means that **SMRs can be placed in remote**, inland **areas** where it isn't possible to site conventional reactors.¶ Safety¶ This cooling system is often passive. In other words, it relies more on the natural circulation of the cooling medium within the reactor's containment flask than on pumps. This passive cooling is one of the ways that **SMRs can improve safety**. Because modular reactors are smaller than conventional ones, **they contain less fuel**. This means that **there's less of a mass to be affected if an accident occurs.** If one does happen, **there's less radioactive material that can be released** into the environment and makes it easier to design emergency systems. Since they are smaller and use less fuel, **they are easier to cool effectively, which** greatly **reduces the likelihood of a catastrophic accident or meltdown** in the first place.¶ This also means that **accidents proceed much slower in modular reactors** than in conventional ones. **Where the latter need accident responses in** a matter of hours or **minutes**, **SMRs can be responded to in** hours or **days**, which reduces the chances of an accident resulting in major damage to the reactor elements.¶ **The SMR designs that reject water cooling in favor of gas, metal or salt have their own safety advantages**. Unlike water-cooled reactors, **these media operate at a lower pressure.** **One of the hazards of water cooling is that a cracked pipe or a damaged seal can blow radioactive gases out** like anti-freeze out of an overheated car radiator**. With low-pressure media, there's less force to push gases out and there's less stress placed on the containment vessel. It** also **eliminates one of the** frightening **episodes of the Fukushima accident where the water in the vessel broke down into hydrogen and oxygen and then exploded.¶** Another advantage of modular design is that some **SMRs are small enough to be installed below ground.** That is cheaper, faster to construct and less invasive than building a reinforced concrete containment dome. There is also the point that **putting a reactor in the ground makes it less vulnerable to earthquakes. Underground installations make modular reactors easier to secure and install** in a much smaller footprint. **This makes SMRs particularly attractive to military customers who need to build power plants for bases quickly.** **Underground installation also enhances security** with fewer sophisticated systems needed, which also helps bring down costs.¶ **SMRs can help with proliferation, nuclear waste and fuel supply issues because, while some modular reactors are based on conventional pressurized water reactors and burn enhanced uranium, others use less conventional fuels. Some**, for example, can **generate power from** what is now regarded as "**waste", burning depleted uranium and plutonium left over** from conventional reactors. **Depleted uranium is** basically U-238 from which the fissible U-235 has been consumed. It's also much **more abundant** in nature than U-235, **which has the potential of providing the world with energy for thousands of years. Other reactor design**s don't even use uranium. Instead, they **use thorium**. This fuel is also incredibly abundant, is easy to process for use as fuel and has the added bonus of being utterly useless for making weapons, so it can provide power even to areas where security concerns have been raised.¶ But there's still the sticking point that modular reactors are, by definition, small. That may be fine for a submarine or the South Pole, but what about places that need more? Is the alternative conventional nuclear plants? It turns out that the answer is no. **Modular reactors don't need to be used singly. They can be set up in batteries of five or six** or even more, **providing as much power as an area needs.** And if one unit needs to be taken off line for repairs or even replacement, it needn't interfere with the operation of the others.

**Nuclear power is expanding globally**

IAEA applications

Middle class

Population growth

Urbanization

Warming

Desal

**Ebinger and Squassoni 11**

Charles K Ebinger and Sharon Squassoni 11, Charles is senior fellow and director of the Energy Security Initiative at the Brookings Institution, Sharon is senior fellow and director of the Proliferation Prevention Program at the Center for Strategic and International Studies, “Industry and Emerging Nuclear Energy Markets” in “Business and Nonproliferation”, googlebooks

As mentioned previously, **a notable feature of the nuclear renaissance is the widespread interest in nuclear power, especially in countries without a commercial nuclear infrastructure. According to the** International Atomic Energy Agency (**IAEA**), at least **sixty-five countries have expressed** such **interest**, most from outside the industrialized economies of the Organization of Economic Cooperation and Development (OECD), the main locus of nuclear power capacity at present. **Most of the capacity growth up to 2030 is expected to occur in the Middle East, South Asia, Southeast Asia, and the Far East**. As part of this growth, **eleven developing countries are serious candidates for first reactors**, although progress in carrying out their plans varies widely (see table 4-1). **These countries are drawing new suppliers into the nuclear market** (notably China, India, and South Korea) **and sparking activity among existing suppliers** such as Russia and Japan. Overall, however, many countries will not be able to follow through on growth plans owing to cost, limited grid capacity, and perhaps public resistance. **Countries are moving toward nuclear energy**, not the mention other sources of primary fuel, in large part **because of mounting demand: between 2008 and 2035 global electricity consumption is expected to increase 80 percent, and 80 percent of that growth will take place in non-OECD countries**. **Underlying this large increase in electricity demand are population growth, urbanization, concerns about CO2 emissions from fossil fuel combustion, energy security, and pressure from a growing middle class for goods and services using or produced by electricity**. **Over this period, global population will rise from 6.7 billion to 8.5 billion, with 7.2 billion of the total living in non-OECD countries**. **Most of this increase will take place in China, India, and the Middle East**, with the balance in the rest of the developing world, while the share of the global population in the OECD and Russia will decline. Today nearly 1.4 billion people have no electricity, a figure that may well increase with further population growth, despite movement into the modern energy economy. **Urbanization will undoubtedly push demand up as well**. For the first time in history, a majority of the world’s population is living in urban areas, a trend likely to continue, especially in developing countries. **With the movement of hundreds of millions of people from rural areas to cities, more communities will turn from traditional** and often free **fuels** (wood, forest residues, agricultural wastes, bagasse, and dung) **to modern fuels such as electricity, natural gas, and petroleum products**. **The dramatic growth of the middle class in a number of emerging market nations is also having a large impact on energy consumption. The World Bank predicts that by 2030 the middle class in these nations will jump to 1.2 billion from 430 million in 2000**. It is estimated that in India alone, a country that before Fukushima was developing plans for nuclear power, the number of households with an annual disposal income of $5,000-$15,000 will increase from 36 percent of the population in 2010 to more than 58 percent by 2020. **Climate change**, too, **will have some of its largest impact in developing countries**, which, according to the International Energy Agency (IEA), will be responsible for nearly all of the projected global increase in CO2 emissions by 2035. In large part, the cause of this rise is coal-fired power in China and India. **The urgency of finding alternatives to coal is recognized by** others as well, including **Indonesia, Pakistan, Poland, South Africa, and Russia**. Compared with developed countries, developing nations rely far more on imported fossil fuels, especially oil, to generate power. When the price of oil on the world market rose to $147 a barrel in 2008, it became clear that dependence on imported fossil fuels for electricity generation can destroy a nation’s economy and that fuel diversification is vital for energy security. As prices climbed beyond $100 a barrel, Jordan, a country committed to introducing civilian nuclear energy, was particularly hard hit: 99 percent of its electricity is generated from either oil or gas, 96 percent of which is imported. **Developing countries also see nuclear energy as a possible source of power for desalination plants, especially in the** Gulf Cooperation Council (**GCC**) **countries and elsewhere in the Middle East**. **As the demand for freshwater supplies increases** – along with the emphasis on limited the use of fossil fuels to generates electricity because of the impact of emissions, price volatility, and supply disruptions – **the nuclear option will be considered even more viable**. Moreover, some **countries with large resources of oil or gas**, **such as the** United Arab Emirates (**UAE**) **and Saudi Arabia**, **are hoping nuclear power will help reduce their domestic use of these fuels in generating power and will boost the financial benefits of exporting them**. **For some developing countries, status and geopolitics are undoubtedly important factors in considering the development or expansion of a civilian nuclear energy program**. **In the view of Turkey’s energy minister** Hilmi Guler, for instance, **nuclear technology is a requirement for a seat at the table with the ten most developed countries in the world**.

**Natural gas isn’t a solvency take out**

**Lamonica 12**

Martin Lamonica is a senior writer covering green tech and cutting-edge technologies [August 9, 2012, “A Glut of Natural Gas Leaves Nuclear Power Stalled,” http://www.technologyreview.com/news/428737/a-glut-of-natural-gas-leaves-nuclear-power/]

**Outside the U**nited **S**tates, it's a different story. Unconventional sources of **natural gas also threaten the expansion of nuclear, although the potential impact is less clear-cut. Around the world, there are 70 plants now under construction, but shale gas also looms as a key factor in planning for the future. Prices for natural gas are already higher in Asia and Europe, and shale gas resources are not as fully developed as they are the U**nited **S**tates.¶ **Some countries are** also **blocking the development of** new **natural gas resources**. France, for instance, which has a strong commitment to nuclear, has banned fracking in shale gas exploration because of concerns over the environmental impact.¶ Fast-growing **China, meanwhile, needs all the energy sources available and is building nuclear power plants as fast as possible**.¶ **Even in** **U**nited **S**tates, of course, **super cheap natural gas will not last forever.** **With supply exceeding demand, some drillers are said to be losing money on natural gas, which could push prices back up.** **Prices will also be pushed upward by utilities, as they come to rely on more natural gas for power generation**, says James.¶ Ali **Azad, the chief business development officer at** energy company **Babcock & Wilcox, thinks the answer is making nuclear power smaller**, cheaper, and faster. His is one of a handful of companies developing **s**mall **m**odular **r**eactor**s** that **can be built in three years, rather than 10 or more, for a fraction of the cost of gigawatt-size reactors.** Although this technology is not yet commercially proven, the company has a customer in the Tennessee Valley Authority, which expects to have its first unit online in 2021 (see "A Preassembled Nuclear Reactor").¶ "When we arrive, **we will have a level cost of energy on the grid, which competes** favorably **with a brand-new combined-cycle natural gas plants** when gas prices are between $6 to $8," said Azad. **He sees strong demand in power-hungry China and places such as Saudia Arabia, where power is needed for desalination.¶ Even if natural gas remains cheaper, utilities don't want to find themselves with an overreliance on gas, which has been volatile on price in the past, so nuclear power will still contribute to the energy mix.** "[**Utilities**] **still continue** [**with nuclear**] **but with a lower level of enthusiasm—it's a hedging strategy," says** Hans-Holger **Rogner from** the Planning and Economics Studies section of **the I**nternational **A**tomic **E**nergy **A**gency. "**They don't want to pull all their eggs in one basket** because of the new kid on the block called shale gas."¶

## 2AC

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#### The Obama admin has listened to your disad, and voted against using leverage for gold standard 123 agreements for fear of their internal link

Sokolski 12

Henry Sokolski, executive director of the Nonproliferation Policy Education Center, 2/7/12, Obama's Nuclear Mistake, www.nationalreview.com/blogs/print/290330

What prompted Obama to kick this political nest? A stunning inattention to nuclear-export realities, his own nuclear-control rhetoric, and history.¶ In 2008, President Bush negotiated a nuclear-cooperative agreement with the United Arab Emirates (UAE). This agreement featured two new and important nonproliferation conditions. The first required the UAE to forswear making nuclear fuel — a process that can bring states to the very brink of acquiring bombs. The second stipulated that the UAE must open its nuclear facilities to intrusive nuclear inspections authorized under a special international understanding known as the Additional Protocol. While it negotiated this agreement with the UAE, the Bush administration also peddled its new, tougher conditions to existing and prospective U.S. civilian-nuclear-technology recipients, including Jordan, Egypt, Indonesia, Saudi Arabia, and Vietnam.¶ Initially, this effort enjoyed President Obama’s support after he succeeded Bush: He put the final touches on the UAE deal and in 2009 sold it as the new nonproliferation “Gold Standard” for future civilian nuclear-cooperation deals. After a year’s effort trying to get Jordan, Vietnam, and South Korea to forswear making nuclear fuel, though, Team Obama started to go wobbly.¶ First, in the late summer of 2010, Secretary of State Hillary Clinton announced that the U.S. had initialed a nuclear deal with Vietnam that lacked the Gold Standard conditions. The Hill went nuts. Letters were sent to the secretary of state, and State quietly put the Vietnam agreement on ice while the National Security Council ordered an interagency policy review. Deputy Secretary of State James Steinberg, who wanted to uphold the standard, fought Deputy Secretary of Energy Daniel Poneman, who did not. Nothing was decided.¶ Then, in July of 2011, Steinberg left the government. In short order, Poneman prevailed over remaining resistance within State. Late last year, State resumed nuclear cooperation talks with Vietnam. Anxious to notify the Hill, as required by law, Undersecretary of State Eileen Tauscher and Deputy Secretary Poneman tried to arrange a private, classified briefing with the House and Senate foreign-affairs committee chairmen and ranking members. But all the important members were out of town. So instead, the two officials sent them a short note.¶ It was a knee-slapper. First, it said the administration had decided that pushing the Bush administration’s Gold Standard would actually risk undermining nuclear nonproliferation. “We are concerned,” Tauscher and Poneman argued, that pushing this standard would “reduce[ ] the number of future U.S. partners, minimizing our nonproliferation influence.”¶ Second, they noted that “France and Russia in particular are very aggressive in pursuing nuclear business,” that “neither imposes enrichment or reprocessing conditions in their agreements,” and that for every billion dollars of exports, the U.S. is able to support 10,000 jobs. So, if we want jobs, we have to back off pushing nuclear nonproliferation? That seems to be the letter’s conclusion. Yet it’s unclear if there are any significant U.S. reactor exports to be made, or any truly American vendors to make them. Nearly 80 percent of Westinghouse’s nuclear division is now Japanese- and Kazakhstani-owned; roughly half of General Electric’s is Japanese-owned. As for nuclear manufacturing, nearly all of that is now done overseas. Also, the Fukushima tsunami disaster has endangered whatever U.S. nuclear reactor or component exports might otherwise be left. Certainly prospective foreign customers have been loath to forswear suing U.S. nuclear firms in the case of a nuclear accident. Yet without such a pledge, U.S. vendors will not sell. The letter’s most egregious error, though, is its misreading of the nuclear market. Contrary to the two officials’ suggestion, the most profitable nuclear sales prospect is not overseas reactors, where profit margins can be negative. Instead, it’s supplying nuclear fuel to run the U.S.’s 104 power reactors, the world’s largest fleet. Russia and France are eager to penetrate this market. France is building a $4.8 billion fuel-fabrication plant in Georgia for the U.S. Department of Energy and has secured a $2 billion conditional federal loan guarantee to enrich uranium in Idaho. Russia would like to establish a similar U.S. enrichment project. Bottom line: If the U.S. wants to make a nuclear buck, doing so while maintaining nonproliferation standards depends far less on what other nuclear suppliers are doing overseas than those foreign suppliers’ export profits depend on securing U.S. taxpayer funds and loan guarantees.¶ So far, however, Team Obama has avoided exploiting this leverage. Impatient, the House Committee on Foreign Affairs has reported out a bill (H.R. 1280) to push the Gold Standard by increasing congressional oversight over U.S. civilian nuclear-cooperative agreements. The Senate has yet to act.

#### Plan can’t reverse negotiating positions

Lewis 12

Jeffrey Lewis, director of the East Asia Nonproliferation Program at the James Martin Center for Nonproliferation, 8/1/12, It's Not as Easy as 1-2-3, www.foreignpolicy.com/articles/2012/08/01/it\_s\_not\_as\_easy\_as\_1\_2\_3?page=full

**The Obama administration** largely **finds itself an accidental architect of the new civil nuclear order**. **In addition to a new wave of countries seeking nuclear help from the U**nited **S**tates, **many 123 agreements that were negotiated 30 years ago** -- during the last wave of enthusiasm for nuclear power -- **will expire between now and 2014**. **When this flurry of activity ends, the U**nited **S**tates **will have negotiated more than a dozen nuclear cooperation agreements in a four-year period**, **many with the most important emerging nuclear powers**. Dick Stratford, a senior State Department official, told a conference that he carried around a little list in his pocket because he had trouble keeping all the negotiations straight.

#### SMRs eliminate incentive for ENR

Moniz Forsberg and Kazimi 10

MIT Study co-chaired by Ernest Moniz, Professor of Physics and Engeering Systems director MIT energy Initiative, Charles Forsberg, executive director MIT Fuel cycle Study department of nuclear Science and engineering, Mujid Kazimi, Tokyo electric Professor of nuclear engineering director, center for advanced nuclear energy Systems, department of nuclear Science and engineering department of Mechanical engineering, 2010, The Future of the Nuclear Fuel Cycle, http://web.mit.edu/mitei/docs/spotlights/nuclear-fuel-cycle.pdf

**Nuclear weapons proliferation is a national security challenge and requires** diplomatic and **institutional solutions**. **As nations advance** technologically, **it becomes increasingly difficult to deny them the technology and materials** to develop nuclear weapons if they are motivated by security interests to do so. Thus proliferation at its center is an institutional challenge. **The civilian nuclear power fuel cycle is one of several routes to nuclear weapons materials**; there- fore, strong incentives exist to adopt fuel cycle strategies that minimize the potential coupling of nuclear weapons and commercial nuclear fuel cycles. Hence, avoiding the creation of sepa- rated plutonium in future cycles would be an example of minimizing the potential coupling. **In the context of civilian fuel cycles and nonproliferation, the reactor is not the principal concern. The primary concerns are associated with uranium enrichment and/or reprocessing facilities**—the front and backend fuel cycle facilities that would enable a nation to ac- quire weapon usable materials in a breakout scenario. **Establishment of enrichment and/ or reprocessing capability are not economic choices for small reactor programs;** however, guaranteed supplies of fuel are important to countries that embark on electricity production from nuclear energy. Waste management will be a significant challenge for some countries.

#### US-Rok alliance resilient.

Snyder ‘8

director of the Center for U.S.-Korea Policy and senior associate of Washington programs in the International Relations program of The Asia Foundation (Scott, ASIAN PERSPECTIVE, Vol. 32, No. 2, 2008, pp. 93-113. “THE FUTURE OF U.S.-ROK RELATIONS: THE U.S. APPROACH.”)

Despite having experienced both a change in international power at the end of the cold war and a South Korean domestic political transition from authoritarianism to democracy, the U.S.-ROK alliance has persisted. Moreover, some scholars pre-dict that the third condition, the formation of a new outside alliance between China and South Korea, is only a matter of time.3 Despite the fulfillment of several conditions that normally lead to alliance termination, the U.S.-ROK alliance has endured and is in the process of adapting to new circumstances. Changes in the external and internal political context have also necessitated changes in the alliance, and in many cases managing these challenges has not been easy.

### Politics

#### Won’t Pass: Gang of 8 and LGBT conditions

Brock 2/9

[PolicyMic, Jana, Political columnist, <http://www.policymic.com/articles/25188/immigration-reform-2013-what-the-president-can-learn-from-the-obamacare-battle>, mg]

Immigration reform is at the forefront of President Obama's agenda for the year. He plans to make it a major part of his State of the Union Address on Tuesday, February 12. However, like with everything else the president has done so far, his immigration reform does not come without controversy — harkening back to his Obamacare effort.¶ Looking at Obama's plan, it is quite similar to the bipartisan group of senators one labeled the "gang of eight" — and their plan to make it possible for 11 million illegal immigrants to achieve citizenship. This includes granting "probationary legal status" for eligible undocumented workers, learning English, and paying taxes. While this measure has been praised by Obama recently, it now appears the plan could be dead in the water thanks to Obama himself.¶ Apparently, Obama has his own strings attached to immigration reform. He is against the "border security plan" first, which was the main stipulation brought forth by the conservatives within the "gang of eight." Senator Marco Rubio (R-Fla.) said he "will not be supporting any law that does not ensure that the enforcement things happen."¶ Another wrench Obama has thrown into his immigration reform is guaranteeing bi-national same sex couples the same rights as heterosexual couples. Just as both Senate and House members were warming up to the idea of immigration reform, Obama's extra additives could throw the reform effort into limbo. Senator John McCain (R-Ariz.) said, "what is more important, LGBT or border security?" ¶ McCain is right. The two issues are completely separate. Obama is being reckless in using this issue to go along with immigration reform. At this juncture, he risks conservatives abandoning the effort for immigration reform and others who were on board. He will lose the "gang of eight" backing for sure.

#### **Obama will alienate the coalition**

Brock 2/9

[PolicyMic, Jana, Political columnist, http://www.policymic.com/articles/25188/immigration-reform-2013-what-the-president-can-learn-from-the-obamacare-battle, mg]

President Obama should exercise caution. He is going off on his own path instead of working with Congress. If he chooses to a**pproach immigration reform this way, he will** once again alienate a host of congressional members. He has to work with Congress not against them. It will guarantee more court battles and intense showdowns. But most importantly, it will ensure that immigration reform will not happen while he is in office.

#### Gay rights provisions trigger the link

Erin Kelly, USA Today, 2/8/13, Gay rights becoming controversy in immigration reform, www.usatoday.com/story/news/politics/2013/02/08/gay-rights-immigration-reform/1903119/

Gay rights has emerged as an unexpected point of controversy in the congressional debate over immigration reform, prompting key Republicans to warn that it could derail efforts to reach a bipartisan compromise. President Obama and some congressional Democrats are pushing for any immigration reform plan to include a provision to allow gay Americans to sponsor their immigrant partners for legal residency in the United States. That is a right currently enjoyed only by married heterosexual couples. But Republican leaders on immigration reform say it's already going to be an uphill battle to convince their GOP colleagues to support a pathway to citizenship for the 11 million illegal immigrants living in the United States. Including a provision for gay partners will make reform legislation an even tougher sell, key senators said. "I'm telling you now, if you load this (immigration reform legislation) up with social issues and things that are controversial, it will endanger the issue," Sen. John McCain, R-Ariz., said at a forum this week sponsored by Politico. Sen. Marco Rubio, R-Fla., expressed similar concerns during an interview with the BuzzFeed online news site this week. "I think if that issue (gay rights) becomes a central issue in the debate it's going to become harder to get it done because there will be strong feelings on both sides," Rubio said. McCain and Rubio are part of a group of eight senators -- four Republicans and four Democrats -- who recently unveiled a bipartisan blueprint for comprehensive immigration reform. Their efforts have sparked optimism among immigration rights' advocates that legislation might finally be passed to deal with the divisive issue. The senators' bipartisan blueprint does not include any provision for gay citizens to sponsor their immigrant partners for legal status. However, a plan announced by Obama late last month does include the language, which supporters estimate would affect 30,000 to 40,000 gay Americans and their partners. This week, a group of 16 House members -- 14 Democrats and two moderate Republicans from the Northeast -- introduced the "Uniting American Families Act" to allow gay Americans to sponsor their "permanent partners" to become legal U.S. residents -- and eventually citizens. "Permanent partners" are described as two adults who intend to make a lifelong commitment to one another. "Today, thousands of committed same-sex couples are needlessly suffering because of unequal treatment under our immigration laws, and this is an outrage," said Jerrold Nadler, D-N.Y., who led the effort to introduce the same-sex partners' bill in the House. "Any serious legislative proposal for comprehensive immigration reform absolutely must include gay and lesbian couples and their families." Sen. Patrick Leahy, D-Vt., the chairman of the Senate Judiciary Committee, said he intends to introduce identical legislation in that chamber soon with more than 25 Democratic co-sponsors and the support of Republican Sen. Susan Collins of Maine. "More than two dozen countries recognize same-sex couples for immigration purposes," Collins said. "This important civil rights legislation would help prevent committed, loving families from being forced to choose between leaving their family or leaving their country." But some of the religious groups that strongly support immigration reform say they will oppose the inclusion of the same-sex provision in any comprehensive bill. U.S. Catholic bishops, with the support of evangelicals, have written a letter to Obama urging him to remove the provision from his immigration reform plan. "Injecting a contentious social issue into the immigration debate calls into question the commitment to actually achieving immigration reform," said Galen Carey, vice president of the National Association of Evangelicals. "Too many politicians in both parties are using the immigration issue to score political points. We need a laser focus on building bipartisan consensus on fixing our broken immigration system. The future for millions of immigrant families hangs in the balance."

#### Obama’s capital is irrelevant and winners win

Michael Hirsh, National Journal, 2/7/13, There’s No Such Thing as Political Capital, www.nationaljournal.com/magazine/there-s-no-such-thing-as-political-capital-20130207

Meanwhile, the Republican members of the Senate’s so-called Gang of Eight are pushing hard for a new spirit of compromise on immigration reform, a sharp change after an election year in which the GOP standard-bearer declared he would make life so miserable for the 11 million illegal immigrants in the U.S. that they would “self-deport.” But this turnaround has very little to do with Obama’s personal influence—his political mandate, as it were. It has almost entirely to do with just two numbers: 71 and 27. That’s 71 percent for Obama, 27 percent for Mitt Romney, the breakdown of the Hispanic vote in the 2012 presidential election. Obama drove home his advantage by giving a speech on immigration reform on Jan. 29 at a Hispanic-dominated high school in Nevada, a swing state he won by a surprising 8 percentage points in November. But the movement on immigration has mainly come out of the Republican Party’s recent introspection, and the realization by its more thoughtful members, such as Sen. Marco Rubio of Florida and Gov. Bobby Jindal of Louisiana, that without such a shift the party may be facing demographic death in a country where the 2010 census showed, for the first time, that white births have fallen into the minority. It’s got nothing to do with Obama’s political capital or, indeed, Obama at all. The point is not that “political capital” is a meaningless term. Often it is a synonym for “mandate” or “momentum” in the aftermath of a decisive election—and just about every politician ever elected has tried to claim more of a mandate than he actually has. Certainly, Obama can say that because he was elected and Romney wasn’t, he has a better claim on the country’s mood and direction. Many pundits still defend political capital as a useful metaphor at least. “It’s an unquantifiable but meaningful concept,” says Norman Ornstein of the American Enterprise Institute. “You can’t really look at a president and say he’s got 37 ounces of political capital. But the fact is, it’s a concept that matters, if you have popularity and some momentum on your side.” The real problem is that the idea of political capital—or mandates, or momentum—is so poorly defined that presidents and pundits often get it wrong. “Presidents usually over-estimate it,” says George Edwards, a presidential scholar at Texas A&M University. “The best kind of political capital—some sense of an electoral mandate to do something—is very rare. It almost never happens. In 1964, maybe. And to some degree in 1980.” For that reason, political capital is a concept that misleads far more than it enlightens. It is distortionary. It conveys the idea that we know more than we really do about the ever-elusive concept of political power, and it discounts the way unforeseen events can suddenly change everything. Instead, it suggests, erroneously, that a political figure has a concrete amount of political capital to invest, just as someone might have real investment capital—that a particular leader can bank his gains, and the size of his account determines what he can do at any given moment in history. Naturally, any president has practical and electoral limits. Does he have a majority in both chambers of Congress and a cohesive coalition behind him? Obama has neither at present. And unless a surge in the economy—at the moment, still stuck—or some other great victory gives him more momentum, it is inevitable that the closer Obama gets to the 2014 election, the less he will be able to get done. Going into the midterms, Republicans will increasingly avoid any concessions that make him (and the Democrats) stronger. But the abrupt emergence of the immigration and gun-control issues illustrates how suddenly shifts in mood can occur and how political interests can align in new ways just as suddenly. Indeed, the pseudo-concept of political capital masks a larger truth about Washington that is kindergarten simple: You just don’t know what you can do until you try. Or as Ornstein himself once wrote years ago, “Winning wins.” In theory, and in practice, depending on Obama’s handling of any particular issue, even in a polarized time, he could still deliver on a lot of his second-term goals, depending on his skill and the breaks. Unforeseen catalysts can appear, like Newtown. Epiphanies can dawn, such as when many Republican Party leaders suddenly woke up in panic to the huge disparity in the Hispanic vote. Some political scientists who study the elusive calculus of how to pass legislation and run successful presidencies say that political capital is, at best, an empty concept, and that almost nothing in the academic literature successfully quantifies or even defines it. “It can refer to a very abstract thing, like a president’s popularity, but there’s no mechanism there. That makes it kind of useless,” says Richard Bensel, a government professor at Cornell University. Even Ornstein concedes that the calculus is far more complex than the term suggests. Winning on one issue often changes the calculation for the next issue; there is never any known amount of capital. “The idea here is, if an issue comes up where the conventional wisdom is that president is not going to get what he wants, and he gets it, then each time that happens, it changes the calculus of the other actors” Ornstein says. “If they think he’s going to win, they may change positions to get on the winning side. It’s a bandwagon effect.”

#### Overloading Congress causes agenda success—focusing his capital kills it

Chuck Todd, NBC, 2/5/13, First Thoughts: Flooding the zone, firstread.nbcnews.com/\_news/2013/02/05/16852487-first-thoughts-flooding-the-zone?lite

Flooding the zone: Exactly one week away from President Obama’s State of the Union address, the White House has spent the early days of the second term flooding the zone with its legislative agenda. Last week, the president delivered his big immigration speech in Las Vegas. Yesterday, he spoke about gun violence in Minnesota. Today, he’s meeting at the White House with progressive, labor, and business leaders to discuss immigration reform and the budget situation. What’s going on here: The Obama White House wants to overload Washington’s political circuits in an effort to see what it can get through Congress -- without letting Congress define what issues get addressed. After all, Republicans want to solely talk about the budget before the March budget showdown (see yesterday’s multiple coordinated responses by House Republicans on the White House’s announcement it would be late with its budget). Yet by flooding the zone, Team Obama -- with the bully pulpit and the State of the Union at its disposal -- wants to widen the political dialogue beyond that one issue. This “flooding the zone” concept is how the Obama White House operated in the first six months of the first term, and it’s where he got most of his legislative achievements. When the White House got bogged down on ONE issue (health care, debt ceiling, etc), officials determined they lost some of their political capital.

#### Plan’s popular- Bipart support

Pendidikan ‘11

Cinta writes for the Love and Like Education Blog, “Sanders is the Sole Vote Against Small Modular Reactor Research,” http://loveandlikeeducation.blogspot.com/2011/08/bernie-sanders-and-small-modular.html

Sanders is Sole Vote Against Small Modular Reactor Research¶ Bernie Sanders and Small Modular Reactors¶ Senator Bernie Sanders often speaks about his opposition to Vermont Yankee as having something to do with the age of the plant, the fact it is owned by Entergy, or his "state's rights" stance about regulating nuclear power plants.¶ Recently, however, Sanders made it clear that he is against nuclear power in any form and is proud of that opinion. On Senator Sanders website, he featured the fact that he was the only vote against "a pair of measures that would promote the development of small modular reactors."¶ One of these measures was the Nuclear Power Act S512. This act would authorize the Secretary of Energy to start a cost-shared program for development of small modular reactors (SMRs).¶ This act had strong bi-partisan support, being sponsored by 3 Republican and 4 Democratic Senators. The act requires research and development funds for SMRs. The Act is still in process, and does not have a firm dollar amount attached, but the dollar amount is likely to be small (in government terms, at least.). Current estimates are $100 million per fiscal year for four years, starting next year.¶ The act also requires that industry cost-share the expense. If industry doesn't think it is worth spending money on the research, the research will not receive government funding either.¶ As a background to the probable cost of this Act, we should note that President Obama requested $4.8 billion dollars for Department of Energy research, of which $3.2 billion is allocated for renewable energy and energy efficiency research. (This number has changed with the debt deal, but new numbers are not available at this time.)¶ Small Modular Reactors for The Future¶ Sander's opposition to this Nuclear Power Act will hurt America's chances to develop an important new exportable technology. Outside of Europe, the nuclear renaissance remains in full swing, with reactors being ordered and built in Arabia, China, India and Southeast Asia. Developing a strong set of SMR designs would be America's best chance to re-entering the world market for nuclear power.¶ SMRs are modular (assembled in a factory and delivered to the site), small (50 to 225 MW) and have many safety features, such as passive cooling. SMRs are expected to have a huge international market. They suitable for many places that do not have the population density or money for the current crop of huge reactors (1200 MW, built on site at great expense). SMRs would make nuclear power affordable and salable many places.¶ Westinghouse and Babcock & Wilcox have invested significant amounts of their own money in developing these products. The NRC is also active in assessing preliminary designs. At another Senate committee meeting on SMRs, Commissioner Magwood of the NRC said that he does not expect decisions made by the NRC to be the critical factor in the success or failure of SMRs. Magwood noted that SMRs have passive safety features and large water inventories; these would be considered during license review.¶ America Fallen Behind¶ America has fallen far behind the rest of the world in most nuclear technologies. Pressurized Water Reactors (PWRs) and Boiling Water Reactors (BWRs) were developed in this country. They are being sold all over the world, but not by United States companies. We're out of the running. Other countries licensed and improved our original technologies. Companies from France, Korea, Russia and China compete to build large reactors in China, Arabia, and Southeast Asia.¶ Three American companies have put millions of dollars into the development of SMRs: Westinghouse, Babcock & Wilcox, and NuScale (a small start-up). Many people in the nuclear industry feel that the race to develop the first successful SMR is a truly high-stakes race, being fought at the level of nationwide efforts. Luckily, SMR development has bi-partisan support, and Mr. Sanders was alone in his opposition to supporting American industry efforts to develop these plants.¶ Should Government Be Involved?¶ Of course, one can make a case that the government should get out of the energy research business altogether. If Senator Sanders wished to save tax dollars by cutting all energy-research programs, he might have a valid case. However, if the government does plan to spend money on energy research, cost-sharing with industry on a new nuclear technology is certainly a far better use of funds than many of the projects in the swollen DOE renewable budget.

#### DoD doesn’t link

**Appelbaum 12**

Binyamin, Defense cuts would hurt scientific R&D, experts say, The New York Times, 1-8, <http://hamptonroads.com/2012/01/defense-cuts-would-hurt-scientific-rd-experts-say>

Sarewitz, who studies the government's role in promoting innovation, said the Defense Department had been more successful than other federal agencies because it is the main user of the innovations that it finances. The Pentagon, which spends billions each year on weapons, equipment and technology, has an unusually direct stake in the outcome of its research and development **projects.**¶ "The central thing that distinguishes them from other agencies is that they are the customer," Sarewitz said. "You can't pull the wool over their eyes."¶ **Another factor is the Pentagon's** relative insulation from politics**, which has allowed it to sustain a long-term research agenda** in controversial areas**.** No matter which party is in power, **the Pentagon has continued to invest in clean-energy tech**nology, **for example,** in an effort to find ways to reduce one of its largest budget items, energy costs.

### Oil Disad

**Prices will lower to $45 per barrel**

**Chu 1/1**/12

[Dian L., CPSM, C.P.M., Chartered Economist, with an MBA from University of Houston. <http://etfdailynews.com/2013/01/01/the-new-era-of-oil-renaissance-xle-uco-uso-sco-cvx-cop-mro/> ETB]

The **tech**nology **changes** alone **in the oil industry are amazing**; just watch a horizontal drilling or fracking video and it is like all the advances made by the medical community for endoscopic procedures and advanced heart surgical techniques have been applied to the oil industry. And **the cost is far more manageable** than the medical field with all the added insurance costs, out of control bureaucracy, and government intervention all but eliminating any sense of free market principles.¶ Sure these constraints exist in the oil industry, but the healthcare industry is on a planet of its own and worse from a cost efficiency standpoint by a factor of at least a 100. There is not an ounce of free market in the healthcare industry!¶ We haven`t seen anything yet as **this new tech**nology being refined and implemented here in the US **will** then **be** **fully scalable around the globe, and the amount of new projects that will come online globally with this new tech**nology **over the next ten years has yet to be priced into any market intelligence models.**¶Natural Gas Industry as the Model¶ The natural gas industry is much smaller than the oil industry, and because of the new technology firms were actually continuing production with $2 natural gas because of much lower overall project costs relative to the size of the gas exploitable and other derivative products made along the way enabling these projects to be profitable.¶ **The oil industry is much more scalable from a cost standpoint, and once these upfront costs have been committed, the size of the industry and scalability means that projects can continue and be highly profitable even with much lower oil prices.**¶I previously have thought that this technology would suffer as prices drop, but I am rethinking this assumption with natural gas as my guide in a much less scalable industry. So I now believe that **this technology and these projects will continue and be cost effective even with oil dropping to $45 a barrel** for both Brent and WTI.¶ It won`t happen overnight, but under one scenario **prices will just steadily trend down like natural gas prices, and before we realize it we have the equivalent of $2 natural gas prices for the oil industry.**¶The China Factor: Use less Commodities for Next Decade¶ My assumption about **the trajectory** of oil prices **also relies on the China factor** that many analysts have been toying with for the last couple of years, but the IMF and others have done some nice research on and applied some hard numbers to the conceptual idea that **China has overinvested for the last decade by a large degree, and most of the previous forecasts for China`s growth trajectory from an infrastructure standpoint for the next 10 years are far too optimistic.**¶My conclusion is that **China will use far less commodities than they did the past decade** going forward **for the next decade. They are coming into the constraints of large numbers where you have built for the sake of building, and you can no longer build another large new city every year because the demand just isn`t there.** Basically, the easy, low hanging fruit has been eaten. Most of the new project benefits will not justify the cost based upon infrastructure constraints, logistical incongruities, and actual demand & societal need for said projects.¶ **The societal costs outweigh the societal benefits and the projects evaluated in total become a net drag on growth and GDP in the overall calculus.** China can go ahead with these projects but the law of diminishing returns, means the country will pay a heavy price to do so. China will continue to grow, but they will grow in a more sophisticated way from a social perspective from within, i.e. in a metaphorical Maslow`s – Hierarchy of Needs manner, and less of a brute, infrastructure driven manner.¶ Ergo, **the lower utilization for commodities by China is another factor that will put downward pressure on Oil** and other commodities **over the next 5 to 10 years**.¶ More Storage Capacity Needed Globally¶ Make no mistake these **oil** and commodity **projects are going to go full stream regardless of price due to sunk costs, more efficient operations, job creation, and overall profitability.**¶One of the takeaways out of this analysis is that storage facilities will have to be upgraded and new ones coming online for all commodities. For example in Oil, my analysis concludes that Cushing will need to upgrade capacity to over 100 million in the next couple of years, and over 150 million by 5 years’ time.¶ My new analysis determines the need for even more pipelines being built out of Cushing as well. There will need to be at least 5 million barrels per day outflow from Cushing to refineries by five years’ time; can anyone say job creation opportunities here?¶ The next substantial upgrade besides the paltry 300,000 per/day upgrade this year will not come online until mid-2014 and only improve capacity to 850,000 barrels per/day outflow from Cushing which is not going to be enough to counter an exponential measure of domestic production coming into the Cushing energy hub by 2014.¶ But I am forecasting that not only will Cushing be above 100 million in storage in three years’ time, but the US will need capacity to store over 600 million barrels by four years’ time, and China who is building storage currently, will need to meet their own need for storage due to a massive oversupply in their country.¶ China was building storage initially for strategic purposes, but my analysis concludes that because of an oversupply issue similar to copper today in China, they are going to need this additional storage for excess supply issues.¶ Therefore, if you’re in the storage facility business, times will be good for the next five years, plenty of business for these firms. As I think storage facilities will have to be built all around the world from Iraq, Saudi Arabia, Africa, and the Scandinavian countries.¶ A New Price Model for Oil¶ So **how low can prices go**? Let`s just say that the Renaissance in oil is going to be good for the global economy, just back in 2003 gasoline prices were $1.60 a gallon in the US and oil was trading around $30 a barrel.¶ **It is not unreasonable** to think if the Oil Renaissance takes the path that it is capable of **that** **Oil globally trades all the way down to the $45 area.**¶ **And those that think that OPEC would need $75 to keep up production, remember that**

**OPEC still kept pumping oil only four years ago with $33** oil in 2008. Furthermore, **OPEC countries still need the overall revenue not the price per say.**¶Accordingly, **you could very easily have a scenario where prices go lower and they pump more, violate reduction quotas because they all want the revenue net of volume and price, not just less volume but slightly higher prices.**¶ **I think the world will be surprised how the talking your book rhetoric of “we need $75 oil to justify production” is replaced with the actual, “we need the money and our real cost is so much lower than you could ever imagine” reality on the ground.**¶ **This is their one asset in these countries, some revenue stream is better than no revenue stream, and with global production picking up OPEC `s relevance, power, and influence on prices is diminishing by the day.**¶Great OPEC you can reduce production, your global competitors will love that, less competition for them. The only problem is that **these countries need the money**, **every country needs the money these days, and that`s the market place you take what you can get on the market!** The market goes in cycles, just as the housing market re-priced itself, so will the oil market!¶ **The ironic point here is that often the lower prices go, the more oil that is produced trying to make up in volume for the lower price to get as much revenue as possible.**¶$45 Oil & $2 Gasoline: Consumers Love this New Era¶ In conclusion, we are entering a new Renaissance in the oil market, not just in the US, but globally as well.¶ **New tech**nology, **slower growth in the emerging markets over the next decade, and an era where a decade of high prices will finally bear some fruit with market dynamics working as their supposed to leading to more supply, and an eventual reduction in prices.**

**Plan increases oil prices**

**Robertson ‘11**

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**With** both offshore drilling and **new nuclear construction likely to delay the infusion of new supply into the domestic energy economy, the** real economic **result** of committing to these strategies for expanding domestic energy production **may** actually **be the increase in prices for oil** and automotive gasoline, **as** **it becomes clear that overall supply depends** heavily **on** **these resources for the foreseeable future**. Over the last few years, as carbon pricing legislation has stalled, discussion about future economic development has shifted to the need for funding the broad expansion of national infrastructure for renewable resources, like wind and solar power.

**Military oil doesn’t link**

**Kreutzer 12**

David, Research Fellow in Energy Economics and Climate Change, Heritage Foundation, “Military Biofoolishness”, May 21, http://energy.nationaljournal.com/2012/05/powering-our-military-whats-th.php

**The entire U.S. military currently consumes about 360,000 barrels per day** of petroleum-based fuel, with 175,000 barrels per day (or less) going to the Air Force’s jets. **A single platform in the Gulf of Mexico (Thunderhorse) produces as much petroleum as these jets consume** and at a much lower cost than the biofuel replacements. The Keystone XL Pipeline would bring enough petroleum from a very secure Canada to meet our total military consumption two or three times over. The same story holds for other potential sources of conventional petroleum, such as the Arctic National Wildlife Refuge. The Air Force’s target is to replace about 26,000 barrels per day with biofuels. Whatever energy security that may provide could be doubled by a single well in the Gulf of Mexico. As a strategic policy, switching the military to biofuels can only make our enemies think we are not serious. **If the entire military consumption were switched away from petroleum, that would cut worldwide demand by 0.4 percent. This cut would reduce revenues to oil producers by about 1.5 percent.** Let’s hope biofuels are not anti-terrorism Plan A. Though some energy technologies that are too expensive for general civilian use may make sense for the military, biofuels are not among them. The military needs to rethink its biofuels program.

**Nuclear doesn’t tradeoff with oil**

**Styles 12**

Geoffrey, Managing Director of GSW Strategy Group, LLC, an energy and environmental strategy consulting firm, "How Helpless Are We in the Face of Rising Oil Prices?", February 24, energyoutlook.blogspot.com/2012/02/how-helpless-are-we-in-face-of-rising.html

To see why requires a sense of how the oil market works, as well as the uses to which we put oil today, rather than a generation ago. For starters, **although the President has worked hard to improve conditions for renewable energy** sources like wind and solar power--sources that certainly have an important role to play in our long-term energy mix--**these technologies, along with nuclear power, are out of place in a conversation about oil** prices in 2012. **That's because they produce electricity rather than liquid fuels, and less than 1% of US electricity is generated from oil today**, compared to more than 10% in 1980. **Electricity from** renewable and **nuclear** power **doesn't compete with imported oil or any other kind of oil**; it competes with domestic energy sources like coal and natural gas, most of which now comes from conventional and unconventional gas fields, rather than as a byproduct of producing oil. So by all means lets have a conversation about renewables in the context of reducing greenhouse gas emissions today and displacing oil from transportation when there are tens of millions of electric vehicles on the road in the future, **but in terms of oil prices now and in the near future, they are a rhetorical diversion.**

**Military oil entanglement risks wars that will escalate**

**Collina 5**

(Executive Director of 20-20 Vision, Tom Z. Collina, Executive Director of 20-20Vision; testimony in front of Committee on Foreign Relations Subcommittee on Near Eastern and South Asian Affairs United States Senate “Oil Dependence and U.S. Foreign Policy: Real Dangers, Realistic Solutions”. October 19, 2005 <http://www.globalsecurity.org/military/library/congress/2005_hr/051020-collina.pdf>)

More conflicts in the Middle East America imports almost 60% of its oil today and, at this rate, we’ll import 70% by 2025. Where will that oil come from? Two-thirds of the world’s oil is in the Middle East, primarily in Saudi Arabia, Iran and Iraq. **The United States has less than 3% of global oil. The Department of Energy predicts that North American oil imports from the Persian Gulf will double from 2001 to 2025**.i **Other oil suppliers**, such as Venezuela, Russia, and West Africa, **are also politically unstable and hold no significant long-term oil reserves compared to those in the Middle East**. Bottom line: **our economy and security are increasingly dependent on one of the most unstable regions on earth. Unless we change our ways, we will find ourselves even more at the mercy of Middle East oil and thus more likely to get involved in future conflicts**. **The greater our dependence** on oil, **the greater the pressure to protect and control that oil**. **The growing American dependence on imported oil is the primary driver of U.S.** foreign and **military policy** today, particularly in the Middle East, **and motivates an aggressive military policy** now on display in Iraq. **To help avoid similar wars in the future and to encourage a more cooperative, responsible, and multilateral foreign policy the United States must significantly reduce its oil use.** Before the Iraq war started, Anthony H. Cordesman of the Center for Strategic and International Studies said: “Regardless of whether we say so publicly, we will go to war, because Saddam sits at the center of a region with more than 60 percent of all the world's oil reserves.” Unfortunately, he was right. In fact, **the use of military power to protect the flow of oil has been a central tenet of U.S. foreign policy since 1945**. That was the year that President Franklin D. Roosevelt promised King Abdul Aziz of Saudi Arabia that the United States would protect the kingdom in return for special access to Saudi oil—a promise that governs U.S. foreign policy today. This policy was formalized by President Jimmy **Carter** in 1980 when he **announced that the secure flow of oil from the Persian Gulf was in “the vital interests of the United States of America” and that America would use “any means necessary, including military force” to protect those interests** from outside forces. This doctrine was expanded by President Ronald Reagan in 1981 to cover internal threats, and was used by the first President Bush to justify the Gulf War of 1990-91, and provided a key, if unspoken rationale for the second President Bush’s invasion of Iraq in 2003.ii The Carter/Reagan Doctrine also led to the build up of U.S. forces in the Persian Gulf on a permanent basis and to the establishment of the Rapid Deployment Force and the U.S. Central Command (CENTCOM). **The United States now spends over $50 Billion per year (in peacetime) to maintain our readiness to intervene in the Gulf.**iii **America has tried to address its oil vulnerability by using our military to protect supply routes and to prop up or install friendly regimes. But** as Iraq shows the price is astronomical—$200 Billion and counting. Moreover, **it doesn’t work**—**Iraq is now producing less oil than it did before the invasion.** While the reasons behind the Bush administration’s decision to invade Iraq may be complex, can anyone doubt that we would not be there today if Iraq exported coffee instead of oil? **It is time for a new approach.** Americans are no longer willing to support U.S. misadventures in the Persian Gulf. Recent polls show that almost two-thirds of Americans think the Iraq war was not worth the price in terms of blood and treasure. Lt. Gen William Odom, director of the National Security Agency during President Reagan's second term, recently said: "The invasion of Iraq will turn out to be the greatest strategic disaster in U.S. history." The nation is understandably split about what to do now in Iraq, but there appears to be widespread agreement that **America should not make the same mistake again—and we can take a giant step toward that goal by reducing our dependence on oil.**

**SMRs solve inevitable water wars**

**Palley ‘11**

Reese Palley, The London School of Economics, 2011, The Answer: Why Only Inherently Safe, Mini Nuclear Power Plans Can Save Our World, p. 168-71

The third world has long been rent in recent droughts, by the search for water. In subsistence economies, on marginal land, **water is** not a convenience but **a matter of life and death**. As a result small **wars have been fought, rivers diverted, and wells poisoned in what could be a warning of what is to come as industrialized nations begin to face failing water supplies.** Quite aside from the demand for potable water is the dependence of enormous swaths of industry and agriculture on oceans of water used for processing, enabling, and cleaning a thousand processes and products. It is interesting to note that fresh water used in both industry and agriculture is reduced to a nonrenewable resource as agriculture adds salt and industry adds a chemical brew unsuitable for consumption. More than **one billion people in the world already lack access to clean water**, and things are getting worse. Over the next two decades, the average supply of water per person will drop by a third**, condemning millions of people to waterborne diseases and an avoidable premature death**.81 **So the stage is set for water access wars between the first and the third worlds, between neighbors downstream of supply, between big industry and big agriculture, between nations, between population** centers, and ultimately between you and the people who live next door for an already inadequate world water supply that is not being renewed. **As populations inevitably increase, conflicts will intensify**.82 It is only by virtue of the historical accident of the availability of nuclear energy that humankind now has the ability to remove the salt and other pollutants to supply all our water needs. The problem is that **desalination is an intensely local process.** Some localities have available sufficient water from renewable sources to take care of their own needs, but not enough to share with their neighbors, and it **is here that the scale of nuclear energy production must be defined locally.** Large scale 1,000 MWe plants can be used to desalinate water as well as for generating electricity However we cannot build them fast enough to address the problem, and, if built they would face the extremely expensive problem of distributing the water they produce. Better, much better, would be to use small desalinization plants sited locally. Beyond desalination for human use is the need to green some of the increasing desertification of vast areas such as the Sahara. Placing twenty 100 MWe plants a hundred miles apart along the Saharan coast would green the coastal area from the Atlantic Ocean to the Red Sea, a task accomplished more cheaply and quickly than through the use of gigawatt plants.83 This could proceed on multiple tracks wherever deserts are available to be reclaimed. Leonard Orenstein, a researcher in the field of desert reclamation, speculates: If most of the Sahara and Australian outback were planted with fast-growing trees like eucalyptus, the forests could draw down about 8 billion tons of carbon a year—nearly as much as people emit from burning fossil fuels today. As the forests matured, they could continue taking up this much carbon for decades.84 **The use of small, easily transported, easily sited, and walk away safe nuclear reactors dedicated to desalination is the only answer** to the disproportionate distribution of water resources that have distorted human habitation patterns for millennia. Where there existed natural water, such as from rivers, great cities arose and civilizations flourished. Other localities lay barren through the ages. **We now have the power, by means of SMRs profiled to local conditions, not only to attend to existing water shortages but also to smooth out disproportionate water distribution and create green habitation** where historically it has never existed**. The endless wars that have been fought, first over solid bullion gold and then over oily black gold, can now engulf us in the desperate reach for liquid blue gold. We need never fight these wars again as we now have the nuclear power to fulfill the biblical ability to “strike any local rock and have water gush forth.”**

**That solves indo-pak water wars that go nuclear.**

**Zahoor ‘11**

(Musharaf, is researcher at Department of Nuclear Politics, National Defence University, Islamabad, “Water crisis can trigger nuclear war in South Asia,” <http://www.siasat.pk/forum/showthread.php?77008-Water-Crisis-can-Trigger-Nuclear-War-in-South-Asia>, AM)

South Asia is among one of those regions where water needs are growing disproportionately to its availability. The high increase in population besides large-scale cultivation has turned South Asia into a water scarce region. The two nuclear neighbors **Pakistan and India share the waters of Indus Basin.** All the major rivers stem from the Himalyan region and pass through Kashmir down to the planes of Punjab and Sindh empty into Arabic ocean. **It is pertinent that the strategic importance of Kashmir, a source of all major rivers, for Pakistan and symbolic importance of Kashmir for India are maximum list positions.** Both the countries have fought two major wars in 1948, 1965 and a limited war in Kargil specifically on the Kashmir dispute. Among other issues, the newly born states fell into water sharing dispute right after their partition. Initially under an agreed formula, Pakistan paid for the river waters to India, which is an upper riparian state. After a decade long negotiations, both the states signed Indus Water Treaty in 1960. Under the treaty, India was given an exclusive right of three eastern rivers Sutlej, Bias and Ravi while Pakistan was given the right of three Western Rivers, Indus, Chenab and Jhelum. The tributaries of these rivers are also considered their part under the treaty. It was assumed that the treaty had permanently resolved the water issue, which proved a nightmare in the latter course. India by exploiting the provisions of IWT started wanton construction of dams on Pakistani rivers thus scaling down the water availability to Pakistan (a lower riparian state). The treaty only allows run of the river hydropower projects and does not permit to construct such water reservoirs on Pakistani rivers, which may affect the water flow to the low lying areas. According to the statistics of Hydel power Development Corporation of Indian Occupied Kashmir, India has a plan to construct 310 small, medium and large dams in the territory. India has already started work on 62 dams in the first phase. The cumulative dead and live storage of these dams will be so great that India can easily manipulate the water of Pakistani rivers. India has set up a department called the Chenab Valley Power Projects to construct power plants on the Chenab River in occupied Kashmir. India is also constructing three major hydro-power projects on Indus River which include Nimoo Bazgo power project, Dumkhar project and Chutak project. On the other hand, it has started Kishan Ganga hydropower project by diverting the waters of Neelum River, a tributary of the Jhelum, in sheer violation of the IWT. **The gratuitous construction of dams by India** has **created serious water shortages in Pakistan.** The construction of Kishan Ganga dam will turn the Neelum valley, which is located in Azad Kashmir into a barren land. **The water shortage will not only affect the cultivation but it has serious social, political and economic ramifications for Pakistan.** The farmer associations have already started protests in Southern Punjab and Sindh against the non-availability of water. These protests are so far limited and under control. The reports of international organizations suggest that the water availability in Pakistan will reduce further in the coming years. If the situation remains unchanged, **the violent mobs of villagers across the country will be a major law and order challenge** for the government. The water shortage has also created mistrust among the federative units, which is evident from the fact that the President and the Prime Minister had to intervene for convincing Sindh and Punjab provinces on water sharing formula. The Indus River System Authority (IRSA) is responsible for distribution of water among the provinces but in the current situation it has also lost its credibility. The provinces often accuse each other of water theft. In the given circumstances, Pakistan desperately wants to talk on water issue with India. The meetings between Indus Water Commissioners of Pakistan and India have so far yielded no tangible results. The recent meeting in Lahore has also ended without concrete results. India is continuously using delaying tactics to under pressure Pakistan. The Indus Water Commissioners are supposed to resolve the issues bilaterally through talks. The success of their meetings can be measured from the fact that Pakistan has to knock at international court of arbitration for the settlement of Kishan Ganga hydropower project. The recently held foreign minister level **talks** between both the countries ended inconclusively in Islamabad, **which only resulted in heightening** the mistrust and **suspicions.** The **water stress** in Pakistan is increasing day by day. The construction of dams will not only cause damage to the agriculture sector but India can manipulate the river water to create inundations in Pakistan. The rivers in Pakistan are also vital for defense during wartime. The control over the water will provide an edge to India during war with Pakistan. The **failure of diplomacy**, manipulation of IWT provisions by India and growing water scarcity in Pakistan and its social, political and economic repercussions for the country **can lead** both the countries **to**ward a **war.** The existent **A-symmetry between** the **conventional forces** of both the countries **will compel the weaker side to use nuclear weapons** to prevent the opponent from taking any advantage of the situation. Pakistan's nuclear programme is aimed at to create minimum credible deterrence. India has a declared nuclear doctrine which intends to retaliate massively in case of first strike by its' enemy. In 2003, India expanded the operational parameters for its nuclear doctrine. Under the new parameters, it will not only use nuclear weapons against a nuclear strike but will also use nuclear weapons against a nuclear strike on Indian forces anywhere. Pakistan has a draft nuclear doctrine, which consists on the statements of high ups. Describing the nuclear thresh-hold in January 2002, General Khalid Kidwai, the head of Pakistan's Strategic Plans Division, in an interview to Landau Network, said that Pakistan will use nuclear weapons in case India occupies large parts of its territory, economic strangling by India, political disruption and if India destroys Pakistan's forces. The **analysis of** the ambitious **nuclear doctrines** of boththe countries clearly **points out** that **any military confrontation** in the region **can result in a nuclear catastrophe. The rivers flowing from Kashmir are Pakistan's lifeline, which are essential for the livelihood of 170 million people of the country and the cohesion of federative units. The failure of dialogue will leave no option but to achieve the ends through military means.**

### K

**Problem-solution impact is backwards---acting with a flawed epistemology allows us to change that epistemology.**

**Harris 7** (Graham, Adjunct Prf. @ Centre for Environment University of Tasmania, Seeking Sustainability in an age of complexity p. 9-10)

1 am not going to address the global 'litany' at length here. The arguments have been well made by others, especially and most elegantly by E. O. Wilson. What 1 wish to address here is the question: 'Can we grasp the complexity of it all and, if so, what do we do about it?' Given the fundamental nature of the problem the destruction of the biosphere and its ecosystem ser- vices together with the huge changes going on in human societies and cultures driven by globalisation and technological change the precautionary principle would suggest that even if the epistemology is flawed, the data are partial and the evidence is shaky, we should pay attention to the little we know and do whatever is possible to mitigate the situation even if we fundamentally disagree about the means and the ends. The only ethical course of action is, as John Ral- ston Saul writes," based on 'a sense of the other and of inclusive responsibility'. We know enough to act. Ethics is about uncertainty, doubt, system thinking and balancing difficult choices. It is about confronting the evidence**.** Over the past two or three decades, as there has been an increasing appre- ciation of the importance of good environmental management, and as western societies have become more open and the ICT revolution has made informa- tion much more widely available there has been a growing debate between the worlds of science, industry, government and the community around environ- mental ethics and environmental issues and their management. During this period new knowledge has been gained, ideas have changed (sometimes quite fundamentally) and there have been huge changes in government and social institutions and policies. We are all on a recursive journey together: we are lit- erally 'making it up as we go along'. This is not easy and there are no optimal solutions. This is an adaptive process requiring feedback from all parts of the system. Yes, there will be surprises. This is why it is so important that when we act we constantly reflect on what we know and what we are doing about it and where it is all going. As we reach the physical limits of the global biosphere the values we place on things are changing and must change further. A new environmental ethic is required, one that is less instrumental and more embracing. Traditionally there has tended to be a schism between those who take an anthropocentric view (that the world is there for us to use) and those who take the non-anthropocentric view (those who value nature in its own right). Orthodox anthropocentrisni dictates that non-human value is instrumental to human needs and interests. In contrast, non-anthropocentrics take an objectivist view and value nature intrinsically; some may consider the source of value in non-human nature to be independent of human consciousness.45 What is required is a more complex and systems view of ethics which finds a middle ground between the instrumentalist and objectivist views. Norton '46 for example, proposes an alternative and more complex theory of value - a universal Earth ethic - which values processes and dynamics as well as entities and takes an adaptive management view of changing system properties. For sustainable development to occur, choices about values will remain within the human sphere but we should no longer regard human preferences as the only criterion of moral significance. 'Humans and the planet have entwined destinies"' and this will be increasingly true in many and complex ways as we move forward. There are calls for an Earth ethic beyond the land ethic of Aldo Leopold.45 The science of ecology is being drawn into the web .49 Ecologists are becoming more socially and culturally aware and engaged" and the 'very doing' of ecology is becoming more ethical.tm' Some scientists are beginning to see themselves more as agents in relationships with society and less as observers.

**Our aff understands contingent complexity – the 1ac’s scenario planning allows us to find an effective solution**

**Han, 10 [** Dong-ho Han, Ph.D. Candidate in Political Science at the University of Nebraska-Lincoln, , “Scenario Construction and Implications for IR Research: Connecting Theory to a Real World of Policy Making,” http://www.allacademic.com/one/isa/isa10/index.php?cmd=Download+Document&key=unpublished\_manuscript&file\_index=1&pop\_up=true&no\_click\_key=true&attachment\_style=attachment&PHPSESSID=3e890fb59257a0ca9bad2e2327d8a24f

How do we assess future possibilities with existing data and information? Do we have a systematic approach to analyze the future events of world politics? **If** the problem of uncertainty in future world **politics is increasing and future international relations are** **hard to predict**, **then it is necessary to devise a useful tool to effectively deal with upcoming events** **so that** **policy makers can reduce the risks of future uncertainties**. In this paper, I argue that **the scenario methodology** **is** one of the most **effective** methods **to connect theory to practice**, thereby leading to a better understanding of future world events. The purpose of this paper is to introduce the scenario methodology to the field of IR in a more acceptable fashion and to explore its implications for a real policy world. To achieve this goal, I will explain the scenario methodology and why it is adequate to provide a better understanding of future world events. More specifically, I will clarify what the scenario method is and what its core components are and explain the importance and implications of the scenario method in IR by analyzing existing IR literature with an emphasis on security studies that primarily provide the prospect of future security issues. 1. Introduction How do we assess future possibilities with existing data and information? Do we have a systematic approach to analyze the future events of world politics? Given various theoretical ideas for predicting and analyzing future events in the field of international relations (IR), to understand these events properly it is important both to cast out all plausible outcomes and to think through a relevant theory, or a combination of each major theory, in connection with those outcomes. This paper aims to explain the scenario methodology and why it is adequate to provide a better understanding of future world events. After clarifying the scenario methodology, its core components, and its processes and purposes, I will explore other field’s use of this methodology. Then I will explain the importance and implications of the scenario method in the field of IR. I will conclude with summarizing the advantage of the scenario method in a real world of policy making. 2. What is the Scenario Methodology? This section begins with one major question – **what is the scenario methodology?** To answer this, some history regarding the development of this method should be mentioned.1 Herman Kahn, a pioneer of the scenario method, in his famous 1962 book Thinking about the Unthinkable, argued that the **decision makers** in the United States **should think of and prepare for all possible sequences of events with regard to nuclear war** with the Soviet Union.2 Using scenarios and connecting them with various war games, Kahn showed the importance of thinking ahead in time and using the scenario method based upon imagination for the future.3 According to Kahn and his colleagues, **scenarios are** “**attempts to describe** in some detail **a hypothetical sequence of events that could lead plausibly** **to the situation envisaged**.”4 Similarly, Peter Schwartz defines scenarios as “stories about the way the world might turn out tomorrow, stories that can help us recognize and adapt to changing aspects of our present environment.”5 Given a variety of definitions of scenarios,6 for the purpose of this research, I refer to the scenario-building methodology as a means by which **people can articulate** **different futures** **with trends, uncertainties, and rules over a certain amount of time**. Showing all plausible future stories and clarifying important trends, scenario thinking enables decision makers to make an important decision at the present time. Key Terms in the Scenario Methodology **The core of the scenario method** **lies in** **enabling policy makers to reach a critical decision** **at the present time based on thinking about** all **plausible future possibilities**. Key concepts in the scenario method include: driving forces, predetermined elements, critical uncertainties, wild cards and scenario plot lines.7 Driving forces are defined as “the causal elements that surround a problem, event or decision,” which could be many factors, including those “that can be the basis, in different combinations, for diverse chains of connections and outcomes.”8 Schwartz defines driving forces as “the elements that move the plot of a scenario, that determine the story’s outcome.”9 In a word, driving forces constitute the basic structure of each scenario plot line in the scenario-making process. Predetermined elements refer to “events that have already occurred or that almost certainly will occur but whose consequences have not yet unfolded.”10 Predetermined elements are “givens” which could be safely assumed and understood in the scenario-building process. Although predetermined elements impact outcomes, they do not have a direct causal impact on a given outcome. Critical uncertainties “describe important determinants of events whose character, magnitude or consequences are unknown.”11 Exploring critical uncertainties lies at the heart of scenario construction in the sense that the most important task of scenario anaysts is to discover the elements that are most uncertain and most important to a specific decision or event.12 Wild cards are “conceivable, if low probability, events or actions that might undermine or modify radically the chains of logic or narrative plot lines.”13 In John Peterson’s terms, wild cards are “not simple trends, nor are they byproducts of anything else. They are events on their own. They are characterized by their scope, and a speed of change that challenges the outermost capabilities of today’s human capabilities.”14 Wild cards might be extremely important in that in the process of scenario planning their emergence could change the entire direction of each scenario plot line. A scenario plot line is “a compelling story about how things happen” and it describes “how driving forces might plausibly behave as they interact with predetermined elements and different combinations of critical uncertainties.”15 Narratives and/or stories are an essential part of the scenario method due to the identical structure of analytical narratives and scenarios: “both are sequential descriptions of a situation with the passage of time and explain the process of events from the base situation into the situation questioned.”16 Process and Purpose of Scenario Analysis **Scenario analysis begins with the exploration of driving forces including some uncertainties**. However, **scenario building is more than just organizing future uncertainties; rather, it is a thorough understanding of uncertainties**, thereby distinguishing between something clear and unclear in the process of decision making.17 As Pierre Wack has pointed out, “**By carefully studying some uncertainties, we gained a deeper understanding of their interplay, which, paradoxically, led us to learn what was certain and inevitable and what was not**.” In other words, a careful investigation of raw uncertainties helps people figure out more “critical uncertainties” by showing that “what may appear in some cases to be uncertain might actually be predetermined – that many outcomes were simply not possible.”18 Exploring future uncertainties thoroughly is one of the most important factors in scenario analysis. Kees van der Heijden argues that **in the process of separating “knowns” from “unknowns” analysts could clarify driving forces because the process of separation between “predetermineds” and uncertainties** **demands** a fair amount of **knowledge of causal relationships surrounding the issue at stake**.19 Thus, in scenario analysis a thorough understanding of critical uncertainties leads to a well-established knowledge of driving forces and causal relations.20 Robert Lempert succinctly summarized the scenario-construction process as follows: “scenario practice begins with the challenge facing the decisionmakers, ranks the most significant driving forces according to their level of uncertainty and their impact on trends seemingly relevant to that decision, and then creates a handful of scenarios that explore different manifestations of those driving forces.”21

**Scenario Planning is consistent with complexity theory**

**KAVALSKI ‘7** (Emilian; University of Alberta, “The fifth debate and the emergence of complex international relations theory: notes on the application of complexity theory to the study of international life,” Cambridge Review of International Affairs, v. 20 n. 3, September)

**In a further examination of the cognitive perspective, some proponents of CIR theory have suggested ‘scenarios’ as tools for the modelling of complexity (Feder 2002; Harcourt and Muliro 2004). Scenarios are defined as ‘imaginative stories of the future that describe alternative ways the present might evolve over a given period of time’ (Heinzen 2004, 4). They focus on subjective interpretations and perceptions. Understanding complexity, therefore, would depend on the relationship between the ‘cognitive schema’ (that is, available knowledge) and the ‘associative network’ (that is, the activation of the links between different concepts) of the observer (Bradfield 2004, 40). The suggestion is that in some sense ‘we create our own consciousness of complexity by seeking it out’ (LaPorte 1975, 329). In this respect, some proponents of CIR theory have asserted the analysis of discourses as an important distinction between human and nonhuman complex systems (Geyer 2003b, 26).14**

**The intellectual considerations of these epistemological frameworks suggest the challenging conceptual and methodological problems facing CIR theory. On a metatheoretical level, the problem stems from the realization that students of the complexity of international life can never be fully cognizant of the underlying truths, principles and processes that ‘govern reality’ because this would (i) involve (a degree of) simplification of complex phenomena (LaPorte 1975, 50), as well as (ii) imply ‘knowing the not knowable’ (Cioffi-Revilla 1998, 11). As suggested, analytically, the conscious consideration of complexity is hindered by the inherent difficulty of formalizing uncertainty and contingency (Whitman 2005, 105). Some commentators, therefore, have rejected the possibility of constructing comprehensive models for the study of complexity altogether in an attempt to overcome the trap of having to justify their methodologies in ways that are understandable to conventional IR. Therefore, a number of CIR proponents rely on ‘sensemaking’ (Browaeys and Baets 2003, 337; Coghill 2004, 53), ‘whatiffing’ (Beaumont 1994, 171) and other forms of ‘speculative thinking’ (Feder 2002, 114) for their interpretations of the complexity of international life. The claim is that the acceptance of endogeneity as a ‘fact’ of international life provides more insightful modes of analysis than the linear-regression-type approach of traditional IR (Johnston 2005 1040). Without ignoring some controversial aspects of incorporating ontological and epistemological reflection into methodological choices, the claim here is that CIR theory suggests intriguing heuristic devices that both challenge conventional wisdom and provoke analytical imaginations.**

**Complex international relations theory, therefore, proffers analytical tools both for explaining and understanding discontinuities. It is claimed that its approaches offer ‘antidotes’ to the anxiety that randomness engenders in traditional IR as well as provide a paradigm that accepts uncertainty as inevitable (Feder 2002, 117). Thus, in contrast to the typically linear perceptions of change in mainstream IR— that is, changes in variables occur, but the effect is constant—CIR suggests that ‘things suffer change’. The contention is that the unpredictability of the emergent patterns of international life needs to be conceptualized within the framework of self-organizing criticality—that is, their dynamics ‘adapt to, or are themselves on, the edge of chaos, and most of the changes take place through catastrophic events rather than by following a smooth gradual path’ (Dunn 2007, 99). Complex international relations, in other words, suggests that change entails the possibility of a ‘radical qualitative effect’ (Richards 2000, 1). Therefore, the alleged arbitrariness of occurrences that conventional IR might describe as the effects of randomness (or exogenous/surprising shocks) could (and, in fact, more often than not does) reflect ignorance of their interactions. In fact, the reference to ‘chance’ is merely a metaphor for our lack of knowledge of the dynamics of complexity (Smith and Jenks 2006, 273).**

**In this respect, CIR theory sketches the fifth debate in the study of international life (see Table 2). Its outlines follow the proposition of the Gulbenkian Commission to break down the division between ‘natural’ and ‘social’ sciences, since both are pervaded by ‘complexity’. Therefore, scholars should not be ‘conceiving of humanity as mechanical, but rather instead conceiving nature as active and creative [to make] the laws of nature compatible with the idea of novelty and of creativity’ (Wallerstein 1996, 61–63). Complex international relations (unlike other IR approaches) acknowledges that patterns of international life are panarchic ‘hybrids’ of physical and social relations (Urry 2003, 18) and advocates such fusion (through the dissolution of the outdated distinction) of scientific realities (Whitman 2005, 45–64). Its complex adaptive thinking in effect challenges the very existence of ‘objective standards’ for the assessment of competing knowledge claims, because these are ‘not nature’s, but rather always human standards, standards which are not given but made . . . adopted by convention by the members of a specific community’ (Hoffmann and Riley 2002, 304). The complex adaptive thinking of CIR theory, therefore, is an instance of ‘true thinking’—‘thinking that looks disorder and uncertainty straight in the face’ (Smith and Jenks 2006, 4).**

## 1AR

### **Solvency**

**Tech exists – smrs solve their manufacturing args**

**Szondy 12**

David, freelance writer based in Monroe, Washington. An award-winning playwright, he has contributed to Charged and iQ magazine and is the author of the website Tales of Future Past, February 16, "Feature: Small modular nuclear reactors - the future of energy?", [www.gizmag.com/small-modular-nuclear-reactors/20860/](http://www.gizmag.com/small-modular-nuclear-reactors/20860/)

One way of getting around many of these problems is through the development of small modular reactors (**SMR**). These **are** reactors **capable of generating** about **300 megawatts** of power or less, **which is enough to run 45,000** US **homes**. Though small, SMRs are proper reactors. They are quite different from the radio-thermal generators (RTG) used in spacecraft and remote lighthouses in Siberia. Nuclear reactors such as **SMRs use controlled nuclear fission to generate power while RTGs use** natural **radioactive decay to power a** relatively simple **thermoelectric generator that can only produce**, at most, about **two kilowatts.¶** In terms of power, RTGs are the equivalent of batteries while small nuclear reactors are only "small" when compared to conventional reactors. They are hardly the sort that you would keep in the garage. In reality, SMR power plants would cover the area of a small shopping mall. Still, such an installation is not very large as power plants go and a reactor that only produces 300 megawatts may not seem worth the investment, but the US Department of Energy is offering US$452 million in matching grants to develop SMRs and private investors like the Bill Gates Foundation and the company of Babcock and Wilcox are putting up money for their own modular reactor projects.¶ The 60-year old breakthrough¶ **One reason for government and private industry to take an interest in SMRs is that they've** **been successfully employed for much longer than most people realize.** In fact, **hundreds have been steaming around the world inside** the hulls **of nuclear submarines and other warships for sixty years. They've also been used in merchant ships, icebreakers and as research and medical isotope reactors** at universities. There was even one installed in the Antarctic at McMurdo Station from 1962 to 1972. Now they're being considered for domestic use.¶ The case for SMRs¶ SMRs have a number of advantages over conventional reactors. For one thing, **SMRs are cheaper to construct and run.** This makes them very attractive to poorer, energy-starved countries; small, growing communities that don't require a full-scale plant; and remote locations such as mines or desalination plants. Part of the reason for this is simply that the reactors are smaller. Another is that, not needing to be custom designed in each case, the **reactors can be standardized and some types built in factories that are able to employ economies of scale.** The factory-built aspect is also important because **a factory is more efficient than on-site construction by as much as eight to one in terms of building time.** **Factory construction also allows SMRs to be built, delivered to the site, and then returned to the factory for dismantling** at the end of their service lives - **eliminating a major problem with old** conventional **reactors, i.e. how to dispose of them.¶** **SMRs** also **enjoy** a good deal of **design flexibility. Conventional reactors are** usually **cooled by water** - a great deal of water - **which means that the reactors need to be situated near rivers or coastlines. SMRs**, on the other hand, **can be cooled by air, gas, low-melting point metals or salt.** This means that **SMRs can be placed in remote**, inland **areas** where it isn't possible to site conventional reactors.¶ Safety¶ This cooling system is often passive. In other words, it relies more on the natural circulation of the cooling medium within the reactor's containment flask than on pumps. This passive cooling is one of the ways that **SMRs can improve safety**. Because modular reactors are smaller than conventional ones, **they contain less fuel**. This means that **there's less of a mass to be affected if an accident occurs.** If one does happen, **there's less radioactive material that can be released** into the environment and makes it easier to design emergency systems. Since they are smaller and use less fuel, **they are easier to cool effectively, which** greatly **reduces the likelihood of a catastrophic accident or meltdown** in the first place.¶ This also means that **accidents proceed much slower in modular reactors** than in conventional ones. **Where the latter need accident responses in** a matter of hours or **minutes**, **SMRs can be responded to in** hours or **days**, which reduces the chances of an accident resulting in major damage to the reactor elements.¶ **The SMR designs that reject water cooling in favor of gas, metal or salt have their own safety advantages**. Unlike water-cooled reactors, **these media operate at a lower pressure.** **One of the hazards of water cooling is that a cracked pipe or a damaged seal can blow radioactive gases out** like anti-freeze out of an overheated car radiator**. With low-pressure media, there's less force to push gases out and there's less stress placed on the containment vessel. It** also **eliminates one of the** frightening **episodes of the Fukushima accident where the water in the vessel broke down into hydrogen and oxygen and then exploded.¶** Another advantage of modular design is that some **SMRs are small enough to be installed below ground.** That is cheaper, faster to construct and less invasive than building a reinforced concrete containment dome. There is also the point that **putting a reactor in the ground makes it less vulnerable to earthquakes. Underground installations make modular reactors easier to secure and install** in a much smaller footprint. **This makes SMRs particularly attractive to military customers who need to build power plants for bases quickly.** **Underground installation also enhances security** with fewer sophisticated systems needed, which also helps bring down costs.¶ **SMRs can help with proliferation, nuclear waste and fuel supply issues because, while some modular reactors are based on conventional pressurized water reactors and burn enhanced uranium, others use less conventional fuels. Some**, for example, can **generate power from** what is now regarded as "**waste", burning depleted uranium and plutonium left over** from conventional reactors. **Depleted uranium is** basically U-238 from which the fissible U-235 has been consumed. It's also much **more abundant** in nature than U-235, **which has the potential of providing the world with energy for thousands of years. Other reactor design**s don't even use uranium. Instead, they **use thorium**. This fuel is also incredibly abundant, is easy to process for use as fuel and has the added bonus of being utterly useless for making weapons, so it can provide power even to areas where security concerns have been raised.¶ But there's still the sticking point that modular reactors are, by definition, small. That may be fine for a submarine or the South Pole, but what about places that need more? Is the alternative conventional nuclear plants? It turns out that the answer is no. **Modular reactors don't need to be used singly. They can be set up in batteries of five or six** or even more, **providing as much power as an area needs.** And if one unit needs to be taken off line for repairs or even replacement, it needn't interfere with the operation of the others.

### **Oil**

#### Many countries empirically deny the impact

Impact Lab 10 (6/21, “The 2010 Failed States Index.” http://www.impactlab.com/2010/06/21/the-2010-failed-states-index/)

Given time and the right circumstances, countries do recover. Sierra Leone and Liberia, for instance, no longer rank among the top 20 failing states, and Colombia has become a stunning success story. Few remember today that the Dominican Republic once vied with its neighbor Haiti for the title of “worst [Caribbean](http://www.impactlab.com/2010/06/21/the-2010-failed-states-index/) basket case.” But the overall story of the Failed States Index is one of wearying constancy, and 2010 is proving to be no different: Crises in Guatemala, [Honduras](http://www.impactlab.com/2010/06/21/the-2010-failed-states-index/), Iran, and Nigeria — among others — threaten to push those unstable countries to the breaking point.

### 1AR- Prices Uniqueness

Oil prices just dropped 1.6% and will trend downward

Fletcher 2/5

http://www.ogj.com/articles/2013/02/market-watch--crude-prices-fall-in-worst-day-of-the-year.html

Oil prices fell Feb. 4 with the front-month crude contract dropping 1.6% in the New York futures market after rising 10% since early December. It was the “worst day of the year” for that market, said Marc Ground at Standard New York Securities Inc., the Standard Bank Group.¶ The fall came after Iran agreed to resume negotiations with the US and other countries on its nuclear program, instantly easing the geopolitical tension premium in crude prices, some analysts said. Iran hasn’t met US, UK, China, France, Russia, and Germany representatives on this issue since June. Western leaders and analysts suppose world trade sanctions against Iran are forcing the country’s leaders back to the conference table. An oil embargo has stopped about half of Iran’s crude exports, and its currency recently fell to a record low against the US dollar.¶ “It appeared as if the US would take a more conciliatory tone in the upcoming negotiations with Iran,” Ground said. “This morning, it is largely dollar movements that are driving the [oil market], with a weaker dollar providing some lift.”¶ The decline in oil prices also was assisted “by the weaker-than-expected 1.8% month-to-month growth in US factory orders during December (consensus: 2.3%,) together with the downward revision (minus 0.3% month-to-month) of the November number,” he said. “Besides these proximate causes for the downward pressure, given the heady start to the year we do feel that some correction to oil prices is warranted given global market fundamentals and continue to believe that prices will move lower as we move further into the quarter.”

**1AR No Link**

**Their disad is the wrong direction- demand meets supply not the other way around.**

**Konrad 4/28**

[Tom, private money manager and freelance writer focused on Peak Oil and Climate Change as investment themes. Editor at Alt Energy Stocks, where I've been analyzing clean energy stocks since 2007. Ph.D. in mathematics from Purdue University, where he wrote his thesis on Complex Dynamics. http://www.forbes.com/sites/tomkonrad/2012/04/28/peak-oil-net-exports-arent-everything/?commentId=comment\_blogAndPostId/blog/comment/1394-493-227]

Compared to the end of cheap oil, “**peak oil,”** or the moment when worldwide production hits its peak, **is irrelevant**, at least **from an** **economic standpoint.** **What** **we** really **care about is how much we’re paying** for the oil that keeps our economy running. As I demonstrated in my most popular article to date on Forbes, The End of Elastic Oil, **the** global **market for oil has had a regime change** in the last 10 years.

The New Oil Regime

**In the old regime, oil production was flexible, with plenty of spare capacity** in places like Saudi Arabia, **and** supply **easily adjusted** **to** accommodate **changes in demand.** In the new regime, that is no longer the case. **Today, oil supply shifts in response to demand only slowly, so demand has to shift to accommodate changes in supply. Since most oil demand is inelastic** (we have to drive to work or we lose our job), **large price changes are needed to** **significantly impact demand**. **Hence we now see much larger price swings** (and generally higher prices) than we have ever seen before.

### AT US Key

**Reduced US demand doesn't affect global prices**

**Nordhaus 11**

William D, Sterling Professor of Economics; Cowles Foundation, Yale University, October 27, “Energy: Friend or Enemy?,” <http://www.nybooks.com/articles/archives/2011/oct/27/energy-friend-or-enemy/?pagination=false>

**If we look at** both the rhetoric and substance of **oil policy**, particularly oil dependency, **much thinking is misguided because of misconceptions about the nature of oil dependency. We can usefully think of the oil market as a single integrated world market**—like a giant bathtub of oil. In the bathtub view, there are spigots from Saudi Arabia, Russia, and other producers that introduce oil into the inventory. And there are drains from which the United States, China, and other consumers draw oil. Nevertheless, **the dynamics of the price and quantity are determined by the sum of these demands and supplies, and are independent of whether the faucets and drains are labeled “US,” “Russia,” or “China.” In other words, prices are determined by global supply and demand, and the composition of supply and demand is irrelevant**.7¶ Why is crude oil an integrated world market? The reasons are that the costs of transporting oil are low, different crude oils are largely interchangeable, and the different crudes can be blended. This means that **crude oil is fungible, like dollar bills. A shortfall in one region can be made up by shipping a similar oil there from elsewhere in the world. US oil policies make no more sense than trying to lower the water level in one end of the bathtub by taking a few cups of water from that end**.¶ We know that **the world oil market is unified because there is a single price of crude oil that holds no matter what the source**. For example, we can look at whether prices (with corrections for gravity and sulfur) in fact move together. A good test of this view would be to ask whether a benchmark crude price predicts the movement of other prices. Looking at crude oil from twenty-eight different regions around the world from 1977 to 2009, I found that a 10.00 percent change in the price of the “Brent” crude oil—a blend of crude often used as a benchmark for price—led to a 9.99 percent change in the price of other crude oils. These correlations among crude oil prices are markedly higher than are observed for virtually any other traded good or service.¶ **The implication of the bathtub view is profound. It means that virtually no important oil issue involves US dependency on foreign oil. Whether we consider pollution, macroeconomic impacts, price volatility, supply interruptions, or Middle East politics, our vulnerability depends upon the global market.** **It does not depend upon the fraction of our consumption that is imported.**¶ I will use two examples to illustrate this point. A first hardy perennial is the idea that we should limit our consumption to oil from “secure sources.” This might mean concentrating on Canada and Mexico, or perhaps relying only on our own output, or we might even exclude Alaska lest it someday decide to secede.¶ **These policies make no sense in an integrated world oil market. Suppose that the United States limited its imports to completely reliable sources—ones that would never, ever cut off supplies—and specifically prohibited imports from unreliable country A. This would lead country A to send its oil to other countries. In an integrated world market, the result would be simply to reallocate production from non-A countries to the United States to make up the shortfall here and eliminate the excess there.** **Unless a country actually changes its flow into the world bathtub, there will be no impact on the United States of sourcing imports from secure regions only.**

### **Politics**

#### **Catholic opposition to LGBT inclusion will kill immigration reform--- health care vote proves Catholics are key**

Newstex 2/9

[Nexis, mg]

It seems unlikely the bishops would accept any provision for same-sex partners even for an issue as important to the church as immigration.¶ Ultimately, the controversy could split Catholics, in much the same way that Catholics divided over health care. Despite enormous pressure from the bishops, the Catholic Health Association, a trade group that represents hospitals, provided critical backing for the president's health care legislation. ¶

#### Obama pushing poisons the well

Ezra Klein 1/28/13, Two numbers show why Republicans support immigration reform, [www.washingtonpost.com/blogs/wonkblog/wp/2013/01/28/two-numbers-show-why-republicans-support-immigration-reform/](http://www.washingtonpost.com/blogs/wonkblog/wp/2013/01/28/two-numbers-show-why-republicans-support-immigration-reform/)

So on this issue, Republicans have both strategic and substantive reasons for making a deal. The question for the Obama administration is how to keep them from developing reasons for opposing whatever particular deal the Obama administration proposes. And the answer, in a way, is obvious: The Obama administration shouldn’t propose a deal. In fact, it should stay out of the dealmaking as much as possible. The immigration-reform effort is being spearheaded by a bipartisan group of senators that includes Chuck Schumer (D-N.Y.), John McCain (R-Ariz.), Dick Durbin (D-Ill.), Marco Rubio (R-Fla.), Bob Menendez (D-N.J.), Lindsey Graham (R-S.C.), Michael Bennet (D-Colo.) and Jeff Flake (R-Ariz.). You can read their plan here. That’s no accident. Durbin, Schumer and Menendez are close allies of the White House. The fact that they moved first isn’t a quirk of scheduling. It’s an effort to keep the fever down. Republicans will fight most anything Obama proposes. This is, again, not because they’re sick, but because they run in primaries and represent districts and states where their constituents want them to fight anything overly associated with the Obama administration. This is a frustrating fact of life for the Obama administration — and perhaps even a sick commentary on how our political system works — but it is, nevertheless, a fact: Their involvement polarizes issues. And it’s not unique to them: Presidential involvement in general polarizes issues. By staying out, at least for now, the Obama administration is making it easier for Republicans to stay in.At some point, the Obama administration’s involvement will become necessary. Certainly, the administration will have to take a position on whatever is being worked on in the Senate. But they’re wise to hang back for as long as they can, routing their preferences through the Democrats on the Senate working group. Republicans have all the reason in the world to support immigration reform. The last thing the Obama administration wants to do is give them a reason to oppose it. The fever is low now, but that doesn’t mean it can’t spike.

**1ar- Link Turn Bipart**

#### SMRs are popular – there is only 1 vote against it and both parties cosponsor the plan – that’s Pendidikan 11

**Bipart support for SMR’s in Congress**

**E&E News 9-24**

“DOE Funding for Small Reactors Languishes as Parties Clash on Debt,” <http://www.eenews.net/public/Greenwire/2012/09/24/3>

Some of the nation's largest nuclear power companies are anxious to hear whether they will get a share of a $452 million pot from the Department of Energy for a new breed of reactors that the industry has labeled as a way to lessen the safety risks and construction costs of new nuclear power plants.¶ The grant program for these "small modular reactors," which was announced in January, would mark the official start of a major U.S. foray into the technology even as rising construction costs -- especially when compared to natural-gas-burning plants -- cause many power companies to shy away from nuclear plants.¶ DOE received four bids before the May 21 deadline from veteran reactor designers Westinghouse Electric Co. and Babcock & Wilcox Co., as well as relative newcomers Holtec International Inc. and NuScale Power LLC. Now the summer has ended with no announcement from DOE, even though the agency said it would name the winners two months ago.¶ As the self-imposed deadline passed, companies started hearing murmurs that a decision could come in September, or perhaps at the end of the year. To observers within the industry, it seems that election-year calculations may have sidelined the contest.¶ "The rumors are a'flying," said Paul Genoa, director of policy development at the Nuclear Energy Institute, in an interview last week. "All we can imagine is that this is now caught up in politics, and the campaign has to decide whether these things are good for them to announce, and how**."¶ Small modular reactors do not seem to be lacking in political support. The nuclear lobby** has historically **courted both Democrats and Republicans and** still **sees itself as being in a strong position with key appropriators on both sides of the aisle**.¶ Likewise, **top energy officials in the Obama administration have hailed the promise of the new reactors, and they haven't shown any signs of a change of heart.** DOE spokeswoman Jen Stutsman said last week that the department is still reviewing applications, but she did not say when a decision will be made.¶ "This is an important multiyear research and development effort, and we want to make sure we take the time during the review process to get the decision right," she wrote in an email.¶ That the grants haven't been given out during a taut campaign season, even as President Obama announces agency actions ranging from trade cases to creating new national monuments to make the case for his re-election, may be a sign that the reactors are ensnared in a broader feud over energy spending.¶ Grant recipients would develop reactor designs with an eye toward eventually turning those into pilot projects -- and the loan guarantees that these first-of-a-kind nuclear plants are using today to get financing would be blocked under the "No More Solyndras" bill that passed the House last week (Greenwire, Sept. 14).

### PC

#### 8% chance of the internal link

Beckmann and Kumar 11

Matthew N Beckmann and Vimal Kumar 11, Associate Professor of Political Science at UC Irvine, econ prof at the Indian Institute of Tech, “Opportunism in Polarization”, Presidential Studies Quarterly; Sep 2011; 41, 3

The final important piece in our theoretical model—presidents' political capital— also finds support in these analyses, though the results here are less reliable. Presidents operating under the specter of strong economy and high approval ratings get an important, albeit moderate, increase in their chances for prevailing on "key" Senate roll-call votes (b = .10, se = .06, p < .10). Figure 4 displays the substantive implications of these results in the context of polarization, showing that going from the lower third of political capital to the upper third increases presidents' chances for success by 8 percentage points (in a setting like 2008). Thus, political capital's impact does provide an important boost to presidents' success on Capitol Hill, but it is certainly not potent enough to overcome basic congressional realities. Political capital is just strong enough to put a presidential thumb on the congressional scales, which often will not matter, but can in close cases.

### Mexico

#### US-Mexico relations will never collapse- interdependence ensures

Mares and Canovas 10

[David R. Mares, University of California, San Diego. Gustavo Vega Cánovas, El Colegio de México. “The U.S.-Mexico Relationship: Towards a New Era?”]

¶ The U.S. and Mexico have been neighbors for more than two centuries and within that relationship there is one important constant. Despite intermittent attempts by Mexico to distance itself from the US out of a concern of US protectionism and its political, cultural and economic hegemony, a process of progressive economic and social integration has taken place among the two countries which expresses itself in high levels of trade, financial and labor flows.¶ Mexico is currently the US’ third largest trading partner, after Canada and China, accounting for approximately 8.4 percent of US exports and imports. The United States, on the other hand, is Mexico's dominant trading partner, accounting for two-thirds of both exports and imports and far outdistancing Mexico's trade with Europe, Japan, and with the rest of Latin America and Canada. The United States is also the major source of foreign investment flows in the Mexican economy, accounting for close to 65 percent of the total. Labor market integration is also very high, with at least 10 percent of the growth of the US labor supply since World War II accounted for by Mexican migration.i Mexicans who work in the US represent close to one- fifth of the Mexican work force and their remittances in 2008 were close to 21 billions dollars, representing the first source of foreign exchange surpassing oil and tourism.¶ NAFTA, the latest chapter in this process, accelerated the economic and social integration of both economies to unprecedented levels. By 2001 some analysts and think tanks believed that sufficient progress had been achieved to propose a greater intensification of economic and social relations and even the creation of a North American Community.ii

# Round 7 v UCO AV

## 1AC

### Plan

**The United States federal government should obtain, through alternative financing, electricity from small modular reactors for military bases in the United States.**

### Grid

#### Grid disruptions are inevitable - only SMR’s can solve

Robitaille 12

(George, Department of Army Civilian, United States Army War College, “Small Modular Reactors: The Army’s Secure Source of Energy?” 21-03-2012, Strategy Research Project)

In recent years, the U.S Department of Defense (DoD) has identified a security issue at our installations related to the dependence on the civilian electrical grid. 1 The DoD depends on a steady source of electricity at military facilities to perform the functions that secure our nation. The flow of electricity into military facilities is controlled by a public grid system that is susceptible to being compromised because of the age of the infrastructure, damage from natural disasters and the potential for cyber attacks. Although most major functions at military installations employ diesel powered generators as temporary backup, the public grid may not be available to provide electricity when it is needed the most. The United States electrical infrastructure system is prone to failures and susceptible to terrorist attacks. 2 It is critical that the source of electricity for our installations is reliable and secure. In order to ensure that our military facilities possess a secure source of electricity, either the public system of electric generation and distribution is upgraded to increase its reliability as well as reducing its susceptibility to cyber attack or another source of electricity should be pursued. Although significant investments are being made to upgrade the electric grid, the current investment levels are not keeping up with the aging system. Small modular reactors (SMRs) are nuclear reactors that are about an order of magnitude smaller than traditional commercial reactor used in the United States. SMRs are capable of generating electricity and at the same time, they are not a significant contributor to global warming because of green house gas emissions. The DoD needs to look at small modular nuclear reactors (SMRs) to determine if they can provide a safe and secure source of electricity. Electrical Grid Susceptibility to Disruptions According to a recent report by the Defense Science Board, the DoD gets ninety nine percent of their electrical requirements from the civilian electric grid. 3 The electric grid, as it is currently configured and envisioned to operate for the foreseeable future, may not be reliable enough to ensure an uninterrupted flow of electricity for our critical military facilities given the influences of the aging infrastructure, its susceptibility to severe weather events, and the potential for cyber attacks. The DoD dependency on the grid is reflected in the $4.01 Billion spent on facilities energy in fiscal year 2010, the latest year which data was available. 4 The electricity used by military installations amounts to $3.76 billion. 5 As stated earlier, the DoD relies on the commercial grid to provide a secure source of energy to support the operations that ensure the security of our nation and it may not be available when we need it. The system could be taken down for extended periods of time by failure of aging components, acts of nature, or intentionally by cyber attacks. Aging Infrastructure. The U.S electric power grid is made up of independently owned power plants and transmission lines. The political and environmental resistance to building new electric generating power plants combined with the rise in consumption and aging infrastructure increases the potential for grid failure in the future. There are components in the U.S. electric grid that are over one hundred years old and some of the recent outages such as the 2006 New York blackout can be directly attributed to this out of date, aging infrastructure. 6 Many of the components of this system are at or exceeding their operational life and the general trend of the utility companies is to not replace power lines and other equipment until they fail. 7 The government led deregulation of the electric utility industry that started in the mid 1970s has contributed to a three decade long deterioration of the electric grid and an increased state of instability. Although significant investments are being made to upgrade the electric grid, the many years of prior neglect will require a considerable amount of time and funding to bring the aging infrastructure up to date. Furthermore, the current investment levels to upgrade the grid are not keeping up with the aging system. 8 In addition, upgrades to the digital infrastructure which were done to increase the systems efficiency and reliability, have actually made the system more susceptible to cyber attacks. 9 Because of the aging infrastructure and the impacts related to weather, the extent, as well as frequency of failures is expected to increase in the future. Adverse Weather. According to a 2008 grid reliability report by the Edison Electric Institute, sixty seven per cent of all power outages are related to weather. Specifically, lightning contributed six percent, while adverse weather provided thirty one percent and vegetation thirty percent (which was predominantly attributed to wind blowing vegetation into contact with utility lines) of the power outages. 10 In 1998 a falling tree limb damaged a transformer near the Bonneville Dam in Oregon, causing a cascade of related black-outs across eight western states. 11 In August of 2003 the lights went out in the biggest blackout in North America, plunging over fifty million people into darkness over eight states and two Canadian provinces. Most areas did not have power restored four or five days. In addition, drinking water had to be distributed by the National Guard when water pumping stations and/or purification processes failed. The estimated economic losses associated with this incident were about five billion dollars. Furthermore, this incident also affected the operations of twenty two nuclear plants in the United States and Canada. 12 In 2008, Hurricane Ike caused approximately seven and a half million customers to lose power in the United States from Texas to New York. 13 The electric grid suffered numerous power outages every year throughout the United States and the number of outages is expected to increase as the infrastructure ages without sufficient upgrades and weather-related impacts continue to become more frequent. Cyber Attacks. The civilian grid is made up of three unique electric networks which cover the East, West and Texas with approximately one hundred eighty seven thousand miles of power lines. There are several weaknesses in the electrical distribution infrastructure system that could compromise the flow of electricity to military facilities. The flow of energy in the network lines as well as the main distribution hubs has become totally dependent on computers and internet-based communications. Although the digital infrastructure makes the grid more efficient, it also makes it more susceptible to cyber attacks. Admiral Mr. Dennis C. Blair (ret.), the former Director of National Intelligence, testified before Congress that “the growing connectivity between information systems, the Internet, and other infrastructures creates opportunities for attackers to disrupt telecommunications, electrical power, energy pipelines, refineries, financial networks, and other critical infrastructures. 14 ” The Intelligence Community assesses that a number of nations already have the technical capability to conduct such attacks. 15 In the 2009 report, Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee, Adm. Blair stated that “Threats to cyberspace pose one of the most serious economic and national security challenges of the 21st Century for the United States and our allies.”16 In addition, the report highlights a growing array of state and non-state actors that are targeting the U.S. critical infrastructure for the purpose of creating chaos that will subsequently produce detrimental effects on citizens, commerce, and government operations. These actors have the ability to compromise, steal, change, or completely destroy information through their detrimental activities on the internet. 17 In January 2008, US Central Intelligence Agency senior analyst Tom Donahue told a gathering of three hundred international security managers from electric, water, oil & gas, and other critical industry, that data was available from multiple regions outside the United States, which documents cyber intrusions into utilities. In at least one case (outside the U.S.), the disruption caused a power outage affecting multiple cities. Mr. Donahue did not specify who executed these attacks or why, but did state that all the intrusions were conducted via the Internet. 18 During the past twenty years, advances in computer technologies have permeated and advanced all aspects of our lives. Although the digital infrastructure is being increasingly merged with the power grid to make it more efficient and reliable, it also makes it more vulnerable to cyber attack. In October 2006, a foreign hacker invaded the Harrisburg, PA., water filtration system and planted malware. 19 In June 2008, the Hatch nuclear power plant in Georgia shut down for two days after an engineer loaded a software update for a business network that also rebooted the plant's power control system. In April 2009, The Wall Street Journal reported that cyber spies had infiltrated the U.S. electric grid and left behind software that could be used to disrupt the system. The hackers came from China, Russia and other nations and were on a “fishing expedition” to map out the system. 20 According to the secretary of Homeland Security, Janet Napolitano at an event on 28 October 2011, cyber–attacks have come close to compromising the country’s critical infrastructure on multiple occasions. 21 Furthermore, during FY11, the United States Computer Emergency Readiness Team took action on more than one hundred thousand incident reports by releasing more than five thousand actionable cyber security alerts and information products. 22 The interdependence of modern infrastructures and digital based systems makes any cyber attacks on the U.S. electric grid potentially significant. The December 2008 report by the Commission on Cyber Security for the forty fourth Presidency states the challenge plainly: “America’s failure to protect cyberspace is one of the most urgent national security problems facing the new administration”. 23 The susceptibility of the grid to being compromised has resulted in a significant amount of resources being allocated to ensuring the systems security. Although a substantial amount of resources are dedicated to protecting the nation’s infrastructure, it may not be enough to ensure the continuous flow of electricity to our critical military facilities. SMRs as they are currently envisioned may be able to provide a secure and independent alternative source of electricity in the event that the public grid is compromised. SMRs may also provide additional DoD benefit by supporting the recent government initiatives related to energy consumption and by circumventing the adverse ramifications associated with building coal or natural gas fired power plants on the environment.\

**Grid will go down for months - multiple scenarios**

**Slavo 7/12**

(Mac is editor of shftplan, “UPDATE: Cascading Grid Crash: Now 600 Million Without Power in India (Are We Vulnerable?)” <http://www.shtfplan.com/headline-news/paralysis-grid-down-in-india-370-million-left-without-power_07302012>, SEH)

**The power grid in the United States**, while more advanced and apparently better maintained, **is** also **under excessive strain as has been witnessed in recent years with rolling brownouts, blackouts, and unforeseen crashes** resulting from key component failure.¶ **One industry insider** who has worked in the utility industry for nearly two decades **advised** this author recently **that it wouldn’t take much to bring down the system even in the United States**, potentially affecting tens of millions of customers. Though it’s the 21st century, many grid components in operation are, in some cases, as much as 40 years old, thus replacement parts are almost impossible to find. Other components, like massive transformers may take weeks or months to replace. In the event of a scenario where multiple components are targeted simultaneously, by either a man-made EMP or natural event, it is not too far of a stretch to suggest that the afflicted regions would be engulfed in pandemonium.¶ **This potential for widespread failure is so plausible that former Congressman** Roscoe Bartlett, **who has spoken on the vulnerabilities of the US power grid, has advised that Those Who Can, Should Move Their Families Out Of the City**:¶ After Hurricane Ike passed through the Houston area 2008 some 90% of the metropolitan was without power. While hospitals, police and critical infrastructure was restored within a few days, residents in outlying suburban areas experienced the outage for over three weeks. We witnessed the rapid loss of patience, increased anxiety and frustration, and the subsequent breakdown of interpersonal interaction at high-demand venues such as gas stations, where long lines, screaming matches and even fist fights became a common occurrence.¶ **The bottom line: As demonstrated in India today**, Quebec in 1989 (caused by a geo-magnetic storm originating from the sun), Ike in 2008, Hurricane Irene on the East coast in 2012 and the plethora of incidents that have taken place over the last couple of decades, **the North American power grid,** just as India’s, **is susceptible to far-from-equilibrium situations, and sometimes it takes extended periods of time to get power up and running**.¶ **With just three major grids running the United States**, **our dependence on massive flows of electricity to power** our home air conditioners, food refrigeration, communications, water and gas pump systems, and daily business operations **could come to a screeching halt should the grid ever be struck by a natural disaster like a** solar coronal mass ejection or a **large-scale earthquake** in California or on the Madrid fault. Likewise, as we’ve noted previously, **rogue organizations looking to wreak havoc have already demonstrated the staggering security holes in our power**, water and oil **grid infrastructure, with leading cyber security firms noting that** it is just a matter of time before disaster strikes**.**¶ While a short-term, isolated metropolitan outage can be dealt with by sourcing labor and supplies from unaffected areas of the country, **considering that the US operates on three key power grid systems, a region-wide outage affecting just one of these nodes could lead to a cascading breakdown in the electrical power system that envelops the entire country**.¶ The most **dangerous possibility emerges when we look at threats posed by** the sun or **a rogue terror cell or** nation that could deploy **an** Electro-Magnetic Pulse weapon (**EMP /** Super EMP) over American skies**. It’s been surmised that** either one of **these** possibilities **could cause damage so staggering that** the grid would be down for months, leaving millions without just-in-time food and gas delivery systems, medical care, local emergency response, or even clean water. According to one estimate, some 90% of Americans would die in such a scenario if the power wasn’t restored within one year.¶ Thus, it is clear that our power grids are a critical lifeline to keeping life as we know it in the world today operational. And, as we have seen historically and India this morning, power grids can and do crash – even in countries with hundreds of millions of residents.

#### Cyber-attack is coming ---actors are probing grid weaknesses

**Reed 10/11** John, Reports on the frontiers of cyber war and the latest in military technology for Killer Apps at Foreign Policy, "U.S. energy companies victims of potentially destructive cyber intrusions", 2012, killerapps.foreignpolicy.com/posts/2012/10/11/us\_energy\_companies\_victims\_of\_potentially\_destructive\_cyber\_attacks

Foreign actors are probing the networks of key American companies in an attempt to gain control of industrial facilities and transportation systems, Defense Secretary Leon Panetta revealed tonight.¶ "We know that foreign **cyber actors are probing America's critical infrastructure networks**," said Panetta, disclosing previously classified information during a speech in New York laying out the Pentagon's role in protecting the U.S. from cyber attacks. "They are targeting the computer control systems that operate chemical, **electricity** and water plants, and those that guide transportation thorough the country."¶ He went on to say that the U.S. government knows of "specific instances where intruders have gained access" to these systems -- frequently known as Supervisory Control and Data Acquisition (or SCADA) systems -- and that "they are seeking to create advanced tools to attack these systems and cause panic, destruction and even the loss of life," according to an advance copy of his prepared remarks.¶ The secretary said that **a coordinated attack on enough critical infrastructure could be a "cyber Pearl Harbor" that would "cause physical destruction and loss of life, paralyze and shock the nation, and create a profound new sense of vulnerability.**"¶ While there have been reports of criminals using 'spear phishing' email attacks aimed at stealing information about American utilties, Panetta's remarks seemed to suggest more sophisticated, nation-state backed attempts to actually gain control of and damage power-generating equipment. ¶ Panetta's comments regarding the penetration of American utilities echo those of a private sector cyber security expert Killer Apps spoke with last week **who said that the networks of American electric companies were penetrated, perhaps in preparation for a Stuxnet-style attack**.¶ Stuxnet is the famous cyber weapon that infected Iran's uranium-enrichment centrifuges in 2009 and 2010. Stuxnet is believed to have caused some of the machines to spin erratically, thereby destroying them.¶ "**There is hard evidence** that there has been penetration of our power companies, and given Stuxnet, that is a staging step before destruction" of electricity-generating equipment, the expert told Killer Apps. Because uranium centrifuges and power turbines are both spinning machines, "**the attack is identical -- the one to take out the centrifuges and the one to take out our power systems is the same attack**."¶ "If a centrifuge running at the wrong speed can blow apart" so can a power generator, said the expert. "If you do, in fact, spin them at the wrong speeds, you can blow up any rotating device."¶ Cyber security expert Eugene Kaspersky said two weeks ago that one of his greatest fears is someone reverse-engineering a sophisticated cyber weapon like Stuxnet **-- a relatively easy task** -- and he noted that Stuxnet itself passed through power plants on its way to Iran. "Stuxnet infected thousands of computer systems all around the globe, I know there were power plants infected by Stuxnet very far away from Iran," Kaspersky said.

#### SMRs solve – makes bases resilient and deters attacks – alternatives fail

Andres and Breetz 11

(Richard B. Andres is Professor of ¶ national Security Strategy at the ¶ national War College and a Senior fellow and energy and environmental ¶ Security and Policy Chair in the Center ¶ for Strategic research, institute for national Strategic Studies, at the national Defense University. Hanna L. Breetz is a doctoral candidate in the Department of Political Science at the Massachusetts institute of technology, “Small Nuclear Reactors ¶ for Military Installations:¶ Capabilities, Costs, and ¶ Technological Implications” Institute for National Strategic Studies, <http://www.ndu.edu/press/lib/pdf/strforum/sf-262.pdf>, SEH)

Grid Vulnerability**. DOD is unable to provide its ¶ bases with electricity when the civilian electrical grid is ¶ offline for an extended period of time**. Currently, domestic military installations receive 99 percent of their ¶ electricity from the civilian power grid. As explained in a ¶ recent study from the Defense Science Board:¶ DOD’s key problem with electricity is **that** critical ¶ missions, such as national strategic awareness and ¶ national command authorities, are **almost entirely ¶** dependent on the **national transmission** grid. . . ¶ **[which] is fragile, vulnerable, near its capacity ¶ limit, and outside of DOD control**. In most cases, ¶ **neither the grid nor on-base backup power provides¶ sufficient reliability to ensure continuity of critical ¶ national priority functions and oversight of ¶ strategic missions in the face of** a long term (several ¶ months) **outage**.¶ 7¶ The grid’s fragility was demonstrated during the 2003 ¶ Northeast blackout in which 50 million people in the ¶ United States and Canada lost power, some for up to a ¶ week, when one Ohio utility failed to properly trim trees. ¶ The blackout created cascading disruptions in sewage ¶ systems, gas station pumping, cellular communications, ¶ border check systems, and so forth, and demonstrated the ¶ interdependence of modern infrastructural systems.¶ 8¶ More recently, awareness has been growing that ¶ **the grid is also vulnerable to purposive attacks**. A report sponsored by the Department of Homeland Security suggests **that a coordinated cyberattack on the grid ¶ could result in a third of the country losing power for ¶ a period of weeks or months**.¶ 9¶ Cyberattacks on critical ¶ infrastructure are not well understood. It is not clear, for ¶ instance, whether existing terrorist groups might be able ¶ to develop the capability to conduct this type of attack. **It ¶ is likely, however, that some nation-states either have or ¶ are working on developing the ability to take down the ¶ U.S. grid**. **In the event of a war** with one of these states, ¶ it is possible, if not likely, that **parts of the civilian grid ¶ would cease to function, taking with them military bases ¶ located in affected regions.**¶ Government and private organizations are currently ¶ working to secure the grid against attacks; however, it is ¶ not clear that they will be successful. Most military bases ¶ currently have backup power that allows them to function for a period of hours or, at most, a few days on their ¶ own. If power were not restored after this amount of time, ¶ the results could be disastrous. First, military assets taken ¶ offline by the crisis would not be available to help with disaster relief. Second, **during an extended blackout, global ¶ military operations could be seriously compromised; this ¶ disruption would be particularly serious if the blackout ¶ was induced during major combat operations.** During the ¶ Cold War, this type of event was far less likely because the United States and Soviet Union shared the common understanding that blinding an opponent with a grid blackout could escalate to nuclear war. America’s current opponents, however, may not share this fear or be deterred ¶ by this possibility.¶ In 2008, the Defense Science Board stressed that ¶ DOD should mitigate the electrical grid’s vulnerabilities by turning military installations into “islands” of ¶ energy self-sufficiency.¶ 10¶ **The department has made efforts to do so by promoting efficiency programs** that ¶ lower power consumption on bases and by constructing ¶ renewable power generation facilities on selected bases. ¶ Unfortunately, these programs **will not come close to ¶** reaching the goal of **islanding** thevast majority of bases**. ¶ Even with** massive investment in efficiency and **renewables,** most **bases would not** be able to **function for more ¶ than a few days after the** civilian **grid went offline**. **Unlike other alternative sources of energy, small reactors have the potential to solve DOD’s vulnerability to ¶ grid outages.** **Most bases have relatively light power demands when compared to civilian towns or cities. Small ¶ reactors could easily support bases’ power demands separate from the civilian grid during crises**. In some cases, ¶ the reactors could be designed to produce enough power ¶ not only to supply the base, but also to provide critical ¶ services in surrounding towns during long-term outages.¶ Strategically, islanding bases with small reactors ¶ has another benefit. **One of the main reasons an enemy ¶ might be willing to risk reprisals by taking down the ¶ U.S. grid during a period of military hostilities would ¶ be to affect ongoing military operations. Without the ¶ lifeline of intelligence, communication, and logistics ¶ provided by U.S. domestic bases, American military operations would be compromised in almost any conceivable contingency. Making bases more resilient to ¶ civilian power outages would reduce the incentive for ¶ an opponent to attack the grid.** An opponent might ¶ still attempt to take down the grid for the sake of disrupting civilian systems, but **the powerful incentive to ¶ do so in order to win an ongoing battle or war would ¶ be greatly reduced.**

#### Grid attacks take out command and control – causes relation and nuclear war

**Tilford 12**

Robert, Graduate US Army Airborne School, Ft. Benning, Georgia, “Cyber attackers could shut down the electric grid for the entire east coast” 2012, <http://www.examiner.com/article/cyber-attackers-could-easily-shut-down-the-electric-grid-for-the-entire-east-coa>

To make matters worse **a cyber attack that can take out a civilian power grid, for example could also cripple the U.S. military.**¶ The senator notes that is that the same power grids that supply cities and towns, stores and gas stations, cell towers and heart monitors also power “every military base in our country.”¶ “Although bases would be prepared to weather a short power outage with **backup diesel generators, within hours, not days, fuel supplies would run out”**, he said.¶ Which means military command and control centers could go dark.¶ **Radar systems that detect air threats** to our country would shut Down completely.¶ “**Communication between commanders and their troops would also go silent. And many weapons systems would be left without either fuel or electric power”,** said Senator Grassley.¶ “**So in a few short hours or days, the mightiest military in the world would be left scrambling to maintain base functions**”, he said.¶ We contacted the Pentagon and officials confirmed the threat of a cyber attack is something very real.¶ Top national security officials—including the Chairman of the Joint Chiefs, the Director of the National Security Agency, **the Secretary of Defense, and the CIA Director— have said, “preventing a cyber attack and improving the nation’s electric grids is among the most urgent priorities of our country”** (source: Congressional Record).¶ So how serious is the Pentagon taking all this?¶ Enough to start, or end a war over it, for sure (see video: Pentagon declares war on cyber attacks http://www.youtube.com/watch?v=\_kVQrp\_D0kY&feature=relmfu ).¶ **A cyber attack today against the US could very well be seen as an “Act of War” and could be met with a “full scale” US military response.**¶ That could include the use of “nuclear weapons”, if authorized by the President.

#### Grid failures risks terrorism

Defense Science Board 8

(The DSB is a Federal ¶ Advisory Committee established to provide independent advice to the Secretary of ¶ Defense, “More Fight – Less Fuel” <http://www.acq.osd.mil/dsb/reports/ADA477619.pdf>, SEH)

**DoD’s key problem with electricity is that critical missions, such as national strategic ¶ awareness and national command authorities, are almost entirely dependent on the ¶ national transmission grid.** About 85% of the energy infrastructure upon which DoD ¶ depends is commercially owned, **and 99% of the electrical energy DoD installations ¶ consume originates outside the fence.¶** 3¶ As noted below, however, the grid is fragile, ¶ vulnerable, near its capacity limit, and outside of DoD control. In most cases, neither ¶ the grid nor on-base backup power provides sufficient reliability to ensure continuity of ¶ critical national priority functions and oversight of strategic missions in the face of a long ¶ term (several months) outage. ¶ 2.3.1 State of the Grid ¶ The U.S.-Canadian electric grid is very efficient and cost effective but its design metric ¶ is efficiency more than resiliency. As a consequence, it is vulnerable to natural disaster or deliberate attack. The Task Force received several briefings from the Mission ¶ Assurance Division at Dahlgren (MAD), the Department of Energy and the utility ¶ industry. Based on these briefings, the Task Force is concerned about the condition of ¶ the grid and the ability to effect timely repairs. ¶ This concern extends not only to the complete dependency of critical national security ¶ missions on the grid, but also to its centrality to all facets of the nation’s economic life. ¶ To appreciate the seriousness of the impacts of an extended disruption, consider the ¶ 2003 Northeast blackout. At around 4:15pm EST on August 14, 2003 about 50 million ¶ people living in a 9,300 square mile area in the U.S. and Canada lost electrical power. ¶ More than 500 generating units at 265 power plants shut down during the outage, 22 of ¶ which were nuclear. Those plants took about two weeks to regain full capacity, and lost ¶ an average of more than half their capacity for 12 days. The shutdown was in part ¶ precautionary in nature. If an imbalance between load and supply occurs, power lines ¶ grow longer and sag from overheating and other hardware can fail. These imbalances ¶ can damage equipment that is hard-to-repair, requires long lead time to produce and is ¶ expensive. So, the grid quickly disconnects itself when a threatening imbalance is ¶ detected. Nuclear plants are required for safety reasons to shut down when the grid ¶ they’re connected to is de-energized.¶ 4¶ A U.S.-Canada Task Force found the main cause of the blackout to be the failure of a ¶ utility in Ohio to properly trim trees near a power line, causing the first in what became a ¶ set of cascading failures.¶ 5¶ Secretary of Energy Spencer Abraham said there would be ¶ no punishment for the utility because current U.S. law does not require electric reliability ¶ standards. However, the Energy Policy Act of 2005 (EPAct 2005) gave the Federal ¶ Energy Regulatory Commission (FERC) new authority to direct the industry to develop ¶ reliability standards. It directs FERC to designate an Electric Reliability Organization ¶ (ERO) to develop and propose reliability standards, which only after agreement by the ¶ industry become mandatory. The ERO chosen by the FERC is a volunteer, industry run ¶ organization. While FERC oversight of industry developed standards is an ¶ improvement over the previous situation, the Task Force remains concerned that FERC ¶ may be unable to reduce the risk to critical DoD missions to acceptable levels in a ¶ reasonable timeframe. ¶ **Some have argued that the August 2003 incident shows that the protections built into ¶ the grid worked. Within several hours electricity was restored to many areas, though a ¶ few areas waited nearly a week. However, the incident highlights how easily the power ¶ grid could be taken down. Also, quick restoration was possible because no significant ¶ equipment was damaged, something that might not occur in future incidents**. **Further, ¶ during the blackout most systems failed that would detect unauthorized border ¶ crossings, port landings, or unauthorized access to vulnerable sites. Future such blackouts could be exploited for terrorist activity, with potentially far more catastrophic ¶ results**. ¶ These risks exist elsewhere than in the U.S. For example, on September 28, 2003 Italy ¶ experienced the largest of a series of blackouts suffered through that year, affecting a ¶ total of 56 million people, and spilling into Switzerland.¶ 6¶ It was also the most serious ¶ blackout in Italy in 20 years. DoD installations located outside the continental United ¶ States (OCONUS) are dependent on the commercial grids serving their locations. ¶ Security of their power supplies and continuation of their missions is as important as ¶ within the U.S.

#### Numerous attempts prove our impact

Wagner 9/11

(Dr. Abraham R. Wagner is a Professor of International and Public Affairs at the ¶ Arnold A. Saltzman Institute of War & Peace Studies at Columbia University. “Counter-Terrorism Technologies -- Taking Stock on 9/11” 09/11/2012 2:13 pm accessed online September 11, 2012 at <http://www.huffingtonpost.com/abraham-r-wagner/counterterrorism-technolo_b_1874521.html>, TSW)

On this 11th anniversary of the 9/11 attacks, it makes sense to take stock of where the nation has progressed in its effort to deter and combat future terrorist attacks, both at home and abroad. The **9/11 attacks came** as a shock, and **have** rightfully **come** **to be regarded as a major U.S. intelligence failure**. **In the aftermath**, **the nation undertook significant organizational reforms designed to enable more effective intelligence** and law enforcement operations against evolving terrorist threats. **The** **country also looked to see what science, engineering and technology could do to help addresses these threats**.¶ Technology has long been the nation's strong suit. Americans tend to believe that where there is a problem, there must certainly be a solution and it most likely involves technology and money. **During the decade that followed 9/11, billions of dollars were spent on a vast range of programs and technologies in the name of counter-terrorism**. For the first two years after 9/11, I joined with other scientists and engineers at the Department of Defense and the Intelligence Community in efforts to identify the most promising approaches to the problem. Ultimately we found that there was no magic bullet or perfect solution to this thorny problem, but were able to suggest a range of investments that could be made to address the evolving terrorist threat.¶ An honest assessment of these investments in counter-terrorism technologies reveals that the results have been mixed -- as one might well expect. A combination of **greatly improved intelligence** and law enforcement personnel have **employed some of the better technologies with considerable success**. Indeed, some **45 terrorist plots have been stopped** and others deterred. How much of **this has been** simply luck and how much can be traced to any **new technology program** is a matter of debate, and there are **clearl**y **examples** of both that **can be found.**¶ **One area where technology has made a significant contribution has been in new systems to aid in intelligence and surveillance against terrorist operations.** While terrorists may hold to an eighth century ideology, they have not been reluctant to employ 21st century communications and information technologies. They have utilized the Internet and cell phones for a number of purposes, and at the time of 9/11 the nation was in need of systems to intercept and sort out terrorist communications. While highly sensitive, public disclosures about several key programs show that considerable progress has been made in this critical area, giving the intelligence agencies some key tools in locating terrorists and stopping their plots. Aside from communications intercept, a new area of "data mining" has also shown considerable promise in locating terrorists and their plots.¶ At the same time, several of key surveillance programs used for counter-terrorism have come under fire from civil liberties groups as being unconstitutional violations of the Fourth Amendment privacy protections, and others. Critics of the Bush Administration saw this as "running roughshod over the Constitution." Even now there are still federal court challenges to laws such as the 2008 FISA Amendments Act and others that have enabled counter-terrorist efforts since 9/11. Ultimately a balance needs to be struck between the essential needs for intelligence to thwart future attacks and protected privacy rights, but as yet it remains an unsettled area where the Supreme Court will need to rule at some future point in time.¶ Less controversial have been efforts over the past decade to employ new information technologies to what has been termed the Information Sharing Environment -- collaborative efforts to best utilize available intelligence and other data among the various federal, state and local agencies with counter-terrorism responsibilities. While certainly some progress has been made over the past 11 years, the net result is largely a national embarrassment, and clearly a triumph of politics over physics. The information and communications technologies are all well-developed, but multiple bureaucracies have generated a set of plans and an even larger set of excuses as to why the fundamental problems in this area remain to be solved.

#### Terrorists are targeting Syrian bioweapons now and will use them

Blair ‘12

(Charles P. Blair joined FAS in June 2010. He is the Senior Fellow on State and Non-State Threats. Born and raised in Los Alamos, New Mexico, Mr. Blair was an exchange student in Moscow in the mid-1980s, witnessing firsthand the closing salvos of the Cold War. Since the end of that era, Mr. Blair has worked on issues relating to the diffusion and diversification of weapons of mass destruction (WMD) in the context of proliferation amid the rise of mass casualty terrorism incidents and the centripetal and centrifugal elements of globalization. Mr. Blair’s work focuses on state and violent non-state actors (VNSA) – amid a dystopic and increasingly tribal world. “Fearful of a nuclear Iran? The real WMD nightmare is Syria” 1 MARCH 2012 accessed online August 22, 2012 at http://www.thebulletin.org/web-edition/op-eds/fearful-of-nuclear-iran-the-real-wmd-nightmare-syria)

As possible military action against Iran's suspected nuclear weapons program looms large in the public arena, far **more international concern should be directed toward Syria and its weapons of mass destruction.** When the Syrian uprising began more than a year ago, few predicted the regime of President Bashar al-Assad would ever teeter toward collapse. Now, though, **the demise of Damascus's** current **leadership** **appears inevitable**, **and Syria's revolution will likely be an unpredictable**, protracted, and grim affair. **Some see similarities with Libya's civil wa**r, **during which persistent fears revolved around terrorist seizure of Libyan chemical weapons**, or the Qaddafi regime's use of them against insurgents. **Those fears turned out to be unfounded**.¶ **But the Libyan chemical stockpile consisted of several tons of aging mustard gas** leaking from a half-dozen canisters **that would have been impossible to utilize as weapons**. **Syria** likely **has one of the largest and most sophisticated chemical weapon programs in the world**. Moreover, **Syria may also possess an offensive biol**ogical **weapons capability that Libya did not**.¶ While it is uncertain whether the Syrian regime would consider using WMD against its domestic opponents, Syrianinsurgents, unlike many of their Libyan counterparts, are increasingly sectarian and radicalized; indeed, many observers fear the uprising is being "hijacked" by jihadists. **Terrorist groups active in the Syrian uprising have already demonstrated little compunction about the acquisition and use of WMD**. In short, should Syria devolve into full-blown civil-war, **the security of** **its WMD should be of profound concern**, as sectarian insurgents and Islamist terrorist groups may **stand poised** **to seize** chemical and perhaps even **bio**logical **weapons.**¶ An enormous unconventional arsenal. Syria's chemical weapons stockpile is thought to be massive. One of only eight nations that is not a member of the Chemical Weapons Convention -- an arms control agreement that outlaws the production, possession, and use of chemical weapons -- Syria has a chemical arsenal that includes several hundred tons of blistering agents along with likely large stockpiles of deadly nerve agents, including VX, the most toxic of all chemical weapons. At least four large chemical weapon production facilities exist. Additionally, Syria likely stores its deadly chemical weapons at dozens of facilities throughout the fractious country. In contrast to Libya's unusable chemical stockpile, analysts emphasize that **Syrian** chemical **agents** **are weaponized and deliverable**. Insurgents and **terrorists** with past or present connections to the military **might feasibly be able to effectively disseminate** chemical **agents over large populations**. (The Global Security Newswire recently asserted that "[t]he Assad regime is thought to possess between 100 and 200 Scud missiles carrying warheads loaded with sarin nerve agent. The government is also believed to have several hundred tons of sarin agent and mustard gas stockpiled that could be used in air-dropped bombs and artillery shells, according to information compiled by the James Martin Center.")¶ Given its robust chemical weapons arsenal and its perceived need to deter Israel, **Syria has** long been suspected of having **an active biological weapons program**. Despite signing the Biological Weapons and Toxins Convention in 1972 (the treaty prohibits the development, production, and stockpiling of biological and toxin weapons), Syria never ratified the treaty. Some experts contend that any Syrian biological weapons program has not moved beyond the research and development phase. Still, **Syria's biotechnical infrastructure undoubtedly has the capability to develop numerous biological weapon agents**. After Israel destroyed a clandestine Syrian nuclear reactor in September 2007, Damascus may have accelerated its chemical and biological weapons programs.¶ **It's hard to guard WMD when a government collapses**. **Although the U**nited **S**tates and its allies **are** reportedly **monitoring** **Syria's** chemical **weapons**, **recent history warns that securing them from theft or transfer is an extraordinary challenge**. For example, during Operation Iraqi Freedom, more than 330 metric tons of military-grade high explosives vanished from Iraq's Al-Qaqaa military installation. Almost 200 tons of the most powerful of Iraq's high-explosives, HMX -- used by some states to detonate nuclear weapons -- was under International Atomic Energy Agency seal. Many tons of Al-Qaqaa's sealed HMX reportedly went missing in the early days of the war in Iraq. Forensic tests later revealed that some of these military-grade explosives were subsequently employed against US and coalition forces.¶ Even with a nationwide presence of 200,000 coalition troops, several other sensitive military sites were also looted, including Iraq's main nuclear complex, Tuwaitha. Should centralized authority crumble in Syria, it seems highly unlikely that the country's 50 chemical storage and manufacturing facilities -- and, possibly, biological weapon repositories -- can be secured. The US Defense Department recently estimated that it would take more than 75,000 US military personnel to guard Syria's chemical weapons. This is, of course, if they could arrive before any WMD were transferred or looted -- a highly unlikely prospect.¶ Complicating any efforts to secure Syria's WMD, post-Assad, are its porous borders. **With Syria's government distracted by internal revolt and US forces now fully out of Iraq**, **it is plausible that stolen** chemical or **bio**logical **weapons** **could find their way across the Syrian border** **into Iraq**. Similarly, Syrian WMD could be smuggled into southern Turkey, Jordan, Lebanon, the West Bank, Israel, and, potentially, the United States and Europe.¶ **At least six formal terrorist organizations have long maintained personnel within Syria.** **Three of these groups** -- **Hamas, Hizbollah, and Palestinian Islamic Jihad** -- **have already attempted to acquire** or use chemical or **biological agents**, or both. Perhaps more troubling, **Al Qaeda-affiliated fighters from Iraq have streamed into Syria**, acting, in part, on orders from Al Qaeda leader Ayman al-Zawahiri. In the past, Al Qaeda-in-Iraq fighters attempted to use chemical weapons, most notably attacks that sought to release large clouds of chlorine gas. The entry of Al Qaeda and other jihadist groups into the Syrian crisis underscores its increasingly sectarian manifestation. Nearly 40 percent of Syria's population consists of members of minority communities. Syria's ruling Alawite regime, a branch of Shia Islam, is considered heretical by many of Syria's majority Sunni Muslims -- even those who are not jihadists. Alawites, Druze, Kurds, and Christians could all become targets for WMD-armed Sunni jihadists. Similarly, Shiite radicals could conceivably employ WMD agents against Syria's Sunnis.¶ Religious fanaticism and WMD. Evidence of growing religious fanaticism is also reflected in recent Syrian suicide attacks. Since last December, at least five suicide attacks occurred in Syria. In the 40 years preceding, only two suicide attacks were recorded. Al Qaeda-linked mujahidin are believed to be responsible for all of these recent attacks. Civil wars are often the most violent and unpredictable manifestations of war. With expanding sectarian divisions, the use of seized WMD in Syria's uprising is plausible. To the extent that religious extremists believe that they are doing God's bidding, fundamentally any action they undertake is justified, no matter how abhorrent, since the "divine" ends are believed to legitimize PDF the means.¶ The situation in Syria is unprecedented. Never before has a WMD-armed country fallen into civil war. All states in the region stand poised to lose if these weapons find their way outside of Syria. The best possible outcome, in terms of controlling Syria's enormous WMD arsenal, would be for Assad to maintain power, but such an outcome seems increasingly implausible. And there is painfully little evidence that democratic forces are likely to take over in Syria. Even if they do eventually triumph, it will take months or years to consolidate control over the entire country.¶ If chaos ensues in Syria, the United States cannot go it alone in securing hundreds of tons of Syrian WMD. Regional leaders -- including some, such as Sunni Saudi Arabia and Shiite Iran, that are now backing the insurgency and the regime, respectively -- must come together and begin planning to avert a dispersion of Syrian chemical or **biological weapons** that would **threaten everyone**, of any political or religious persuasion, in the Middle East and around the world.

#### New gene manipulation takes out your defense

MSNBC 2011

(“Clinton warns of bioweapon threat from gene tech,” pg online @ http://www.msnbc.msn.com/id/45584359/ns/… “For an international verification system — akin to that for nuclear weapons — saying it is too complicated to monitor every lab's activities.”)

GENEVA — New gene assembly technologythat offers great benefits for scientific research could also be used by terrorists to create biological weapons, U.S. Secretary of State Hillary Rodham Clinton warned Wednesday. **The** threat from bioweapons has drawn little attention in recent years, as governments focused more on the risk of nuclear weapons proliferation to countries such as Iran and North Korea. But experts have warned that the increasing ease with which bioweapons can be created might be used by terror groups to develop and spread new diseases that could mimic the effects of the fictional global epidemic portrayed in the Hollywood thriller **"**Contagion." Speaking at an international meeting in Geneva aimed at reviewing the 1972 Biological Weapons Convention, Clinton told diplomats that the challenge was to maximize the benefits of scientific research and minimize the risks that it could be used for harm. "The emerging gene synthesis industry is making genetic material more widely available**,"** she said. "This has many benefits for research, but it could also potentially be used to assemble the components of a deadly organism." Gene synthesis allows genetic material — the building blocks of all organisms — to be artificially assembled in the lab, greatly speeding up the creation of artificial viruses and bacteria. The U.S. government has cited efforts by terrorist networks such as al-Qaeda to recruit scientists capable of making biological weapons as a national security concern. "Acrude but effective terrorist weapon can be made using a small sample of any number of widely available pathogens, inexpensive equipment, and college-level chemistry and biology," Clinton told the meeting. "Less than a year ago**,** al-Qaeda in the Arabian Peninsula made a call to arms for, and I quote, 'brothers with degrees in microbiology or chemistry ... to develop a weapon of mass destruction**,'"** she said. Clinton also mentioned the Aum Shinrikyo cult's attempts in Japan to obtain anthrax in the 1990s, and the 2001 anthrax attack**s** in the United States that killed five people. Washington has urged countries to be more transparent about their efforts to clamp down on the threat of bioweapons. But U.S. officials have also resisted calls for an international verification system — akin to that for nuclear weapons — saying it is too complicated to monitor every lab's activities

#### Extinction

Ochs 2

**(**Richard, Naturalist – Grand Teton National park with Masters in Natural Resource Management – Rutgers, “Biological Weapons must be abolished immediately” 6-9, http://www.freefromterror.net/other\_articles/abolish.html)

Of all the weapons of mass destruction, the genetically engineered **biological weapons**, many without a known cure or vaccine, **are an extreme danger to the continued survival of life** on earth. Any perceived **military** value **or deterrence pales in comparison to the great risk these weapons pose just sitting in vials in laboratories.** While a "nuclear winter," resulting from a massive exchange of **nuclear weapons**, could also kill off most of life on earth and severely compromise the health of future generations, they **are easier to control**. **Biological weapons**, on the other hand**, can get out of control very easily**, as the recent anthrax attacks has demonstrated. There is no way to guarantee the security of these doomsday weapons because very tiny amounts can be stolen or accidentally released and then grow or be grown to horrendous proportions. The Black Death of the Middle Ages would be small in comparison to the potential damage bioweapons could cause. Abolition of chemical weapons is less of a priority because, while they can also kill millions of people outright, their persistence in the environment would be less than nuclear or biological agents or more localized. Hence, chemical weapons would have a lesser effect on future generations of innocent people and the natural environment. Like the Holocaust, once a localized chemical extermination is over, it is over. With nuclear and biological weapons, the killing will probably never end. Radioactive elements last tens of thousands of years and will keep causing cancers virtually forever. Potentially worse than that, bio-engineered agents by the hundreds with no known cure could wreck even greater calamity on the human race than could persistent radiation. AIDS and ebola viruses are just a small example of recently emerging plagues with no known cure or vaccine. Can we imagine hundreds of such plagues? **HUMAN EXTINCTION IS NOW POSSIBLE**.

### China

#### Global SMR development is happening– only a question of whether the US leads

Hiruo 10  
(Elaine, Managing Editor of Platts, "SMR technology gives US chance at market leadership, vendors say," 9-2-10, Lexis)

**The US nuclear industry lost its leadership** position **in the global market for large reactors and now has the opportunity to secure that role for s**mall **m**odular **r**eactor**s,** some SMR vendors told a subcommittee of the Blue Ribbon Commission on America's Nuclear Future August 30.¶ But they stressed their **companies will need the federal government's help to beat foreign competitors to the market.**¶ **"We're at a unique crossroads right now**," Christofer Mowry, president of Babcock and Wilcox Nuclear Energy, told the reactor and fuel cycle technology subcommittee during its two-day meeting in Washington. B&W is one of several US companies — including Hyperion Power Generation, NuScale and Westinghouse — developing an SMR design.¶ "Other countries want a technology that has been built in the host country first," Paul Lorenzini, CEO of NuScale, told the panel. "**There are lots of** small reactor **designs out there,**" he said. Both the Koreans and Japanese have SMR programs, according to industry executives on the speakers panel. **The question is**, Mowry said, **who enters the** global **market first with a reactor already operating on its home turf.**

#### Obama pushing SMRs now but its not enough to beat out China

Ervin 12/28

[Dan Ervin is a professor of finance at Salisbury University. <http://www.delmarvanow.com/article/20121230/OPINION03/312300005> ETB]

The Obama administration’s decision to kick-start commercial use of small modular reactors has made one thing clear: The notion that nuclear power is slipping away is wrong. Although nuclear power faces difficult challenges, industry and government are working together to forge a new path.¶ The Department of Energy has earmarked funds for a new public-private partnership to help develop innovative small reactors that are about one-third the size of those in large conventional nuclear plants. These small reactors are modular, meaning they will be built in factories before they are shipped and installed at nuclear sites. This production method has the potential to reduce the cost of nuclear power significantly.¶ Southern Co. has begun building two new nuclear plants in Georgia using new construction techniques that could convince other companies nuclear plants are easier to build than otherwise thought.¶ Congress is planning to take up comprehensive legislation on nuclear waste next year using a “consent-based approach” to finding a site for a deep-geologic repository or an interim storage facility. Both would hold high-level waste and used fuel. Such an approach was recommended earlier in the year by a high-level blue-ribbon commission.¶ With respect to nuclear safety, American companies are adopting lessons learned from the Fukushima nuclear accident in Japan.¶ US industry is playing an active role in the global market for nuclear technology, where as much as $740 billion in business is at stake over the next decade. With 104 reactors, America still leads the world in installed nuclear capacity. This represents about 30 percent of global nuclear generation. Congress needs to authorize funds for projects to demonstrate the feasibility of small modular reactors.¶ Global electricity requirements are projected to grow by an estimated 80 percent by 2030.¶ Nuclear power remains the only proven technology capable of reliably providing zero-carbon energy on a scale that can have a meaningful impact on global warming.¶ A serious threat to the future of American nuclear power is the shortage of government research and development funds for advanced nuclear technologies. Other countries, notably China, are devoting a larger share of their energy funding to nuclear research on fast reactors and other designs that are inherently safe and produce little or no waste. The US needs to do the same.

#### Delaying commercialization allows China to solidify their lead

Wheeler 12  
(Brian, editor of Power Engineering magazine, "Developing Small Modular Reactor Designs in the U.S," 4-1-12, <http://www.power-eng.com/articles/npi/print/volume-5/issue-2/nucleus/developing-small-modular-reactor-designs-in-the-us.html>)

The development of small modular reactors in the U.S. continues to gain support as the country searches for clean energy options. Although concepts are still being designed, **the U.S. D**epartment **o**f **E**nergy **gave the sector a boost** in March **when it released** **a** Funding Opportunity Announcement to establish **cost-shared agreements** **to support the design and licensing of SMRs.** A total of $450 million will be made available to support two SMRs over five years.¶ "America's choice is clear," said Energy Secretary Steven Chu. "We can either develop the next generation of clean energy technologies, which will help create thousands of jobs and export opportunities here in America, or we can wait for other countries to take the lead."¶ The Energy Department said SMRs are about one-third the size of current nuclear power plants and are designed to offer a host of safety, siting, construction and economic benefits. The size, according to DOE, makes SMRs ideal for small electric grids and locations that cannot support large reactors. Also, the reduced cost due to factory production may make the SMR more attractive to utilities seeking to add a smaller amount of power.¶ "We really see a market right now that includes utilities that don't have a large financial base and that are interested in clean, sustainable power. They are looking at the SMR as an investment of a billion dollars versus several billion dollars for large nuclear," said John Goossen, vice president of Innovation and SMR Development at Westinghouse. "These utilities, in most cases, do not need large chunks of power and are looking to add power incrementally as part of their plans for growth." In February, the Electric Power Research Institute and the Oak Ridge National Laboratory released a study that stated the U.S. has the potential to generate 201 GW from SMRs. For their study, a small modular reactor was labeled as 350 MWe or less. The DOE defines an SMR as 300 MWe or less. The study stated that "350 MWe was considered a reasonable bounding estimate of an initial SMR installation."¶ **The U.S. is leading the world in the amount of SMR designs, but China could be the first country to have a SMR design operational.** Launched in 2011, **a** 200 MWe HTR-PM **reactor is under construction with the support of China Huaneng Group, China Nuclear Engineering and Construction, and Tsinghua University's INET,** according to the World Nuclear Association.¶ "**The U.S. needs to move faster if we are going to compete with the** South Koreans, the **Chinese** and the Russians," said Bob Prince, vice chairman and CEO, Gen4 Energy.

**Using the DOD as a first mover leads to rapid commercialization and allows the US to out-compete other countries**

Loudermilk ‘11

(Micah J. Loudermilk is a Research Associate for the Energy & Environmental Security Policy program with the Institute for National Strategic Studies at National Defense University, May 31, 2011, “Small Nuclear Reactors and US Energy Security: Concepts, Capabilities, and Costs,” Journal of Energy Security, <http://www.ensec.org/index.php?option=com_content&view=article&id=314:small-nuclear-reactors-and-us-energy-security-concepts-capabilities-and-costs&catid=116:content0411&Itemid=375>)

Path forward: Department of Defense as first-mover¶ Problematically, despite the immense energy security benefits that would accompany the wide-scale adoption of small modular reactors in the US, with a difficult regulatory environment, anti-nuclear lobbying groups, skeptical public opinion, and of course the recent Fukushima accident, the nuclear industry faces a tough road in the battle for new reactors. While President Obama and Energy Secretary Chu have demonstrated support for nuclear advancement on the SMR front, progress will prove difficult. However, a potential route exists by which small reactors may more easily become a reality: the US military.¶ The US Navy has successfully managed, without accident, over 500 small reactors on-board its ships and submarines throughout 50 years of nuclear operations. At the same time, serious concern exists, highlighted by the Defense Science Board Task Force in 2008, that US military bases are tied to, and almost entirely dependent upon, the fragile civilian electrical grid for 99% of its electricity consumption. To protect military bases’ power supplies and the nation’s military assets housed on these domestic installations, the Board recommended a strategy of “islanding” the energy supplies for military installations, thus ensuring their security and availability in a crisis or conflict that disrupts the nation’s grid or energy supplies.¶ DOD has sought to achieve this through decreased energy consumption and renewable technologies placed on bases, but these endeavors will not go nearly far enough in achieving the department’s objectives. However, by placing small reactors on domestic US military bases, DOD could solve its own energy security quandary—providing assured supplies of secure and constant energy both to bases and possibly the surrounding civilian areas as well. Concerns over reactor safety and security are alleviated by the security already present on installations and the military’s long history of successfully operating nuclear reactors without incident.¶ Unlike reactors on-board ships, small reactors housed on domestic bases would undoubtedly be subject to Nuclear Regulatory Commission (NRC) regulation and certification, however, with strong military backing, adoption of the reactors may prove significantly easier than would otherwise be possible. Additionally, as the reactors become integrated on military facilities, general fears over the use and expansion of nuclear power will ease, creating inroads for widespread adoption of the technology at the private utility level. Finally, and perhaps most importantly, action by DOD as a “first mover” on small reactor technology will preserve America’s badly struggling and nearly extinct nuclear energy industry. The US possesses a wealth of knowledge and technological expertise on SMRs and has an opportunity to take a leading role in its adoption worldwide. With the domestic nuclear industry largely dormant for three decades, the US is at risk of losing its position as the global leader in the international nuclear energy market. If the current trend continues, the US will reach a point in the future where it is forced to import nuclear technologies from other countries—a point echoed by Secretary Chu in his push for nuclear power expansion. Action by the military to install reactors on domestic bases will guarantee the short-term survival of the US nuclear industry and will work to solidify long-term support for nuclear energy.¶ Conclusions¶ In the end, small modular reactors present a viable path forward for both the expansion of nuclear power in the US and also for enhanced US energy security. Offering highly safe, secure, and proliferation-resistant designs, SMRs have the potential to bring carbon-free baseload distributed power across the United States. Small reactors measure up with, and even exceed, large nuclear reactors on questions of safety and possibly on the financial (cost) front as well. SMRs carry many of the benefits of both large-scale nuclear energy generation and renewable energy technologies. At the same time, they can reduce US dependence on fossil fuels for electricity production—moving the US ahead on carbon dioxide and GHG reduction goals and setting a global example. While domestic hurdles within the nuclear regulatory environment domestically have proven nearly impossible to overcome since Three Mile Island, military adoption of small reactors on its bases would provide energy security for the nation’s military forces and may create the inroads necessary to advance the technology broadly and eventually lead to their wide-scale adoption.

#### SMR commercialization recovers leadership lost to china

Rosner and Goldberg 11

(Robert Rosner, astrophysicist and founding director of the Energy Policy Institute at Chicago. He was the director of Argonne National Laboratory from 2005 to 2009, Stephen Goldberg, Special Assistant to the Director, Argonne National Laboratory ¶ Senior Fellow, Energy Policy Institute at Chicago¶ Research Coordinator, Global Nuclear Future Initiative ¶ American Academy of Arts and Sciences, “Small Modular Reactors – Key to Future Nuclear Power ¶ Generation in the U.S.” Energy Policy Institute at Chicago, <http://csis.org/files/attachments/111129_SMR_White_Paper.pdf>, SEH)

As stated earlier, SMRs have the potential to achieve significant greenhouse gas emission¶ reductions. They could provide alternative baseload power generation to facilitate the retirement¶ of older, smaller, and less efficient coal generation plants that would, otherwise, not be good¶ candidates for retrofitting carbon capture and storage technology. They could be deployed in¶ regions of the U.S. and the world that have less potential for other forms of carbon-free¶ electricity, such as solar or wind energy. There may be technical or market constraints, such as¶ projected electricity demand growth and transmission capacity, which would support SMR¶ deployment but not GW-scale LWRs. From the on-shore manufacturing perspective, a key point¶ is that the manufacturing base needed for SMRs can be developed domestically. Thus, while the¶ large commercial LWR industry is seeking to transplant portions of its supply chain from current¶ foreign sources to the U.S., **the SMR industry offers the potential to establish a large domestic¶ manufacturing base building upon already existing U.S. manufacturing infrastructure and¶ capability,** **including the Naval shipbuilding and underutilized domestic nuclear component and¶ equipment plants**. The study team learned that a number of sustainable domestic jobs could be¶ created – that is, the full panoply of design, manufacturing, supplier, and construction activities –¶ if the U.S. can establish itself as a credible and substantial designer and manufacturer of SMRs.¶ While many SMR technologies are being studied around the world, a **strong U.S.¶ commercialization** program **can enable U.S. industry to be first to market SMRs,** thereby **serving¶ as a fulcrum for** export growth as well as a lever in **influencing international decisions on¶ deploying both** nuclear **reactor and** nuclear **fuel cycle tech**nology. **A** viable **U.S.-centric SMR¶ industry would** enablethe U.S. to **recapture** technological **leadership in** commercial **nuclear¶ tech**nology, **which has been lost to** suppliers in France, Japan, Korea, Russia, and, now rapidly¶ emerging, **China**.

**Ceding nuclear leadership to China leads to unchecked Chinese hege in Asia – kills US regional leadership**

**Cullinane ‘11**

[Scott Cullinane is a graduate student at the Institute of World Politics in Washington, D.C <http://www.ensec.org/index.php?option=com_content&view=article&id=319:america-falling-behind-the-strategic-dimensions-of-chinese-commercial-nuclear-energy&catid=118:content&Itemid=376> ETB]

Due to a confluence of events the United States has recently focused more attention on nuclear weapons policy than it has in previous years; however, the proliferation of commercial nuclear technology and its implications for America’s strategic position have been largely ignored. While the Unites States is currently a participant in the international commercial nuclear energy trade, **America’s** own **domestic construction of nuclear power plants has atrophied severely and the US risks losing its competitive edge in** the **nuclear energy** arena.¶ Simultaneously, the People’s Republic of **China** (PRC) **has made great strides in closing the nuclear** energy **development gap with America**. **Through a combination of importing technology, research from within China itself, and a disciplined policy approach the PRC is increasingly able to leverage the export of commercial nuclear power as part of its national strategy**. **Disturbingly, China does not share America’s commitment to stability, transparency, and responsibility when exporting nuclear technology**. This is a growing strategic weakness and risk for the United States**. To remain competitive and to be in a position to offset the PRC when required the American government should encourage** the **domestic** use of **nuclear power and spur** the forces of **tech**nological **innovation**.¶ History has recorded well American wartime nuclear developments which culminated in the July 1945 Trinity Test, but what happened near Arco, Idaho six years later has been overlooked. In 1951, scientists for the first time produced usable electricity from an experimental nuclear reactor. Once this barrier was conquered the atom was harnessed to generate electricity and permitted America to move into the field of commercial nuclear power. In the next five years alone the United States signed over 20 nuclear cooperation agreements with various countries. Not only did the US build dozens of power plants domestically during the 1960s and 1970s, the US Export-Import Bank also distributed $7.1 billion dollars in loans and guarantees for the international sale of 49 reactors. American built and designed reactors were exported around the world during those years. Even today, more than 60% of the world’s 440 operating reactors are based on technology developed in the United States. The growth of the US civilian nuclear power sector stagnated after the Three Mile Island incident in 1979 – the most serious accident in American civilian nuclear power history. Three Mile Island shook America’s confidence in nuclear power and provided the anti-nuclear lobby ample fuel to oppose the further construction of any nuclear power plants. In the following decade, 42 planned domestic nuclear power plants were cancelled, and in the 30 years since the Three Mile Island incident the American nuclear power industry has survived only through foreign sales and merging operations with companies in Asia and Europe. Westinghouse sold its nuclear division to Toshiba and General Electric joined with Hitachi. Even the highest levels of the American government came to cast nuclear power aside. President Bill Clinton bragged in his 1993 State of the Union Address that “we are eliminating programs that are no longer needed, such as nuclear power research and development.” ¶ **America’s slow pace of reactor construction over the past three decades has stymied innovation and caused the nuclear sector and its industrial base to shrivel**. While some aspects of America’s nuclear infrastructure still operate effectively, **many critical areas have atrophied.** For example, one capability that America has entirely lost is the means to cast ultra heavy forgings in the range of 350,000 – 600,000 pounds, which impacts the construction of containment vessels, turbine rotors, and steam generators. In contrast, Japan, China, and Russia all possess an ultra heavy forging capacity and South Korea and India plan to build forges in this range. Likewise, the dominance America enjoyed in uranium enrichment until the 1970s is gone. The current standard centrifuge method for uranium enrichment was not invented in America and today 40% of the enriched uranium US power plants use is processed overseas and imported. Another measure of how much the US nuclear industry has shrunk is evident in the number of companies certified to handle nuclear material. In the 1980s the United States had 400 nuclear suppliers and 900 holders of N-stamp certificates (N-stamps are the international nuclear rating certificates issued by the American Society of Mechanical Engineers). By 2008 that number had reduced itself to 80 suppliers and 200 N-stamp holders. A recent Government Accountability Office report, which examined data from between 1994 and 2009, found the US to have a declining share of the global commercial nuclear trade. However, during that same period over 60 reactors were built worldwide. Nuclear power plants are being built in the world increasingly by non-American companies.¶ The American nuclear industry entered the 1960s in a strong position, yet over the past 30 years other countries have closed the development gap with America. **The implications of this change go beyond economics or prestige to include national security. These changes would be less threatening if friendly allies were the ones moving forward with developing a nuclear export industry; however, the quick advancement of the PRC in nuclear energy changes the strategic calculus for America.**¶ The shifting strategic landscape¶ **While America’s nuclear industry has languished, current changes in the world’s strategic layout no longer allow America the option of maintaining the status quo without being surpassed.** The drive for research, development, and scientific progress that grew out of the Cold War propelled America forward, but those priorities have long since been downgraded by the US government. **The economic development of formerly impoverished countries means that the US cannot assume continued dominance by default**. **The rapidly industrializing PRC is seeking its own place among the major powers of the world and is vying for hegemony in Asia; nuclear power is an example of their larger efforts to marshal their scientific and economic forces as instruments of national power.**¶ The rise of China is a phrase that connotes images of a backwards country getting rich off of exporting cheap goods at great social and environmental costs. Yet, this understanding of the PRC has lead many in the United States to underestimate China’s capabilities. The Communist Party of China (**CPC) has undertaken a comprehensive long-term strategy to transition from a weak state that lags behind the West to a country that is a peer-competitor to the United States. Nuclear technology provides a clear example of this.** ¶ In 1978, General Secretary Deng Xiaoping began to move China out of the destructive Mao era with his policies of 'reform and opening.' As part of these changes during the 1980s, the CPC began a concerted and ongoing effort to modernize the PRC and acquire advanced technology including nuclear technology from abroad. This effort was named Program 863 and included both legal methods and espionage. By doing this, the PRC has managed to rapidly catch up to the West on some fronts. In order to eventually surpass the West in scientific development the PRC launched the follow-on Program 973 to build the foundations of basic scientific research within China to meet the nation’s major strategic needs. These steps have brought China to the cusp of the next stage of technological development, a stage known as “indigenous innovation.”¶ ¶ In 2006 the PRC published their science and technology plan out to 2020 and defined indigenous innovation as enhancing original innovation, integrated innovation, and re-innovation based on assimilation and absorption of imported technology in order improve national innovation capability. The Chinese seek to internalize and understand technological developments from around the world so that they can copy the equipment and use it as a point to build off in their own research. This is a step beyond merely copying and reverse engineering a piece of technology. The PRC sees this process of absorbing foreign technology coupled with indigenous innovation as a way of leapfrogging forward in development to gain the upper hand over the West. **The PRC’s official statement on energy policy lists nuclear power as one of their target fields. When viewed within this context, the full range of implications from China’s development of nuclear technology becomes evident**. **The PRC is** now **competing with the U**nited **St**ates **in the areas of innovation and high-technology, two fields that have driven American power since World War Two**. **China’s economic appeal** is no longer merely the fact that it has cheap labor, but **is expanding its economic power in a purposeful way that directly challenges America’s position in the world**.¶ ¶ **The CPC uses the market to their advantage to attract nuclear technology and intellectual capital to China**. The PRC has incentivized the process and encouraged new domestic nuclear power plant construction with the goal of having 20 nuclear power plants operational by 2020. The Chinese Ministry of Electrical Power has described PRC policy to reach this goal as encouraging joint investment between State Owned Corporations and foreign companies. 13 reactors are already operating in China, 25 more are under construction and even more reactors are in the planning stages. ¶ In line with this economic policy, China has bought nuclear reactors from Westinghouse and Areva and is cooperating with a Russian company to build nuclear power plants in Taiwan. By stipulating that Chinese companies and personnel be involved in the construction process, China is building up its own domestic capabilities and expects to become self-sufficient. **China’s** State Nuclear Power Technology Corporation has **partnered with Westinghouse to build a new and larger reactor** based on the existing Westinghouse AP 1000 reactor. **This will give the PRC a reactor design of its own to then export**. **If the CPC is able to combine their control over raw materials, growing technical know-how, and manufacturing base, China will not only be a powerful economy, but be able to leverage this power to service its foreign policy goals as well.**¶ Even though the PRC is still working to master third generation technology, their scientists are already working on what they think will be the nuclear reactor of the future. China is developing Fourth Generation Fast Neutron Reactors and wants to have one operational by 2030. Additionally, a Chinese nuclear development company has announced its intentions to build the “world’s first high-temperature, gas-cooled reactor” in Shandong province which offers to possibility of a reactor that is nearly meltdown proof. A design, which if proved successful, could potentially redefine the commercial nuclear energy trade.¶ The risk to America¶ **The international trade of nuclear material is hazardous in that every sale and transfer increases the chances for an accident or for willful misuse of the material. Nuclear commerce must be kept safe in order for the benefits of nuclear power generation to be realized. Yet, China has a record of sharing dangerous weapons and nuclear material with unfit countries**. **It is a risk for America to allow China to become a nuclear exporting country with a competitive technical and scientific edge. In order to limit Chinese influence and the relative attractiveness of what they can offer, America must ensure its continuing and substantive lead in reactor technology.**¶ ¶ The PRC’s record of exporting risky items is well documented. It is known that during the 1980s **the Chinese shared nuclear weapon designs with Pakistan and continues to proliferate WMD-related material.** According to the Office of the Director of National Intelligence to Congress, **China sells technologies and components in the Middle East and South Asia that are dual use and could support WMD and missile programs.** Jane’s Intelligence Review reported in 2006 that China,¶ Despite a 1997 promise to Washington to halt its nuclear technology sales to Iran, such assistance is likely to continue. In 2005, Iranian resistance groups accused China of selling Iran beryllium, which is useful for making nuclear triggers and maraging steel (twice as hard as stainless steel), which is critical for fabricating centrifuges needed to reprocess uranium into bomb-grade material. ¶ **China sells dangerous materials in order to secure its geopolitical objectives, regardless if those actions harm world stability. There is little reason to believe China will treat the sale of nuclear reactors any differently. Even if the PRC provides public assurances that it will behave differently in the future, the CPC has not been truthful for decades about its nuclear material and weapons sales and hence lacks credibility**. For example, in 1983 Chinese Vice Premier Li Peng said that China does not encourage or support nuclear proliferation. In fact, it was that same year that China contracted with Algeria, then a non-NPT [Non-Proliferation Treaty] state, to construct a large, unsafeguarded plutonium production reactor. In 1991 a Chinese Embassy official wrote in a letter to the The Washington Post that 'China has struck no nuclear deal with Iran.' In reality, China had provided Iran with a research reactor capable of producing plutonium and a calutron, a technology that can be used to enrich uranium to weapons-grade. It has been reported that even after United Nation sanctions were put on Iran, Chinese companies were discovered selling “high-quality carbon fiber” and “pressure gauges” to Iran for use in improving their centrifuges.¶ In 2004 the PRC joined the Nuclear Suppliers Groups (NSG), gaining international recognition of their growing power in the nuclear field. In spite of this opportunity for China to demonstrate its responsibility with nuclear energy, it has not fulfilled it NSG obligations. The PRC has kept the terms of its nuclear reactor sale to Pakistan secret and used a questionable legal technicality to justify forgoing obtaining a NSG waiver for the deal. Additionally, China chose to forgo incorporating new safety measures into the reactors in order to avoid possible complications.¶ A further consequence of China exporting reactors is that these countries may wish to control the fuel cycle which provides the uranium to power their new reactors. The spread of fuel cycle technology comes with two risks: enrichment and reprocessing. Uranium can be enriched to between 3% and 5% for reactor use, but the process can be modified to produce 90% enriched uranium which is weapons-grade. Even if a country only produces low enriched uranium they could easily begin enriching at a higher level if they so choose**. Every new country that nuclear technology or information is spread to exponentially increases the risk of material being stolen, given to a third party or being used as the launching point for a weapons program**. **China’s history of proliferation and willingness to engage economically with very unsavory governments seems likely to increase the risks involving nuclear material.**

**U.S. leadership in Asia checks escalation in multiple hostpots**

**Goh 8**

(Evelyn, Lecturer in International Relations in the Department of Politics and International Relations at the Univ of Oxford, International Relations of the Asia-Pacific, “Hierarchy and the role of the United States in the East Asian security order,” 2008 8(3):353-377, Oxford Journals Database)

This is the main structural dilemma: **as long as the U**nited **S**tates **does not give up its primary position in the Asian regional hierarchy**, China is very unlikely to act in a way that will provide comforting answers to the two questions. Yet**, the East Asian regional order has been and still is constituted by US hegemony**, and **to change that could be extremely disruptive and may lead to regional actors acting in highly destabilizing ways**. **Rapid Japanese remilitarization, armed conflict across the Taiwan Straits, Indian nuclear brinksmanship directed toward Pakistan, or a highly destabilized Korean peninsula are all illustrative of potential regional disruptions**. 5 Conclusion To construct a coherent account of East Asia’s evolving security order, I have suggested that the United States is the central force in constituting regional stability and order. **The major patterns of equilibrium and turbulence in the region since 1945 can be explained by the relative stability of the US position at the top of the regional hierarchy**, **with periods of greatest insecurity being correlated with greatest uncertainty over the American commitment to managing regional order**. Furthermore, relationships of hierarchical assurance and hierarchical deference explain the unusual character of regional order in the post-Cold War era. However, **the greatest contemporary challenge to East Asian order is the potential conflict between China and the United States over rank ordering in the regional hierarchy**, a contest made more potent because of the intertwining of regional and global security concerns. Ultimately, though, investigating such questions of positionality requires conceptual lenses that go beyond basic material factors because it entails social and normative questions. How can China be brought more into a leadership position, while being persuaded to buy into shared strategic interests and constrain its own in ways that its vision of regional and global security may eventually be reconciled with that of the United States and other regional players? How can Washington be persuaded that its central position in the hierarchy must be ultimately shared in ways yet to be determined? The future of the East Asian security order is tightly bound up with the durability of the United States’ global leadership and regional domination. **At the regional level, the main scenarios of disruption are an outright Chinese challenge to US leadership, or the defection of key US allies, particularly Japan**. Recent history suggests, and the preceding analysis has shown, that challenges to or defections from **US leadership will come at junctures where it appears that the US commitment to the region is in doubt**, which in turn destabilizes the hierarchical order. At the global level, American geopolitical over-extension will be the key cause of change. This is the one factor that Hierarchy and the role of the United States in the East Asian security order 373lead to both greater regional and global turbulence, if only by the attendant strategic uncertainly triggering off regional challenges or defections. However, it is notoriously difficult to gauge thresholds of over-extension. More positively, East Asia is a region that has adjusted to previous periods of uncertainty about US primacy. Arguably, the regional consensus over the United States as primary state in a system of benign hierarchy could accommodate a shifting of the strategic burden to US allies like Japan and Australia as a means of systemic preservation. **The alternatives that could surface as a result of not doing so would appear to be much worse.**

**Those go nuclear**

**Landy 2k**

National Security Expert @ Knight Ridder, 3/10 ¶ (Jonathan, Knight Ridder, lexis)

Few if any experts think China and Taiwan, North Korea and South Korea, or India and Pakistan are spoiling to fight. But **even a minor miscalculation** by any of them **could destabilize Asia,** jolt the global economy **and** even **start** a **nuclear war. India, Pakistan and** **China all have nuclear weapons, and North Korea** may have a few, **too. Asia lacks the** kinds of organizations, negotiations and diplomatic **relationships that helped keep** an uneasy **peace** for five decades **in Cold War Europe. “Nowhere else** on Earth **are the stakes as high and relationships so fragile,”** said Bates Gill, director of northeast Asian policy studies at the Brookings Institution, a Washington think tank. “We see the convergence of great power interest overlaid with lingering confrontations with no institutionalized security mechanism in place. There are elements for potential disaster.” In an effort to cool the region’s tempers, President Clinton, Defense Secretary William S. Cohen and National Security Adviser Samuel R. Berger all will hopscotch Asia’s capitals this month. For America, the stakes could hardly be higher. **There are 100,000 U.S. troops in Asia** committed to defending Taiwan, Japan and South Korea, and **the U**nited **St**ates **would instantly** **become embroiled** if Beijing moved against Taiwan or North Korea attacked South Korea. While Washington has no defense commitments to either **India or Pakistan**, a conflict between the two **could end the** global **taboo against using nuclear weapons** and demolish the already shaky international nonproliferation regime. In addition, globalization has made a stable Asia \_ with its massive markets, cheap labor, exports and resources \_ indispensable to the U.S. economy. Numerous U.S. firms and millions of American jobs depend on trade with Asia that totaled $600 billion last year, according to the Commerce Department.

#### China will risk open conflict by asserting hegemony in the South China Sea- US leadership key to solve

Hung December ‘12

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| By 2009-2010, the heightened tension between China and the ASEAN claimants over the contested islands led to an internationalization of the conflict, with the US and other powers beginning to express a view on the disputes. That’s understandable, given that the South China Sea is the world’s second-busiest sea-lane, with more than half of the world’s super tankers and $5.3 trillion in annual trade passing through the area (US trade alone accounts for $1.2 trillion of that figure). The concern over China’s claims and assertive behavior, coupled with China’s lack of transparency in its military modernization program, have created an arms race in Southeast Asia and elicited strong reactions from major powers worried about the situation. India and Japan, for their part, are also concerned over freedom of navigation. Both countries have advocated peaceful resolution of the disputes, but have also increased their diplomatic, economic and naval presence in the area. The US, meanwhile, is in the midst of a policy pivot to the Asia-Pacific, committing 60 percent of its naval assets to the Pacific Ocean, and taking actions to strengthen and modernize “historic alliances” with Japan, South Korea, Australia, the Philippines and Thailand, as well as building “robust partnerships” throughout the region.4 Russia has also begun to voice its concern over the issue of freedom of navigation and “outside meddling” in the South China Sea. In May 2009, as the deadline for claims based on the United Nations Convention on the Law of the Sea (UNCLOS) approached, China was forced to put its cards on the table and Beijing officially presented its nine-dashed-line map, claiming control over 80 percent of the South China Sea and encroaching on territories claimed by other Southeast Asian countries. Almost immediately, the US Senate held a hearing on the South China Sea and in June unanimously passed a resolution “deploring China’s use of force in the South China Sea and supporting the continuation of operations by US armed forces in support of freedom of navigation rights in international water and air space in the South China Sea.” In June 2010, at the Shangri-La Dialogue in Singapore, heated exchanges over the South China Sea took place between China and the US, joined by other ASEAN countries. A month earlier, at the Strategic and Economic Dialogue between the US and China in Beijing, Chinese officials, in a move viewed as raising the stakes in the conflict, declared the country’s claims in the South China Sea to be a “core interest.”5 Influential elites in China view the South China Sea as “blue territory” — that is, as much a part of China’s sovereign territory as Tibet, Xinjiang or Taiwan.6 The US response came in the form of a speech by US Secretary of State Hillary Clinton at the ASEAN Regional Forum (ARF) in Hanoi in July, in which she made it clear that “The United States has a national interest in freedom of navigation, open access to Asia’s maritime commons and respect for international law in the South China Sea.” Significantly, American and Chinese understandings of “freedom of navigation” differ. The US believes it includes the right to conduct military exercises and collect intelligence and militarily useful data, while China wants foreign naval ships and aircraft to seek China’s permission before entering its “internal waters” in the South China Sea.7 Since conflicts of national interests between major world powers can easily lead to friction and war, the escalating tensions between China and the US over these maritime disputes should be a serious cause for concern. The Systemic Conflict From a systemic perspective, the US-China conflict over the South China Sea may be seen as conflict between a rising power and a status quo power. For decades the US, through its Seventh Fleet and its Pacific Command, was the undisputed naval power in the Pacific. The American defeat in Vietnam in the 1970s and its later involvement in the wars in Afghanistan and Iraq have changed the situation. While the US reduced its military presence in Asia and got bogged down in two costly and draining wars, China’s economy was growing and its military modernization program was gaining momentum; Beijing, as a result, has become a dominant regional power economically, politically and militarily. Chinese leaders departed from Deng Xiaoping’s famous dictum to “hide your intention, bide for time,” and began to flex China’s muscles, particularly over the South China Sea. China’s assertion of its “historical right” to claim the sea is weak and doesn’t conform to either UNCLOS or customary international law. What China has been doing represents nothing less than an attempt to rewrite international law and impose its will on the region, shape global political realities and influence the “rules of the road” for the international order.8 The US, in both words and deeds, has signaled that it does not accept this. It has strengthened its military presence in Asia, revitalized its strategic relations with old allies and helped improve the defense capabilities of small countries in the region. In July 2012, when China created a prefectural-level city at Sansha, a small island in the South China Sea, and established a military garrison there to “exercise sovereignty over all land features inside the South China Sea,” the US State Department reacted by publicly denouncing China’s action as “counter to collaborative diplomatic efforts to resolve differences and risks further escalating tensions in the region,” while Congressman Howard Berman, a leading member of the House Committee on Foreign Relations, confirmed that the administration of US President Barack Obama had “repeatedly made clear to Beijing that the US will not allow China to assert hegemony over the region.”9 Conflicts of interests between rising powers and status quo powers have in the past accelerated arms races and led to war. The key questions are, can such a collision course be altered, and can the core conflicts between the two powers be resolved? **Possible End Games** There are a number of possible scenarios for resolving the South China Sea disputes. The first is that China moderates its excessive claims and strikes a deal with other coastal nations, with third-party arbitration or adjudication if necessary, based on recognized international law on territorial seas, exclusive economic zones and continental shelves. Before adopting its nine-dashed line, China had drawn an eleven-dashed line map, two lines of which were in the Gulf of Tonkin.10 This, however, did not prevent China and Vietnam from achieving an agreement on the demarcation of sea borders in that gulf. Moreover, Chinese officials have repeatedly denied that China has officially declared the South China Sea its “core interest,” leaving open the possibility of coming to an understanding regarding conflicting claims. Some Chinese scholars and experts working in government think tanks have privately acknowledged “the problematic nature of China’s policy in the South China Sea,” particularly with regard to “the status of the nine-dotted line.” These analysts and strategic thinkers have expressed concern that the tense situation in the South China Sea could sidetrack China’s “course of reform.”11 This leaves the door open for discussion and provides the space in which China might entertain possible concessions that would avoid embroiling China and its Southeast Asian neighbors in a long argument over China’s excessive claims. The second scenario is one in which China, taking advantage of the differential in power between it and other rival claimants, relies on a combination of unilateral actions, brinkmanship, piecemeal advances and divide-and-conquer tactics to gradually and steadily establish actual control of the sea area within the nine-dashed line. The standoff between China and the Philippines at Scarborough Shoal was a perfect example of how this possible scenario might unfold. The Scarborough Shoal standoff began in May 2012 when a Philippine Navy frigate was sent to investigate the area and boarded Chinese fishing boats in an area it claimed belonged to the Philippines’ EEZ. China responded by sending two unarmed China Maritime Surveillance vessels to interpose themselves between the frigate and the fishing boats and let them escape. Both sides sent in reinforcements. At the height of the standoff, there were a handful of Philippine boats facing almost 100 Chinese vessels. Faced with the overwhelming number of Chinese ships and without international support, the Philippine had to cut a deal in which both sides withdrew their ships. But after all the Philippine boats had withdrawn, China roped off the entrance to the shoal, effectively establishing its de facto control over the contested area. With that fait accompli, a new status quo in favor of China was established. This tactic of resorting to low-grade pressure to create a series of new “facts” may lead to what Toshi Yoshihara termed “strategic fatigue,” which could, in the long run, weaken resistance by rival claimants and lead to a grudging acceptance by the US of China’s claims.12 With this achieved, China would have effective control of navigation in the South China Sea and could dictate the use of that important sea-lane of communication. This approach is being resisted by ASEAN claimants and by other major powers that share the Pacific Ocean. Its success or failure will depend on two things: 1) whether China succeeds in its “divide-and-conquer” approach to ASEAN; and 2) whether ASEAN can summon the determination and capacity to act with a united front to resist China’s pressure and involve other major powers, especially the US. China’s current aggressive approach has caused friction and tension and, if unrestrained, may lead to military conflicts.13 In the long run, it will push many Asian countries closer to the US and may lead to a new kind of Cold War and containment, pitting a bloc of countries supporting the American vision of an Asian regional order against a group supporting the Chinese vision of an Asian regional order. This scenario is a nightmare for Southeast Asian countries that have worked so hard to strengthen ASEAN solidarity and promote the concept of ASEAN centrality, in order to avoid being caught up in the rivalry between the US and China. The third scenario is that China reaches an accommodation with the US, based on American recognition of China as an undisputed leader in the South China Sea, and a peaceful transition of leadership in the Asia-Pacific area from the US to China occurs. If this were to happen, it would unsettle all other Asian nations, big and small, but once the US began the accommodation process, other countries would simply have to fall in line. This process, however, would be dangerous globally and regionally. There is no guarantee, however, that if China were to dominate Asia, she would stop there. In response to the reality of a spectacularly rising China and an America burdened with economic problems and a dysfunctional government, scholars such as Adam Quinn have focused on the beginning of a power transition from the US, a declining power, to China, a rising power.14 Chinese strategic thinkers have not missed the possibility that the current contest over the South China Sea may represent the first steps toward this transition. Ding Gang, a senior editor at the Communist Party’s People’s Daily, commented: “It’s still unknown if the US plans to input equally massive manpower and financial resources as China has injected into this region. It’s very likely that the US lacks the motivation to do this in the long run. And China may become the strongest economic, political and military power in Asia.”15 The problem with this scenario is that it neglects the extent to which the two key players involved in this transition — China and the US — are regimes that represent incompatible visions of the future of the region and the world. A peaceful transition of power took place from the British Empire to the American Empire, largely because it was a case of one democracy replacing another, trading roles as the sentinels of shared regional interests. The British were willing to relinquish their dominance and were assured that, with another democracy taking the helm, its security and wellbeing were not threatened. But the clash between undemocratic revisionist powers (Germany, Italy and Japan) and democratic powers in the 1930s led to the Second World War. Regionally, this scenario would be most undesirable for smaller ASEAN countries and is unlikely to occur so long as the US has the capacity and the determination to maintain its supremacy in the Asia-Pacific region, a determination that has been strongly restated by US leaders, from the president to the secretaries of defense and state as well as by leading members of Congress.16 Aaron Friedberg points out that the ideological gap between China and the US is too great and the level of trust too low to facilitate an accommodation. He makes the case that China’s ultimate goal of regional hegemony would run counter to the US “grand strategy, which has remained constant for decades: to prevent the domination of either end of the Eurasian landmass by one or more potentially hostile powers.”17 |

#### Emerging dynamics means conflict will escalate- 6 reasons

- no cooling off periods

- New ASEAN secretary general is anti-China

- New ASEAN chair is too weak to hammer out a deal

- India getting involved

- more resources will be found

- new Chinese leadership won’t back down

Kurlantzick 12/6/12

[Joshua Kurlantzick, Fellow for Southeast Asia @ Council on Foreign Relations. <http://blogs.cfr.org/asia/2012/12/06/south-china-sea-going-to-get-worse-before-it-might-gets-better/> ETB]

This week’s latest South China Sea incident, in which a Chinese fishing boat cut a Vietnamese seismic cable —at least according to Hanoi— is a reminder that, despite the South China Sea dominating nearly every meeting in Southeast Asia this year, the situation in the Sea appears to be getting worse. This is in contrast to flare-ups in the past, when after a period of tension, as in the mid-1990s, there was usually a cooling-off period. Although there have been several brief cooling-off periods in the past two years, including some initiated by senior Chinese leaders traveling to Southeast Asia, they have not stuck, and the situation continues to deteriorate and get more dangerous.¶ In the new year, it will likely get even worse. Here’s why:¶ The new Association of Southeast Asian Nations (ASEAN) secretary-general comes from Vietnam. Over the past three years, a more openly forceful China has found it difficult to deal with ASEAN leaders who even voice ASEAN concerns. But these leaders, like former Thai foreign minister and ASEAN Secretary-General Surin Pitsuwan, were nothing compared to the new ASEAN secretary-general, Vietnamese Deputy Foreign Minister Le Luong Minh. Although he is a career diplomat and certainly can be suave and attentive, he is still a former Vietnamese official, and undoubtedly will bring with him some of the Vietnamese perspective toward China, which is quickly turning more acrid.¶ This year’s ASEAN chair is Brunei. Keeping to its tradition of rotating the chair every year, in 2013 ASEAN will be headed by Brunei. Although some might think Brunei’s leadership will be better for stability than the 2012 ASEAN leadership of Cambodia, perceived by many other ASEAN members as carrying China’s water, the fact that Brunei is just as much of a diplomatic minnow as Cambodia will mean there is no powerful wrangler in the chair’s seat to hammer out a common ASEAN perspective. Were Indonesia or Singapore the chair, the situation might be different.¶ India is playing a larger and larger role in the South China Sea, adding even more potential players to the mix, and more powerful navies. The recent warning by Beijing that India and Vietnam should not engage in joint exploration is only going to lead to a harsher Indian response, since Indian elites pay far more attention to —and are more easily aggrieved by— China than the reverse.¶ The more they look, the more likely they will find. As reported by the New York Times, “On Monday, China’s National Energy Administration named the South China Sea as the main offshore site for natural gas production. Within two years, China aims to produce 150 billion cubic meters of natural gas from fields in the sea, a significant increase from the 20 billion cubic meters produced so far, the agency said.” Although I do not think that the oil and gas potential in the Sea is the biggest driver of conflict, compared to its strategic value, the more China (and anyone else) explores for energy in the Sea, the more likely they will (eventually) come up with potential deposits that will only raise the stakes, if the forecasts of the Sea’s petroleum potential are to be believed.¶ A new Chinese leadership is unlikely to want to show any weakness. With the leadership of this generation even more split than in the past, following a contentious Party Congress, continued infighting among acolytes of the major Chinese leaders, and the Bo Xilai fiasco, the new leadership is in no position, with Party members and the general educated public, to give any room on a contentious issue like the South China Sea.¶ The Obama administration has passed its period of focusing on more effective dialogue and crisis mediation with China. Officials from the administration’s first term, who naturally had the highest hopes for better dialogue, are gone, with many of them leaving just as convinced as their Bush predecessors that real dialogue was difficult if not impossible. Don’t expect a second term to yield better results with such a dialogue.

#### Risk of miscalc and escalation are high- triggers global war- US, Russia, and India get drawn in

Canberra Times 1/21/13

<http://www.canberratimes.com.au/opinion/editorial/a-real-risk-in-south-china-sea-20130120-2d14p.html> ETB

The close student of history might think that the stand-off between Japan and China over the sovereignty of a few small islands in the South China Sea has a very close resemblance to the international landscape just before the start of the First World War 99 years ago. In the past week, Japan and China have been playing military chicken, each hoping the other blinks before a massive conflagration. The resemblance to August 1914 goes beyond the way in which both sides are ratcheting up the bluster, threats and the pressure, primarily for domestic political consumption rather than tactical or serious strategic advantage, against the risk that even a slight political or military miscalculation or chance event (like an assassination in Sarajevo) actually sets off conflicts no one intended, expected or actually wanted. It also has parallels with the potential for such a conflict, whether started by China or Japan, to explode domino-like into a much wider brawl, inevitably causing confrontation between China and the US, and, unwilling but unavoidable entry by most of the northern Pacific nations, including Russia, Vietnam, the Koreas, the Philippines and Australia, and, probably India. It is impossible to calculate how such a conflict would go, but it would be catastrophic for millions of people, with survivors wondering why it came to escalate so quickly and to become, so suddenly, for two countries such a critical matter worth staking their national survival.¶ No one can firmly say which nation ''has'' sovereignty over the Diaoyu or Senkaku Islands. Of themselves, they have little economic value, other than that the nation which can claim to ''own'' them can claim the right to exploit the adjacent sea for any mineral or petroleum wealth. Ownership depends on where one starts the clock, and China has as good a case as Japan, of itself a reason why Japan must negotiate. China had practical ownership and control until the late 19th century when an awakening and expansionist Japan annexed it during a period when China had been weakened by confrontations and concession to western powers and Japan. China claims that it protested strongly at the time, and certainly, laid claim for their return at the end of the Second World War. At one stage both countries agreed to hold their competing claims in suspense, but neither withdrew them.¶ The US has tacitly recognised the Japanese claim, and, foolishly, intimated that it would go to war to defend it. But the US rationale does not resolve an issue that precedes its treaty relationships, and its status quo argument might suggest, wrongly, that it likewise admits Russia's claim both to the former Japanese territory of Sakhalin and all the Kuril Islands, including the ones Japan denies ever ceding.¶ Like China's disputes over other islands with Vietnam, Russia, the Philippines, Brunei, Indonesia and Malaysia, argument is kept alive by the prospect of oil and mineral claims as well as economic zones, but, in recent times, a generally peaceful status quo has been aggravated by nationalistic bombast, in Japan as much as in China. China's belligerence is aggravated by unresolved anger at Japanese aggression against China in the 1930s and 1940s, and its fear that Japan's raising of the temperature is part of an American strategy of ''encircling'' China.

**US-China war goes nuclear**

**Hunkovic 9**

Lee J. Hunkovic -- professor at American Military University, 09, [“The Chinese-Taiwanese Conflict Possible Futures of a Confrontation between China, Taiwan and the United States of America”, American Military University, p.54]

**A war between China**, Taiwan **and the U**nited **S**tates **has the potential to escalate into a nuclear conflict and a third world war**, therefore, **many countries other than the primary actors could be affected by such a conflict, including Japan, both Koreas, Russia, Australia, India and Great Britain,** if they were drawn into the war, as well as all other countries in the world that participate in the global economy, in which the United States and China are the two most dominant members. If China were able to successfully annex Taiwan, the possibility exists that they could then plan to attack Japan and begin a policy of aggressive expansionism in East and Southeast Asia, as well as the Pacific and even into India, which could in turn create an international standoff and deployment of military forces to contain the threat. In any case, **if China and the U**nited **S**tates **engage in** a full-scale **conflict, there are few countries** in the world **that will not be** economically and/or militarily **affected by it.** However, China, Taiwan and United States are the primary actors in this scenario, whose actions will determine its eventual outcome, therefore, other countries will not be considered in this study.

**Sino-Indian war goes nuclear**

**Caryl ‘10**

(CHRISTIAN CARYL “Nuclear arms race between China and India” JULY 13, 2010http://www.defence.pk/forums/indian-defence/65480-nuclear-arms-race-between-china-india.html, TSW)

Europeans and Americans, who have dominated world affairs for so long, are understandably fascinated by the recent rise of China and India. **It's obvious that the rapid economic resurgence of these two great Asian powers fundamentally alters the global rules of the game**.¶ China and India have built up a $60-billion-per-year trading relationship, and for years they've insisted that they want to work more closely on a variety of fronts. **Yet** **that expressed desire for collaboration co-exists uneasily with a long-running strategic rivalry**. **Parts of their mutual border remain in dispute. China has long supported Pakistan, India's main enemy**, **while the Indians have often befriended competitors of the Chinese** (**be it Moscow or Washington**). Lately Beijing has been cultivating relationships among countries in Southeast Asia and the Indian Ocean -- including Bangladesh, Myanmar, and Sri Lanka -- to protect the flow of commerce and access to supplies of natural resources. That has the Indians fearing encirclement. ¶ Lately, though, another **element is threatening to complicate the strategic calculus: the nuclear factor.** In themselves, of course, nuclear weapons are nothing new to either country. China has been a nuclear power for decades, while India conducted its first nuclear test in 1974 (though most outsiders tend to think of 1998, when New Delhi conducted a series of underground explosions designed to establish its bona fides as a genuine nuclear power). **Although both countries have sworn off first use, both have built up formidable deterrents designed to retaliate against any attackers.**¶ So what's new? A lot. **Concurrent with their rising economic might, China and India have set about modernizing their militaries to lend extra muscle to their growing strategic ambitions** -- and **given their complicated history, that can't help but spark worries**. "**China has the most active and diverse ballistic missile development program in the world**," noted one U.S. report. "**China's ballistic missile force is expanding in both size and types of missiles**." China's Dongfeng long-range missiles boast independently controlled multiple warheads, mobility, and solid fuel (meaning that they can be fired with little notice). That's just one of many areas in which the Chinese have demonstrated their advanced technological capabilities. In January China shot down one of its own satellites with a missile -- once again demonstrating, as it did with a previous test in 2007, that it's well down the path toward a ballistic missile defense system.¶ **That test unnerved the Indians, who saw the prospect of Chinese space weapons as a potential threat to the credibility of their own nuclear deterrent**. The **Indians**, meanwhile, **have been hard at work on a new generation of long-range missiles of their own.** The Agni-5, which is set for a test flight by the end of this year, has a projected range of 5,000 to 6,000 kilometers -- meaning that it would be able to hit even the northernmost of China's cities. The Indians are also conducting sea trials of their first ballistic missile submarine, the Arihant, which could be ready for deployment within another year or two.¶ It is undoubtedly true that the two countries mainly have other potential enemies in mind. China is primarily concerned about deterring potential attacks by the world's leading nuclear power, the United States, while India's strategic calculations focus on the threat from Pakistan. **Yet strategic logic is creating the potential for direct friction between Beijing and New Delhi on several fronts**. **The two countries are already engaged in a naval arms race** as **they jockey for influence in the waters around South Asia**. **Tensions have also been mounting over the two countries' border disputes** -- **especially the one involving the disputed area of Arunachal Pradesh (which is controlled by the Indians)**. The **Indians complain of a rising number of Chinese incursions into the area**; a remark by the Chinese ambassador to India a few years ago, when he claimed the territory as China's, stirred up public outrage. The Chinese, who regard Arunachal Pradesh as part of Tibet, worry in turn about a buildup of Indian troops in the region.¶ Rajeswari Pillai Rajagopalan of the Observer Research Foundation in New Delhi notes one concern. Starting in 2007, the Chinese military began a major upgrade of its missile base near the city of Delingha in Qinghai province, next to Tibet. **In addition to the intermediate-range missiles already stationed in the region, Rajagopalan says there are indications the Chinese** may **have beefed up the force** with long-range DF-31s and DF-31As -- **thus threatening not only northern India, including Delhi, but targets in the south as well.** It's entirely possible, she acknowledges in a 2007 paper, that the Chinese move could be aimed primarily at countering Russian missiles stationed in Siberia, but warns that "what the Chinese may consider a routine exercise may send a wrong signal and have serious implications." For his part, former U.S. diplomat Charles Freeman says that he regards Indian fears of a Chinese nuclear buildup as exaggerated, but worries thatafateful **mismatch of perceptions could already be spur**ring both countries toward **a** genuine **nuclear arms race**.¶ **The extent to which the two militaries are getting on each other's nerves became apparent in a bit of high-ranking trash-talking earlier this year**. **India's chief military science office**r, V.K. Saraswat, **declared that new advances in his country's ballistic missile technology meant that "**as far as cities in China and Pakistan are concerned, **there will be no target that we want to hit but can't hit**." **That prompted a retort from Rear Adm. Zhang Zhaozhong of China's National Defense University, who pointedly derided the "low level" of Indian technology**. "In developing its military technology," Zhang said, "China has never taken India as a strategic rival, and none of its weapons were specifically designed to contain India." **If that was meant to console anyone south of the border, it doesn't seem to have worked**.¶ **The best time to talk about an arms race, of course, is before it really gathers steam.** Krishnaswami Subrahmanyam, former chairman of India's National Security Advisory Board, says that China and India should take their nuclear concerns to the Conference on Disarmament, a multilateral negotiating forum at the United Nations. **But that, of course, would require the Chinese to acknowledge that there's a problem, which they might not be willing to do.** Rajagopalan notes that India and Pakistan have managed to set up some effective confidence-building measures on their common border, but that India and China have yet to do the same (aside from a few stillborn efforts in the early 1990s). Instituting mechanisms to warn each other of pending missile tests might be a start. "I think there's a great need for that," she says. "**Otherwise these kinds of tensions can spiral out of control." You can say that again.**

#### Russia-China war goes nuclear

Alexander **Sharavin** 200**1** Director of the Institute for Military and Political Analysis, What the Papers Say, Oct 3)

The strength of the Chinese People's Liberation Army (CPLA) has been growing quicker than the Chinese economy. A decade ago the CPLA was equipped with inferior copies of Russian arms from late 1950s to the early 1960s. However, through its own efforts Russia has nearly managed to liquidate its most significant technological advantage. Thanks to our zeal, from antique MiG-21 fighters of the earliest modifications and S-75 air defense missile systems the Chinese antiaircraft defense forces have adopted Su-27 fighters and S-300 air defense missile systems. China's air defense forces have received Tor systems instead of anti-aircraft guns which could have been used during World War II. The shock air force of our "eastern brethren" will in the near future replace antique Tu-16 and Il-28 airplanes with Su-30 fighters, which are not yet available to the Russian Armed Forces! Russia may face the "wonderful" prospect of combating the Chinese army, which, if full mobilization is called, is comparable in size with Russia's entire population, which also has nuclear weapons (even tactical weapons become strategic if states have common borders) and would be absolutely insensitive to losses (even a loss of a few million of the servicemen would be acceptable for China). Such a war would be more horrible than the World War II. It would require from our state maximal tension, universal mobilization and complete accumulation of the army military hardware, up to the last tank or a plane, in a single direction (we would have to forget such "trifles" like Talebs and Basaev, but this does not guarantee success either). Massive nuclear strikes on basic military forces and cities of China would finally be the only way out, what would exhaust Russia's armament completely. We have not got another set of intercontinental ballistic missiles and submarine-based missiles, whereas the general forces would be extremely exhausted in the border combats. In the long run, even if the aggression would be stopped after the majority of the Chinese are killed, our country would be absolutely unprotected against the "Chechen" and the "Balkan" variants both, and even against the first frost of a possible nuclear winter.

### Solvency

#### DoD acquisition of SMR’s ensures rapid military adoption and commercialization, and prevents unfavorable tech lock-in

**Andres and Breetz 11**

Richard Andres, Professor of National Security Strategy at the National War College and a Senior Fellow and Energy and Environmental Security and Policy Chair in the Center for Strategic Research, Institute for National Strategic Studies, at the National Defense University, and Hanna Breetz, doctoral candidate in the Department of Political Science at The Massachusetts Institute of Technology, Small Nuclear Reactorsfor Military Installations:Capabilities, Costs, andTechnological Implications, [www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf](http://www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf)

Thus far, this paper has reviewed two of DOD’s most pressing energy vulnerabilities—grid insecurity and fuel convoys—and explored how they could be addressed by small reactors. We acknowledge that there are many uncertainties and risks associated with these reactors. On the other hand, **failing to pursue these technologies raises its own set of risks for DOD,** which we review in this section: first, **small reactors may fail to be commercialized in the U**nited **S**tates; second, **the designs that get locked in by the private market may not be optimal for DOD’s needs**; and third, **expertise on small reactors may become concentrated in foreign countries**. **By taking an early “first mover” role in the small reactor market, DOD could mitigate these risks and secure the long-term availability and appropriateness of these technologies for U.S. military applications.** The “Valley of Death.” Given the promise that small reactors hold for military installations and mobility, **DOD has a compelling interest in ensuring that they make the leap from paper to production**. However, **if DOD does not provide an initial** demonstration and **market, there is a chance that the U.S. small reactor industry may never get off the ground**. **The leap from the laboratory to the marketplace is so difficult to bridge that it is widely referred to as the “Valley of Death.”** **Many promising technologies are never commercialized due to a variety of market failures**— **including technical and financial uncertainties**, information asymmetries, **capital market imperfections, transaction costs**, and environmental and security externalities— **that impede financing and early adoption** **and can lock innovative technologies out of the marketplace**. 28 In such cases, **the Government can help a worthy technology to bridge the Valley of Death by accepting the first mover costs and demonstrating the technology’s scientific and economic viability**.29 [FOOTNOTE 29: **There are** numerous **actions that the Federal Government could take**, such as conducting or funding research and development, stimulating private investment, demonstrating technology, mandating adoption, and guaranteeing markets. **Military procurement** is thus only one option, but it has often **played a decisive role in technology development and is likely to be the catalyst for the U.S. small reactor industry.** See Vernon W. Ruttan, Is War Necessary for Economic Growth? (New York: Oxford University Press, 2006); Kira R. Fabrizio and David C. Mowery, “The Federal Role in Financing Major Inventions: Information Technology during the Postwar Period,” in Financing Innovation in the United States, 1870 to the Present, ed. Naomi R. Lamoreaux and Kenneth L. Sokoloff (Cambridge, MA: The MIT Press, 2007), 283–316.] Historically, **nuclear power has been “the most clear-cut example . . . of an important general-purpose technology that in the absence of military** and defense related **procurement would not have been developed at all.”**30 **Government involvement is likely to be crucial for innovative, next-generation nuclear technology** as well. Despite the widespread revival of interest in nuclear energy, Daniel Ingersoll has argued that radically innovative **designs face an uphill battle, as “the high capital cost of nuclear plants and the painful lessons learned during the first nuclear era have created a prevailing fear of first-of-a-kind designs**.”31 In addition, **M**assachusetts **I**nstitute of **T**echnology reports on the Future of Nuclear Power **called for the Government to provide modest “first mover” assistance to the private sector due to several barriers that have hindered the nuclear renaissance**, such as securing high up-front costs of site-banking, gaining NRC certification for new technologies, and demonstrating technical viability.32 It is possible, of course, that small reactors will achieve commercialization without DOD assistance. As discussed above, they have garnered increasing attention in the energy community. Several analysts have even argued that small reactors could play a key role in the second nuclear era, given that they may be the only reactors within the means of many U.S. utilities and developing countries.33 However, **given the tremendous regulatory hurdles and technical and financial uncertainties, it appears far from certain that the U.S. small reactor industry will take off. If DOD wants to ensure that small reactors are available in the future, then it should pursue a leadership role now.** Technological Lock-in. **A second risk is that if small reactors do reach the market without DOD assistance, the designs that succeed may not be optimal for DOD’s applications**. **Due to a variety of positive feedback and increasing returns to adoption** (including demonstration effects, technological interdependence, network and learning effects, and economies of scale), **the designs that are initially developed can become “locked in.”**34 **Competing designs**—even if they are superior in some respects or better for certain market segments— **can face barriers to entry that lock them out of the market. If DOD wants to ensure that its preferred designs are not locked out, then it should take a first mover role on small reactors.** It is far too early to gauge whether the private market and DOD have aligned interests in reactor designs. On one hand, Matthew Bunn and Martin Malin argue that what the world needs is cheaper, safer, more secure, and more proliferation-resistant nuclear reactors; presumably, many of the same broad qualities would be favored by DOD.35 **There are many varied market niches that could be filled by small reactors, because there are many different applications** and settings in which they can be used, and it is quite possible that some of those niches will be compatible with DOD’s interests.36 On the other hand, **DOD may have specific needs** (transportability, for instance) **that would not be a high priority for any other market segment.** Moreover, while DOD has unique technical and organizational capabilities that could enable it to pursue more radically innovative reactor lines, DOE has indicated that it will focus its initial small reactor deployment efforts on LWR designs.37 **If DOD wants to ensure that its preferred reactors are developed and available in the future, it should take a leadership role now. Taking a first mover role does not** necessarily **mean that DOD would be “picking a winner” among small reactors**, as the market will probably pursue multiple types of small reactors. **Nevertheless, DOD leadership would likely have a profound effect on the industry’s timeline and trajectory.** Domestic Nuclear Expertise. From the perspective of larger national security issues, **if DOD does not catalyze the small reactor industry, there is a risk that expertise in small reactors could become dominated by foreign companies**. A 2008 Defense Intelligence Agency report warned that the United States will become totally dependent on foreign governments for future commercial nuclear power unless the military acts as the prime mover to reinvigorate this critical energy technology with small, distributed power reactors.38 **Several of the most prominent small reactor concepts rely on technologies perfected at Federally funded laboratories and research programs**, including the Hyperion Power Module (Los Alamos National Laboratory), NuScale (DOE-sponsored research at Oregon State University), IRIS (initiated as a DOE-sponsored project), Small and Transportable Reactor (Lawrence Livermore National Laboratory), and Small, Sealed, Transportable, Autonomous Reactor (developed by a team including the Argonne, Lawrence Livermore, and Los Alamos National Laboratories). **However, there are scores of competing designs under development from over a dozen countries. If DOD does not act early to support the U.S. small reactor industry, there is a chance that the industry could be dominated by foreign companies**. Along with other negative consequences, **the decline of the U.S. nuclear industry decreases the NRC’s influence on the technology that supplies the world’s rapidly expanding demand for nuclear energy. Unless U.S. companies begin to retake global market share, in coming decades France, China, South Korea, and Russia will dictate standards on nuclear reactor reliability, performance, and proliferation resistance**.

**Alternative financing cuts costs and supercharges commercialization**

**Fitzpatrick 11**

Ryan Fitzpatrick, Senior Policy Advisor for Clean Energy at Third Way, Josh Freed, Vice President for Clean Energy at Third Way, and Mieke Eoyan, Director for National Security at Third Way, June 2011, Fighting for Innovation: How DoD Can Advance CleanEnergy Technology... And Why It Has To, content.thirdway.org/publications/414/Third\_Way\_Idea\_Brief\_-\_Fighting\_for\_Innovation.pdf

The DoD has over $400 billion in annual purchasing power, **which means the Pentagon could provide a sizeable market for new technologies**. **This can increase a technology’s scale of production, bringing down costs, and making the product more likely to successfully reach commercial markets**. **Unfortunately**, many potentially significant clean energy **innovations never get to the marketplace, due to a lack of capital during** the development and **demonstration stages. As a result, technologies that could help the military** meet its clean energy security and cost goals **are being abandoned or co-opted by competetors like China** before they are commercially viable here in the U.S. **By focusing its purchasing power on innovative products that will** help **meet its energy goals, DoD can provide** more **secure** and **cost-effective energy to the military—producing tremendous long-term savings**, while also **bringing** potentially **revolutionary technologies to the public**. Currently, many of these **technologies are passed over during** the **procurement** process **because of** higher **upfront costs—even if these technologies can reduce life-cycle costs** to DoD. The Department has only recently begun to consider life-cycle costs and the “fullyburdened cost of fuel” (FBCF) when making acquisition decisions. However, initial reports from within DoD suggest that the methodology for determining the actual FBCF needs to be refined and made more consistent before it can be successfully used in the acquisition process.32 The Department should fast-track this process to better maximize taxpayer dollars. Congressional appropriators— and the Congressional Budget Office—should also recognize the **savings that can be achieved by procuring advanced technologies to promote DoD’s energy goals**, even if these procurements come with higher upfront costs. **Even if the Pentagon makes procurement of emerging clean energy technologies a higher priority, it still faces real roadblocks in developing relationships with the companies that make them. Many clean energy innovations are developed by small businesses or companies that have no previous experience working with military procurement officers. Conversely, many procurement officers do not know the clean energy sector and are not incentivized to develop relationships with emerging clean energy companies**. Given the stakes in developing domestic technologies that would help reduce costs and improve mission success, the Pentagon should develop a program to encourage a better flow of information between procurement officers and clean energy companies—especially small businesses. Leverage Savings From Efficiency and Alternative Financing to Pay for Innovation. **In an age of government-wide austerity and tight** Pentagon **budgets**, current congressional **appropriations are simply not sufficient** to fund clean energy innovation. **Until Congress decides to direct additional resources** for this purpose, the **Defense** Department **must leverage** the money and other **tools it already has** to help develop clean energy. This can take two forms: repurposing money that was saved through energy efficiency programs for innovation and using alternative methods of financing to reduce the cost to the Pentagon of deploying clean energy. For several decades **the military has made** modest **use alternative financing** **mechanisms to fund** clean **energy** and efficiency **projects when appropriated funds were insufficient**. In a 2010 report, GAO found that while only 18% of renewable energy projects on DoD lands used alternative financing, these projects account for 86% of all renewable energy produced on the Department’s property.33 This indicates that **alternative financing can be particularly helpful to DoD in terms of bringing larger and more expensive projects to fruition**. One advanced financing tool available to DoD is **the energy savings performance contract** (ESPC). These agreements **allow DoD to contract a private firm to make upgrades to a building or other facility that result in energy savings, reducing overall energy costs without appropriated funds**. **The firm finances the cost, maintenance and operation of these upgrades and recovers a profit over the life of the contract**. While mobile applications consume 75% of the Department’s energy,34 DoD is only authorized to enter an ESPC for energy improvements done at stationary sites. As such, Congress should allow DoD to conduct pilot programs in which ESPCs are used to enhance mobile components like aircraft and vehicle engines. This could accelerate the needed replacement or updating of aging equipment and a significant reduction of energy with no upfront cost. To maximize the potential benefits of ESPCs, DoD should work with the Department of Energy to develop additional training and best practices to ensure that terms are carefully negotiated and provide benefits for the federal government throughout the term of the contract.35 This effort could possibly be achieved through the existing memorandum of understanding between these two departments.36 The Pentagon should also consider using any long-term savings realized by these contracts for other energy purposes, including the promotion of innovative technologies to further reduce demand or increase general energy security. In addition to ESPCs, **the Pentagon** also **can enter into** extended agreements with utilities to use DoD land to generate electricity, or for the **long-term purchase of energy**. **These** **innovative financing mechanisms**, known respectively as enhanced use leases (EULs) and power purchase agreements (PPAs), **provide a valuable degree of certainty to third party generators**. In exchange, the **Department can leverage its existing resources**—either its land or its purchasing power—**to negotiate lower electricity rates** and dedicated sources of locallyproduced power with its utility partners. **DoD has unique authority among federal agencies to enter extended 30-year PPAs**, **but only for geothermal energy projects and only with direct approval from the Secretary of Defense**. Again, limiting incentives for clean energy generation to just geothermal power inhibits the tremendous potential of other clean energy sources to help meet DoD’s energy goals. **Congress should consider opening this incentive up to other forms of clean energy generation**, including the production of advanced fuels. Also, given procurement officials’ lack of familiarity with these extended agreements and the cumbersome nature of such a high-level approval process, the unique authority to enter into extended 30-year PPAs is very rarely used.37 DoD should provide officials with additional policy guidance for using extended PPAs and Congress should simplify the process by allowing the secretary of each service to approve these contracts. Congress should also investigate options for encouraging regulated utility markets to permit PPA use by DoD. Finally, when entering these agreements, the Department should make every effort to promote the use of innovative and fledgling technologies in the terms of its EULs and PPAs. CON C L U S ION **The Defense Department is in a unique position to foster and deploy innovation in clean energy technologies**. This has two enormous benefits for our military: it will make our troops and our facilities more secure and it will reduce the amount of money the Pentagon spends on energy, freeing it up for other mission critical needs. If the right steps are taken by Congress and the Pentagon, the military will be able to put its resources to work developing technologies that will lead to a stronger fighting force, a safer nation, and a critical emerging sector of the American economy. **The Defense Department has helped give birth to technologies and new economic sectors dozens of times before**. For its own sake and the sake of the economy, **it should make clean energy innovation its newest priority**.

**DoD key- avoids regulations**

Glen **Butler**, Lt. Col., 20**11**, Not Green Enough, [www.mca-marines.org/gazette/not-green-enough](http://www.mca-marines.org/gazette/not-green-enough)

**SMRs have relatively low plant cost**, can replace aging fossil plants, and do not emit greenhouse gasses. Some are as small as a “hot tub” and can be stored underground, dramatically increasing safety and security from terrorist threats.25 Encouragingly, in fiscal year 2010 (FY10) the **DoE allocated** $0 to **the U.S. SMR Program**; in FY11, they’ve requested $38.9 million. This **funding is to support** two main activities—**public/private partnerships to advance** SMR **designs and research** **and** development and **demonstrations**. According to the DoE’s website, one of the planned program accomplishments for FY11 is to “collaborate with the Department of Defense (DoD) . . . to assess the feasibility of SMR designs for energy resources at DoD installations.”26 The Marine Corps should vigorously seek the opportunity to be a DoD entity providing one platform for this feasibility assessment.27 Fourth, **SMR** technology **offers** the Marine Corps **a**nother **unique means to lead from the front**—not just of the other Services but also of **the Nation, and** even **the world**.28 **This** potential Pete Ellis **moment should be seized**. There are simple steps we could take, and others stand ready to lead if we are not.30 But **the temptation to “wait and see” and “let the others do it; then we’ll adopt it” mentality is not** always **best**. **Energy security demands boldness**, not timidity. To be fair, nuclear technology comes with challenges, of course, and with questions that have been kicked around for decades. An April 1990 Popular Science article asked, “Next Generation Nuclear Reactors—Dare we build them?” and included some of the same verbiage heard in similar discussions today.31 Compliance with National Environment Policy Act requirements necessitates lengthy and detailed preaction analyses, critical community support must be earned, and disposal challenges remain. Still, none of these hurdles are insurmountable. Yet despite the advances in safety, security, and efficiency in recent years, nuclear in the energy equation remains the new “n-word” for most military circles. And despite the fact that the FY10 National Defense Authorization Act called on the DoD to “conduct a study [of] the feasibility of nuclear plants on military installations,” the Office of the Secretary of Defense has yet to fund the study. Fifth**, the** **cumbersome, bureaucratic certification** **process** **of** **the** Nuclear Regulatory Commission (**NRC**), often **enough to scare away potential entrepreneurs and investors, is not** **necessarily** **a roadblock to success**. The NRC is “responsible for licensing and regulating the operation of commercial nuclear power plants in the United States.” **Military installations offer unique platforms that** could likely **bypass** an extended **certification** process. **With established expertise and a long safety record in nuclear reactor certification**, operations, training, and maintenance, the Naval Nuclear Propulsion Program comprises the civilian and military personnel who: . . . design, build, operate, maintain, and manage the nuclear-powered ships and the many facilities that support the U.S. nuclear-powered naval fleet.”34 **Bypassing the NRC and initiating SMR experimentation** under ADM Hyman Rickover’s legacy umbrella of naval reactors **could shorten the process to a reasonable level for** Marine and naval **installations**.35

#### They have the personnel and expertise

Robitaille 12

(George, Department of Army Civilian, United States Army War College, “Small Modular Reactors: The Army’s Secure Source of Energy?” 21-03-2012, Strategy Research Project)

Section 332 of the FY2010 National Defense Authorization Act (NDAA), “Extension and Expansion of Reporting Requirements Regarding Department of Defense Energy Efficiency Programs,” requires the Secretary of Defense to evaluate the cost and feasibility of a policy that would require new power generation projects established on installations to be able to provide power for military operations in the event of a commercial grid outage.28 A potential solution to meet this national security requirement, as well as the critical needs of nearby towns, is for DoD to evaluate SMRs as a possible source for safe and secure electricity. **Military facilities depend on reliable sources of energy to operate, train, and support national security missions. The power demand for most military facilities is not very high, and could easily be met by a SMR.** Table 1 provides the itemized description of the annual energy requirements in megawatt of electricity (MWe) required for the three hundred seventy four DoD installations.29 DoD History with SMRs **The concept of small reactors for electrical power generation is not new**. In fact, **the DoD built and operated small reactors for applications on land and at sea**. **The U.S. Army operated eight nuclear power plants from 1954 to 1977. Six out of the eight reactors built by the Army produced operationally useful power for an extended period, including the first nuclear reactor to be connected and provide electricity to the commercial grid**. 30 The Army program that built and operated compact nuclear reactors was ended after 1966, not because of any safety issues, but strictly as a result of funding cuts in military long range research and development programs. In essence, it was determined that the program costs could only be justified if there was a unique DoD specific requirement. At the time there were none.31 Although it has been many years since these Army reactors were operational, the independent source of energy they provided at the time is exactly what is needed again to serve as a secure source of energy today. Many of the nuclear power plant designs used by the Army were based on United States Naval reactors. Although the Army stopped developing SMRs, **the Navy as well as the private sector has continued to research, develop, and implement improved designs** to improve the safety and efficiency of these alternative energy sources. The U.S. Navy nuclear program developed twenty seven different power plant systems and almost all of them have been based on a light water reactor design.32 This design focus can be attributed to the inherent safety and the ability of this design to handle the pitch and roll climate expected on a ship at sea. **To date, the U. S Navy operated five hundred twenty six reactor cores in two hundred nineteen nuclear powered ships, accumulated the equivalent of over six thousand two hundred reactor years of operation and safely steamed one hundred forty nine million miles**. **The U.S. Navy has never experienced a reactor accident**.33 All of the modern Navy reactors are design to use fuel that is enriched to ninety three percent Uranium 235 (U235) versus the approximate three percent U235 used in commercial light water reactors. The use of highly enriched U235 in Navy vessels has two primary benefits, long core lives and small reactor cores.34 The power generation capability for naval reactors ranges from two hundred MWe (megawatts of electricity) for submarines to five hundred MWe for an aircraft carrier. A Naval reactor can expect to operate for at least ten years before refueling and the core has a fifty year operational life for a carrier or thirty to forty years for a submarine.35 As an example, the world’s first nuclear carrier, the USS Enterprise, which is still operating, celebrated fifty years of operations in 2011.36 The Navy nuclear program has set a precedent for safely harnessing the energy associated with the nuclear fission reaction. In addition, **the Navy collaborates with the private sector to build their reactors and then uses government trained personnel to serve as operators**.

**Implementing the use of SMRs as a secure source of energy for our critical military facilities will leverage this knowledge and experience**.

**SMRs are cost-effective, safe, can be quickly deployed, and solve waste**

**Szondy 12**

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One way of getting around many of these problems is through the development of small modular reactors (**SMR**). These **are** reactors **capable of generating** about **300 megawatts** of power or less, **which is enough to run 45,000** US **homes**. Though small, SMRs are proper reactors. They are quite different from the radio-thermal generators (RTG) used in spacecraft and remote lighthouses in Siberia. Nuclear reactors such as **SMRs use controlled nuclear fission to generate power while RTGs use** natural **radioactive decay to power a** relatively simple **thermoelectric generator that can only produce**, at most, about **two kilowatts.¶** In terms of power, RTGs are the equivalent of batteries while small nuclear reactors are only "small" when compared to conventional reactors. They are hardly the sort that you would keep in the garage. In reality, SMR power plants would cover the area of a small shopping mall. Still, such an installation is not very large as power plants go and a reactor that only produces 300 megawatts may not seem worth the investment, but the US Department of Energy is offering US$452 million in matching grants to develop SMRs and private investors like the Bill Gates Foundation and the company of Babcock and Wilcox are putting up money for their own modular reactor projects.¶ The 60-year old breakthrough¶ **One reason for government and private industry to take an interest in SMRs is that they've** **been successfully employed for much longer than most people realize.** In fact, **hundreds have been steaming around the world inside** the hulls **of nuclear submarines and other warships for sixty years. They've also been used in merchant ships, icebreakers and as research and medical isotope reactors** at universities. There was even one installed in the Antarctic at McMurdo Station from 1962 to 1972. Now they're being considered for domestic use.¶ The case for SMRs¶ SMRs have a number of advantages over conventional reactors. For one thing, **SMRs are cheaper to construct and run.** This makes them very attractive to poorer, energy-starved countries; small, growing communities that don't require a full-scale plant; and remote locations such as mines or desalination plants. Part of the reason for this is simply that the reactors are smaller. Another is that, not needing to be custom designed in each case, the **reactors can be standardized and some types built in factories that are able to employ economies of scale.** The factory-built aspect is also important because **a factory is more efficient than on-site construction by as much as eight to one in terms of building time.** **Factory construction also allows SMRs to be built, delivered to the site, and then returned to the factory for dismantling** at the end of their service lives - **eliminating a major problem with old** conventional **reactors, i.e. how to dispose of them.¶** **SMRs** also **enjoy** a good deal of **design flexibility. Conventional reactors are** usually **cooled by water** - a great deal of water - **which means that the reactors need to be situated near rivers or coastlines. SMRs**, on the other hand, **can be cooled by air, gas, low-melting point metals or salt.** This means that **SMRs can be placed in remote**, inland **areas** where it isn't possible to site conventional reactors.¶ Safety¶ This cooling system is often passive. In other words, it relies more on the natural circulation of the cooling medium within the reactor's containment flask than on pumps. This passive cooling is one of the ways that **SMRs can improve safety**. Because modular reactors are smaller than conventional ones, **they contain less fuel**. This means that **there's less of a mass to be affected if an accident occurs.** If one does happen, **there's less radioactive material that can be released** into the environment and makes it easier to design emergency systems. Since they are smaller and use less fuel, **they are easier to cool effectively, which** greatly **reduces the likelihood of a catastrophic accident or meltdown** in the first place.¶ This also means that **accidents proceed much slower in modular reactors** than in conventional ones. **Where the latter need accident responses in** a matter of hours or **minutes**, **SMRs can be responded to in** hours or **days**, which reduces the chances of an accident resulting in major damage to the reactor elements.¶ **The SMR designs that reject water cooling in favor of gas, metal or salt have their own safety advantages**. Unlike water-cooled reactors, **these media operate at a lower pressure.** **One of the hazards of water cooling is that a cracked pipe or a damaged seal can blow radioactive gases out** like anti-freeze out of an overheated car radiator**. With low-pressure media, there's less force to push gases out and there's less stress placed on the containment vessel. It** also **eliminates one of the** frightening **episodes of the Fukushima accident where the water in the vessel broke down into hydrogen and oxygen and then exploded.¶** Another advantage of modular design is that some **SMRs are small enough to be installed below ground.** That is cheaper, faster to construct and less invasive than building a reinforced concrete containment dome. There is also the point that **putting a reactor in the ground makes it less vulnerable to earthquakes. Underground installations make modular reactors easier to secure and install** in a much smaller footprint. **This makes SMRs particularly attractive to military customers who need to build power plants for bases quickly.** **Underground installation also enhances security** with fewer sophisticated systems needed, which also helps bring down costs.¶ **SMRs can help with proliferation, nuclear waste and fuel supply issues because, while some modular reactors are based on conventional pressurized water reactors and burn enhanced uranium, others use less conventional fuels. Some**, for example, can **generate power from** what is now regarded as "**waste", burning depleted uranium and plutonium left over** from conventional reactors. **Depleted uranium is** basically U-238 from which the fissible U-235 has been consumed. It's also much **more abundant** in nature than U-235, **which has the potential of providing the world with energy for thousands of years. Other reactor design**s don't even use uranium. Instead, they **use thorium**. This fuel is also incredibly abundant, is easy to process for use as fuel and has the added bonus of being utterly useless for making weapons, so it can provide power even to areas where security concerns have been raised.¶ But there's still the sticking point that modular reactors are, by definition, small. That may be fine for a submarine or the South Pole, but what about places that need more? Is the alternative conventional nuclear plants? It turns out that the answer is no. **Modular reactors don't need to be used singly. They can be set up in batteries of five or six** or even more, **providing as much power as an area needs.** And if one unit needs to be taken off line for repairs or even replacement, it needn't interfere with the operation of the others.

**Nuclear power is expanding globally**

IAEA applications

Middle class

Population growth

Urbanization

Warming

Desal

**Ebinger and Squassoni 11**

Charles K Ebinger and Sharon Squassoni 11, Charles is senior fellow and director of the Energy Security Initiative at the Brookings Institution, Sharon is senior fellow and director of the Proliferation Prevention Program at the Center for Strategic and International Studies, “Industry and Emerging Nuclear Energy Markets” in “Business and Nonproliferation”, googlebooks

As mentioned previously, **a notable feature of the nuclear renaissance is the widespread interest in nuclear power, especially in countries without a commercial nuclear infrastructure. According to the** International Atomic Energy Agency (**IAEA**), at least **sixty-five countries have expressed** such **interest**, most from outside the industrialized economies of the Organization of Economic Cooperation and Development (OECD), the main locus of nuclear power capacity at present. **Most of the capacity growth up to 2030 is expected to occur in the Middle East, South Asia, Southeast Asia, and the Far East**. As part of this growth, **eleven developing countries are serious candidates for first reactors**, although progress in carrying out their plans varies widely (see table 4-1). **These countries are drawing new suppliers into the nuclear market** (notably China, India, and South Korea) **and sparking activity among existing suppliers** such as Russia and Japan. Overall, however, many countries will not be able to follow through on growth plans owing to cost, limited grid capacity, and perhaps public resistance. **Countries are moving toward nuclear energy**, not the mention other sources of primary fuel, in large part **because of mounting demand: between 2008 and 2035 global electricity consumption is expected to increase 80 percent, and 80 percent of that growth will take place in non-OECD countries**. **Underlying this large increase in electricity demand are population growth, urbanization, concerns about CO2 emissions from fossil fuel combustion, energy security, and pressure from a growing middle class for goods and services using or produced by electricity**. **Over this period, global population will rise from 6.7 billion to 8.5 billion, with 7.2 billion of the total living in non-OECD countries**. **Most of this increase will take place in China, India, and the Middle East**, with the balance in the rest of the developing world, while the share of the global population in the OECD and Russia will decline. Today nearly 1.4 billion people have no electricity, a figure that may well increase with further population growth, despite movement into the modern energy economy. **Urbanization will undoubtedly push demand up as well**. For the first time in history, a majority of the world’s population is living in urban areas, a trend likely to continue, especially in developing countries. **With the movement of hundreds of millions of people from rural areas to cities, more communities will turn from traditional** and often free **fuels** (wood, forest residues, agricultural wastes, bagasse, and dung) **to modern fuels such as electricity, natural gas, and petroleum products**. **The dramatic growth of the middle class in a number of emerging market nations is also having a large impact on energy consumption. The World Bank predicts that by 2030 the middle class in these nations will jump to 1.2 billion from 430 million in 2000**. It is estimated that in India alone, a country that before Fukushima was developing plans for nuclear power, the number of households with an annual disposal income of $5,000-$15,000 will increase from 36 percent of the population in 2010 to more than 58 percent by 2020. **Climate change**, too, **will have some of its largest impact in developing countries**, which, according to the International Energy Agency (IEA), will be responsible for nearly all of the projected global increase in CO2 emissions by 2035. In large part, the cause of this rise is coal-fired power in China and India. **The urgency of finding alternatives to coal is recognized by** others as well, including **Indonesia, Pakistan, Poland, South Africa, and Russia**. Compared with developed countries, developing nations rely far more on imported fossil fuels, especially oil, to generate power. When the price of oil on the world market rose to $147 a barrel in 2008, it became clear that dependence on imported fossil fuels for electricity generation can destroy a nation’s economy and that fuel diversification is vital for energy security. As prices climbed beyond $100 a barrel, Jordan, a country committed to introducing civilian nuclear energy, was particularly hard hit: 99 percent of its electricity is generated from either oil or gas, 96 percent of which is imported. **Developing countries also see nuclear energy as a possible source of power for desalination plants, especially in the** Gulf Cooperation Council (**GCC**) **countries and elsewhere in the Middle East**. **As the demand for freshwater supplies increases** – along with the emphasis on limited the use of fossil fuels to generates electricity because of the impact of emissions, price volatility, and supply disruptions – **the nuclear option will be considered even more viable**. Moreover, some **countries with large resources of oil or gas**, **such as the** United Arab Emirates (**UAE**) **and Saudi Arabia**, **are hoping nuclear power will help reduce their domestic use of these fuels in generating power and will boost the financial benefits of exporting them**. **For some developing countries, status and geopolitics are undoubtedly important factors in considering the development or expansion of a civilian nuclear energy program**. **In the view of Turkey’s energy minister** Hilmi Guler, for instance, **nuclear technology is a requirement for a seat at the table with the ten most developed countries in the world**.

**Natural gas isn’t a solvency take out**

**Lamonica 12**

Martin Lamonica is a senior writer covering green tech and cutting-edge technologies [August 9, 2012, “A Glut of Natural Gas Leaves Nuclear Power Stalled,” http://www.technologyreview.com/news/428737/a-glut-of-natural-gas-leaves-nuclear-power/]

**Outside the U**nited **S**tates, it's a different story. Unconventional sources of **natural gas also threaten the expansion of nuclear, although the potential impact is less clear-cut. Around the world, there are 70 plants now under construction, but shale gas also looms as a key factor in planning for the future. Prices for natural gas are already higher in Asia and Europe, and shale gas resources are not as fully developed as they are the U**nited **S**tates.¶ **Some countries are** also **blocking the development of** new **natural gas resources**. France, for instance, which has a strong commitment to nuclear, has banned fracking in shale gas exploration because of concerns over the environmental impact.¶ Fast-growing **China, meanwhile, needs all the energy sources available and is building nuclear power plants as fast as possible**.¶ **Even in** **U**nited **S**tates, of course, **super cheap natural gas will not last forever.** **With supply exceeding demand, some drillers are said to be losing money on natural gas, which could push prices back up.** **Prices will also be pushed upward by utilities, as they come to rely on more natural gas for power generation**, says James.¶ Ali **Azad, the chief business development officer at** energy company **Babcock & Wilcox, thinks the answer is making nuclear power smaller**, cheaper, and faster. His is one of a handful of companies developing **s**mall **m**odular **r**eactor**s** that **can be built in three years, rather than 10 or more, for a fraction of the cost of gigawatt-size reactors.** Although this technology is not yet commercially proven, the company has a customer in the Tennessee Valley Authority, which expects to have its first unit online in 2021 (see "A Preassembled Nuclear Reactor").¶ "When we arrive, **we will have a level cost of energy on the grid, which competes** favorably **with a brand-new combined-cycle natural gas plants** when gas prices are between $6 to $8," said Azad. **He sees strong demand in power-hungry China and places such as Saudia Arabia, where power is needed for desalination.¶ Even if natural gas remains cheaper, utilities don't want to find themselves with an overreliance on gas, which has been volatile on price in the past, so nuclear power will still contribute to the energy mix.** "[**Utilities**] **still continue** [**with nuclear**] **but with a lower level of enthusiasm—it's a hedging strategy," says** Hans-Holger **Rogner from** the Planning and Economics Studies section of **the I**nternational **A**tomic **E**nergy **A**gency. "**They don't want to pull all their eggs in one basket** because of the new kid on the block called shale gas."¶

## 2AC

### Procurement T

#### 1. We meet- plan creates incentives and secures a market for nuclear energy

#### 2. We meet- paying them is the financial incentive

We meet- decrease costs through econs of scale

#### 3. Counter interpretation- financial incentives are disbursement of public funds or contingent commitments

Webb 93

(lecturer in the Faculty of Law at the University of Ottawa (Kernaghan, “Thumbs, Fingers, and Pushing on String: Legal Accountability in the Use of Federal Financial Incentives”, 31 Alta. L. Rev. 501 (1993) Hein Online)

In this paper, "financial incentives" are taken to mean disbursements 18 of public funds or contingent commitments to individuals and organizations, intended to encourage, support or induce certain behaviours in accordance with express public policy objectives. They take the form of grants, contributions, repayable contributions, loans, loan guarantees and insurance, subsidies, procurement contracts and tax expenditures.19 Needless to say, the ability of government to achieve desired behaviour may vary with the type of incentive in use: up-front disbursements of funds (such as with contributions and procurement contracts) may put government in a better position to dictate the terms upon which assistance is provided than contingent disbursements such as loan guarantees and insurance. In some cases, the incentive aspects of the funding come from the conditions attached to use of the monies.20 In others, the mere existence of a program providing financial assistance for a particular activity (eg. low interest loans for a nuclear power plant, or a pulp mill) may be taken as government approval of that activity, and in that sense, an incentive to encourage that type of activity has been created.21 Given the wide variety of incentive types, it will not be possible in a paper of this length to provide anything more than a cursory discussion of some of the main incentives used.22 And, needless to say, the comments made herein concerning accountability apply to differing degrees depending upon the type of incentive under consideration.¶ By limiting the definition of financial incentives to initiatives where *public funds are either disbursed or contingently committed*, a large number of regulatory programs with incentive *effects* which exist, but in which no money is forthcoming,23 are excluded from direct examination in this paper. Such programs might be referred to as *indirect* incentives. Through elimination of indirect incentives from the scope of discussion, thedefinition of the incentive instrument becomes both more manageable and more particular. Nevertheless, it is possible that much of the approach taken here may be usefully applied to these types of indirect incentives as well.24 Also excluded from discussion here are social assistance programs such as welfare and *ad hoc* industry bailout initiatives because such programs are not designed primarily to *encourage* behaviours in furtherance of specific public policy objectives. In effect, these programs are assistance, but they are not incentives.

#### Ground- it is grounded in the literature and is the only way to intrinsically keep military affs in the topic which are key to beat states counterplans, and it links much harder to disads

#### Predictability- our evidence has a definitive list and an intent to define, and is supported in the literature

#### Limits- only adds procurement affs to their list, but limits out all indirect incentive effects their allows

#### Education- key to talk about different actors use of energy and how energy’s connection to the military, and no aff makes sense where the government is the consumer

No moving targets

#### Reasonability key to prevent a race to the most limiting definition

### Grid

**Terrorists have religious motivations that make discourse and compromise meaningless. The only way to win the war we are in is to kill them before they kill us.¶**

**Peters 4**

- (Ralph, Retired Army Officer, “In Praise of Attrition,” Parameters, Summer)¶

Trust me. **We don’t need discourses.** **We need** plain talk, honest answers, and **the will to close with the enemy and kill him**. And to keep on killing him until it is unmistakably clear to the entire world who won. When military officers start speaking in academic gobbledygook, it means they have nothing to contribute to the effectiveness of our forces. They badly need an assignment to Fallujah. **Consider our enemies in the War on Terror. Men who believe**, literally, **that they are on a mission from God to destroy your civilization and who regard death as a promotion** are not impressed by elegant maneuvers. **You must find them**, no matter how long it takes, **then kill them**. If they surrender, you must accord them their rights under the laws of war and international conventions. But, as we have learned so painfully from all the mindless, left-wing nonsense spouted about the prisoners at Guantanamo, you are much better off killing them before they have a chance to surrender. We have heard no end of blather about network-centric warfare, to the great profit of defense contractors. If you want to see a superb—and cheap—example of “net-war,” look at al Qaeda. The mere possession of technology does not ensure that it will be used effectively. And effectiveness is what matters. It isn’t a question of whether or not we want to fight a war of attrition against religion-fueled terrorists. We’re in a war of attrition with them. We have no realistic choice. Indeed, our enemies are, in some respects, better suited to both global and local wars of maneuver than we are. They have a world in which to hide, and the world is full of targets for them. They do not heed laws or boundaries. They make and observe no treaties. They do not expect the approval of the United Nations Security Council. They do not face election cycles. And their weapons are largely provided by our own societies. We have the technical capabilities to deploy globally, but, for now, we are forced to watch as Pakistani forces fumble efforts to surround and destroy concentrations of terrorists; we cannot enter any country (except, temporarily, Iraq) without the permission of its government. We have many tools—military, diplomatic, economic, cultural, law enforcement, and so on—but we have less freedom of maneuver than our enemies. But we do have superior killing power, once our enemies have been located. Ultimately, the key advantage of a superpower is superpower. Faced with implacable enemies who would kill every man, woman, and child in our country and call the killing good (the ultimate war of attrition), we must be willing to use that power wisely, but remorselessly. We are, militarily and nationally, in a transition phase. **Even after 9/11, we do not fully appreciate the cruelty and determination of our enemies**. **We will learn our lesson, painfully, because the terrorists will not quit. The only solution is to kill them and keep on killing them: a war of attrition. But a war of attrition fought on our terms, not theirs**. **Of course, we shall hear no end of fatuous arguments to the effect that we can’t kill our way out of the problem.** Well, **until a better methodology is discovered, killing every terrorist we can find is a good interim solution.** The truth is that even if you can’t kill yourself out of the problem, **you can make the problem a great deal smaller by effective targeting.** **And we shall hear that killing terrorists only creates more terrorists. This is sophomoric nonsense**. **The surest way to swell the ranks of terror is to follow the approach we did in the decade before 9/11 and do nothing of substance**. **Success breeds success. Everybody loves a winner**. The clichés exist because they’re true. Al Qaeda and related terrorist groups metastasized because they were viewed in the Muslim world as standing up to the West successfully and handing the Great Satan America embarrassing defeats with impunity. **Some fanatics will flock to the standard of terror, no matter what we do. But it’s far easier for Islamic societies to purge themselves of terrorists if the terrorists are on the losing end of the global struggle than if they’re allowed to become triumphant heroes to every jobless, unstable teenager in the Middle East and beyond**. **Far worse than fighting such a war of attrition aggressively is to pretend you’re not in one while your enemy keeps on killing you.** Even the occupation of Iraq is a war of attrition. We’re doing remarkably well, given the restrictions under which our forces operate. **But no grand maneuvers, no gestures of humanity, no offers of conciliation, and no compromises will persuade the terrorists to halt their efforts to disrupt the development of a democratic, rule-of-law** Iraq. On the contrary, **anything less than relentless pursuit, with both preemptive and retaliatory action, only encourages the terrorists and remaining Baathist gangsters.**

**DERRIDIAN DECONSTRUCTION OF KNOWLEDGE ABANDONS ACTION – RESULTS IN A CONSERVATIVE, APOLITICAL COMMITMENT TO THE STATUS QUO.**

**Wagar ’89** (W. Warren, Distinguished Teaching Prof. History – SUNY Binghamton, American Literary History, “Truth and Fiction, Equally Strange: Writing about the Bomb”, 1:2, Summer, JSTOR)

Solomon gives the devil his due **in a careful analysis of Derrida's paper,** but he concludes-I think correctly-that **the** Derridean deconstruction of nuclear criticism leads potentially to its destruction as well. **Derrida does not forbid us to interpret the world and even foresee possible futures, "but he does de- construct the ground by which we might evaluate our interpretations, suspending our beliefs in a universal epoche" (30). If we deny the availability of external criteria by which to make rational choices between alternative judgments and actions, if we decide that nothing is decidable, then we have made a commitment in spite of ourselves: a commitment to the status quo.** The way out of our dilemma, **according to Solomon**, is to adopt **a conjectural,** nondogmatic, **and** critical realism**,** along the lines of Karl Popper's revision of Aristotle, with a little help from the semiotics of C. S. Peirce. Such a philosophy weaves its way adroitly through the brambles of Heideggerian elitist irration- alism, Marxian dogmatics, and Derridean nihilism, to emerge American Literary History at the other end of the obstacle course with a theory that girds us for hard thought and action in the everyday world of em- pirical reality. At one point Solomon admits, almost sheepishly, that be- lieving in the reality of an external world and the rational ob- jectivity of scientific knowledge may sound to an outsider like simple common sense. But for a critic in this decade to speak of "extratextual referents" (such as the Bomb) or to propose that science is not just another form of literature, takes courage. **The drift of recent philosophy of science as well as poststructuralist criticism is all in the direction of a corrosive and radical subjectivity that would, if it could, leave nothing standing.** For his courage, and for his determination to gain the ear of critics by mastering the arcane language of high theory, Solomon deserves much credit.

**Threats are not socially constructed- decision makers use the most objective, rational, and accurate assessments possible- there are no bureaucratic or ideological motivations to invent threats.**

**Ravenal ‘9**

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Quite expectedly, the more doctrinaire of the non-interventionists take pains to deny any straightforward, and therefore legitimate, security motive in American foreign and military policy. In fact, this denial leads to a more sweeping rejection of any recognizably rational basis for American foreign policy, and, even, sometimes (among the more theoretical of the non-interventionists), a preference for non-rational accounts, or “models,” of virtually any nation’s foreign policy-making.4 One could call this tendency among anti-imperialists “motive displacement.” More specifically, in the cases under review here, one notes a receptivity to any reworking of history, and any current analysis of geopolitics, that denigrates “the threat”; and, along with this, a positing of “imperialism” (the almost self-referential and primitive impulse) as a sufficient explanation for the often strenuous and risky actions of great powers such as the United States. Thus, not only is “empire” taken to be a sufficient and, in some cases, a necessary condition in bringing about foreign “threats”; but, by minimizing the extent and seriousness of these threats, the anti-imperialists put themselves into the position of lacking a rational explanation for the derivation of the (pointless at best, counter-productive at worst) policies that they designate as imperialistic. A pungent example of this threat denigration and motive displacement is Eland’s account of American intervention in the Korean and Vietnam wars:¶ After North Korea invaded, the Truman administration intervened merely for the purpose of a demonstration to friends and foes alike. Likewise, according to eminent cold war historians, the United States did not inter- vene in Vietnam because it feared communism, which was fragmented, or the Soviet Union, which wanted détente with the West, or China, which was weak, but because it did not want to appear timid to the world. The behavior of the United States in both Korea and Vietnam is typical of imperial powers, which are always concerned about their reputation, pres- tige, and perceived resolve. (Eland 2004, 64)¶ Of course, the motive of “reputation,” to the extent that it exists in any particular instance, is a part of the complex of motives that characterize a great power that is drawn toward the role of hegemon (not the same thing as “empire”). Reputation is also a component of the power projec- tion that is designed to serve the interest of national security. Rummaging through the concomitants of “imperialism,” Eland (2004, 65) discovers the thesis of “threat inflation” (in this case, virtual threat invention): Obviously, much higher spending for the military, homeland security, and foreign aid are required for a policy of global intervention than for a policy of merely defending the republic. For example, after the cold war, the security bureaucracies began looking for new enemies to justify keeping defense and intelligence budgets high. Similarly, Eland (ibid., 183), in a section entitled “Imperial Wars Spike Corporate Welfare,” attributes a large portion of the U.S. defense budget—particularly the procurement of major weapons systems, such as “Virginia-class submarines . . . aircraft carriers . . . F-22 fighters . . . [and] Osprey tilt-rotor transport aircraft”—not to the systemically derived requirement for certain kinds of military capabilities, but, rather, to the imperatives of corporate pork. He opines that such weapons have no stra- tegic or operational justification; that “the American empire, militarily more dominant than any empire in world history, can fight brushfire wars against terrorists and their ‘rogue’ state sponsors without those gold- plated white elephants.”¶ The underlying notion of “the security bureaucracies . . . looking for new enemies” is a threadbare concept that has somehow taken hold across the political spectrum, from the radical left (viz. Michael Klare [1981], who refers to a “threat bank”), to the liberal center (viz. Robert H. Johnson [1997], who dismisses most alleged “threats” as “improbable dangers”), to libertarians (viz. Ted Galen Carpenter [1992], Vice President for Foreign and Defense Policy of the Cato Institute, who wrote a book entitled A Search for Enemies). What is missing from most analysts’ claims of “threat inflation,” however, is a convincing theory of why, say, the American government significantly (not merely in excusable rhetoric) might magnify and even invent threats (and, more seriously, act on such inflated threat estimates). In a few places, Eland (2004, 185) suggests that such behavior might stem from military or national security bureaucrats’ attempts to enhance their personal status and organizational budgets, or even from the influence and dominance of “the military-industrial complex”; viz.: “Maintaining the empire and retaliating for the blowback from that empire keeps what President Eisenhower called the military-industrial complex fat and happy.” Or, in the same section:¶ In the nation’s capital, vested interests, such as the law enforcement bureaucracies . . . routinely take advantage of “crises”to satisfy parochial desires. Similarly, many corporations use crises to get pet projects— a.k.a. pork—funded by the government. And national security crises, because of people’s fears, are especially ripe opportunities to grab largesse. (Ibid., 182)¶ Thus, “bureaucratic-politics” theory, which once made several reputa- tions (such as those of Richard Neustadt, Morton Halperin, and Graham Allison) in defense-intellectual circles, and spawned an entire sub-industry within the field of international relations,5 is put into the service of dismissing putative security threats as imaginary. So, too, can a surprisingly cognate theory, “public choice,”6 which can be considered the right-wing analog of the “bureaucratic-politics” model, and is a preferred interpretation of governmental decision- making among libertarian observers. As Eland (2004, 203) summarizes:¶ Public-choice theory argues [that] the government itself can develop sepa- rate interests from its citizens. The government reflects the interests of powerful pressure groups and the interests of the bureaucracies and the bureaucrats in them. Although this problem occurs in both foreign and domestic policy, it may be more severe in foreign policy because citizens pay less attention to policies that affect them less directly.¶ There is, in this statement of public-choice theory, a certain ambiguity, and a certain degree of contradiction: Bureaucrats are supposedly, at the same time, subservient to societal interest groups and autonomous from society in general.¶ This journal has pioneered the argument that state autonomy is a likely consequence of the public’s ignorance of most areas of state activity (e.g., Somin 1998; DeCanio 2000a, 2000b, 2006, 2007; Ravenal 2000a). But state autonomy does not necessarily mean that bureaucrats substitute their own interests for those of what could be called the “national society” that they ostensibly serve. I have argued (Ravenal 2000a) that, precisely because of the public-ignorance and elite-expertise factors, and especially because the opportunities—at least for bureaucrats (a few notable post-government lobbyist cases nonwithstanding)—for lucrative self-dealing are stringently fewer in the defense and diplomatic areas of government than they are in some of the contract-dispensing and more under-the-radar-screen agencies of government, the “public-choice” imputation of self-dealing, rather than working toward the national interest (which, however may not be synonymous with the interests, perceived or expressed, of citizens!) is less likely to hold. In short, state autonomy is likely to mean, in the derivation of foreign policy, that “state elites” are using rational judgment, in insulation from self-promoting interest groups—about what strategies, forces, and weapons are required for national defense.¶ Ironically, “public choice”—not even a species of economics, but rather a kind of political interpretation—is not even about “public” choice, since, like the bureaucratic-politics model, it repudiates the very notion that bureaucrats make truly “public” choices; rather, they are held, axiomatically, to exhibit “rent-seeking” behavior, wherein they abuse their public positions in order to amass private gains, or at least to build personal empires within their ostensibly official niches. Such sub- rational models actually explain very little of what they purport to observe. Of course, there is some truth in them, regarding the “behavior” of some people, at some times, in some circumstances, under some conditions of incentive and motivation. But the factors that they posit operate mostly as constraints on the otherwise rational optimization of objectives that, if for no other reason than the playing out of official roles, transcends merely personal or parochial imperatives.¶ My treatment of “role” differs from that of the bureaucratic-politics theorists, whose model of the derivation of foreign policy depends heavily, and acknowledgedly, on a narrow and specific identification of the role- playing of organizationally situated individuals in a partly conflictual “pulling and hauling” process that “results in” some policy outcome. Even here, bureaucratic-politics theorists Graham Allison and Philip Zelikow (1999, 311) allow that “some players are not able to articulate [sic] the governmental politics game because their conception of their job does not legitimate such activity.” This is a crucial admission, and one that points— empirically—to the need for a broader and generic treatment of role.¶ Roles (all theorists state) give rise to “expectations” of performance. My point is that virtually every governmental role, and especially national-security roles, and particularly the roles of the uniformed mili- tary, embody expectations of devotion to the “national interest”; rational- ity in the derivation of policy at every functional level; and objectivity in the treatment of parameters, especially external parameters such as “threats” and the power and capabilities of other nations.¶ Sub-rational models (such as “public choice”) fail to take into account even a partial dedication to the “national” interest (or even the possibility that the national interest may be honestly misconceived in more paro- chial terms). In contrast, an official’s role connects the individual to the (state-level) process, and moderates the (perhaps otherwise) self-seeking impulses of the individual. Role-derived behavior tends to be formalized and codified; relatively transparent and at least peer-reviewed, so as to be consistent with expectations; surviving the particular individual and trans- mitted to successors and ancillaries; measured against a standard and thus corrigible; defined in terms of the performed function and therefore derived from the state function; and uncorrrupt, because personal cheating and even egregious aggrandizement are conspicuously discouraged.¶ My own direct observation suggests that defense decision-makers attempt to “frame” the structure of the problems that they try to solve on the basis of the most accurate intelligence. They make it their business to know where the threats come from. Thus, threats are not “socially constructed” (even though, of course, some values are).¶ A major reason for the rationality, and the objectivity, of the process is that much security planning is done, not in vaguely undefined circum- stances that offer scope for idiosyncratic, subjective behavior, but rather in structured and reviewed organizational frameworks. Non-rationalities (which are bad for understanding and prediction) tend to get filtered out. People are fired for presenting skewed analysis and for making bad predictions. This is because something important is riding on the causal analysis and the contingent prediction. For these reasons, “public choice” does not have the “feel” of reality to many critics who have participated in the structure of defense decision-making. In that structure, obvious, and even not-so-obvious, “rent-seeking” would not only be shameful; it would present a severe risk of career termination. And, as mentioned, the defense bureaucracy is hardly a productive place for truly talented rent-seekers to operate, compared to opportunities for personal profit in the commercial world. A bureaucrat’s very self-placement in these reaches of government testifies either to a sincere commitment to the national interest or to a lack of sufficient imagination to exploit opportunities for personal profit.

**Zizek’s rejection of the utopian element in politics disables political change- without imaginaries to motivate political actions there can be no connection amongst contingent political identities which destroys social movements**

**Brockelman**, of Dept. of Philo @ LeMoyne U, **2003** p. 183-208

(Thomas, “The Failure of the Radical Democratic Imaginary” Philosophy and Social Criticism Vol. 29 No. 2)

To understand this limitation requires expounding more precisely the connotations of the term ‘imaginary’ as it was first formulated in contemporary thought and as Zˇ izˇek wields it – in Lacan’s psychoanalytic usage.18 Recall that, for Lacan, the limiting nature of imaginary life derives from its false claim to binary closure. The infant before the mirror in the famous ‘mirror stage’ is able first to control its motions because the image offered to it seems finitely graspable.19 On the other hand, however, precisely the falsity of this self-sufficiency, this closure of the image, leads Lacan to locate the origins of aggression in the infant’s relationship to the very image that empowers it. That is, the imaginary is *apparently* structured in the manner of *gestalt* diagrams – by simple oppositions like that between ‘figure’ and ‘field’. What can be *imagined* is precisely limited (as it is inspired) by the illusion of closure that such binarism grants the person. **To recall the Lacanian understanding of the imaginary is to understand the severe limits that Zˇ izˇek’s thought imposes upon that ‘visionary’ function named both in Lefort and in Laclau and Mouffe by that term**. **Political inspiration is possible, indeed vital, but it can only be the inspiration of the critical act – the act by which the ‘event’ is put to work in transforming the symbolic totality**. The limit to Zˇ izˇek’s thought that I am suggesting here is *not* that it places too heavy a burden upon the shoulders of abstract theorists – as though criticism were only accomplished by Zˇ izˇek and his scholarly colleagues. In one of Zˇ izˇek’s most powerful analyses of recent political events, **he embraces the position of the ‘alternative’ left in the German revolution of 1989**, the *Neues Forum*. Here Zˇ izˇek praises the group for its search for a ‘third way’ between ‘really existing socialism’ and capitalism. **It turns out that there was *no* such alternative, that the ‘truth’ of the *Neues Forum* was precisely not what they thought it to be: nonetheless, claims Zˇ izˇek, the projection of such an alternative amounted to an insistence upon that ‘trauma’ in social identity that otherwise disappeared**. As Zˇ izˇek puts it, ‘*the fiction of a “third way” was the only point at which social antagonism was not obliterated*’ (Zˇ izˇek, 1994: 229). The peculiarity of the German left in and after 1989 – that it was able to transform society only to the extent that it held onto an actually false hope – **indicates both the political effectiveness of Zˇ izˇek’s version of critique and its limitation**s. On the one hand, within the sphere of political action itself, the radicals in *Neues Forum* effected precisely the kind of revolutionary criticism that Zˇ izˇek embraces. Critique is not only (or even primarily) the work of academics. **On the other hand, the very distortion imposed upon this critique (that it could discover the truth of the political only through factual falsity) emblematizes the limitations of a utopianism shorn of the imaginary. Utopia without the power of the image: surely this is a thought entirely unable to achieve the ‘mobilizing’ effects that Habermas has rightly sought in utopianism. Thus, while we can certainly agree with Zˇ izˇek that his work provides an alternative to the anti-utopianism so universal in today’s political theory, we must also insist that the strictures we must place on utopia here also prevent it from being very *effective***. And perhaps that is why the reader is frustrated in efforts to find the ‘program’ *announced* by Zˇ izˇek in *The Ticklish Subject*. The **elliptical debates and readings that make up *The Ticklish Subject* may help us to construct Zˇ izˇek’s position, but they hardly offer the ‘radical democratic imaginary’ whose c**onstruction he seems to promise. I would give the last word here to none other than Ernesto Laclau, who in a dialogue with Zˇ izˇek printed in *Contingency, Hegemony, Universality* responds to Zˇ izˇek’s attack on his theory. He argues that **Zˇ izˇek’s *own* position cannot really produce a coherent politics. Zˇ izˇek’s attacks on capitalism, Laclau claims, ‘amount to empty talk’ without a vision of an alternative *to* capitalism** (Butler, Laclau and Zˇ izˇek, 2000: 206). This is particularly the case for Laclau in the light of the historical failure of the Marxist alternative: clearly Zˇ izˇek does not mean what Marx and Engels meant by the ‘end of capitalism’, neither the ‘dictatorship of the proletariat’ nor the ‘abolition’ of ‘market mechanisms’. But without his meaning *that* or something equivalently imaginable, **Zˇizek’s position remains purely negative, purely a way of registering a *discomfort* with the world as it is. Such a registration, however, cannot provide more than a kind of ‘voice in the wilderness’. What, after all, does it mean to be ‘against’ capitalism if that suggests nothing about what one would change in it or substitute for it? A theory unable to offer such a substitution will be unable to connect with or articulate the concrete struggles of oppressed individuals. The thing that empowers concrete struggles, that allows them to grow and join with the political efforts of others, is precisely a *program*, a vision of the future**. Indeed, there is, Laclau might well say, something *narcissistic* about the purity of the intellectual position **Zˇizˇek stakes out – classically unable to escape from academic analysis to engage at a level of genuine solidarity with social movements.** This is not to reject Zˇ izˇek’s critical position – which may provide the most trenchant analysis available today of the reasons for the failure of contemporary Leftist politics – but it is to insist that, **Zˇ izˇek’s protests to the contrary, no clear path to the future emerges from it.**

**Psychoanalysis can’t be scaled up to explain society or politics – they can’t explain our impacts and definitely can’t solve**

**Sharpe**, lecturer, philosophy and psychoanalytic studies, and Goucher, senior lecturer, literary and psychoanalytic studies – Deakin University, **‘10**

(Matthew and Geoff, Žižek and Politics: An Introduction, p. 182 – 185, Figure 1.5 included)

Can we bring some order to this host of criticisms? It is remarkable that, for all the criticisms of Žižek’s political Romanticism, no one has argued that the ultra- extremism of **Žižek’s political position might reflect his untenable attempt to shape his model for political action on the curative** final **moment in clinical psychoanalysis.** The differences between these two realms, listed in Figure 5.1, are nearly too many and too great to restate **– which has** perhaps **caused** the theoretical oversight**.** The key thing is this. **Lacan’s** notion of **traversing the fantasy involves** the **radical transformation of people’s subjective structure: a refounding of** their most **elementary beliefs** about themselves, the world, and sexual difference. **This is** undertaken **in the security of the clinic**, on the basis of the analysands’ voluntary desire to overcome their inhibitions, symptoms and anxieties.

As a clinical and existential process, it has its own independent importance and authenticity. **The analysands**, in transforming their subjective world, **change the way they regard the objective**, shared social reality outside the clinic. But they do not transform the world. **The political relevance of the clinic** can only be (a) as a supporting moment in ideology critique or (b) as a fully- fl edged model of politics, provided that the political subject and its social object are ultimately identical. Option (*b*), Žižek’s option, **rests on the idea**, not only **of a subject** who becomes who he is only through his (mis) recognition of the objective sociopolitical order, but **whose ‘traversal** of the fantasy’ **is immediately identical with** his **transformation of the socio- political system** or Other. Hence, according to Žižek, we can analyse the institutional embodiments of this Other using psychoanalytic categories. In Chapter 4, we saw Žižek’s resulting elision of the distinction between the (subjective) Ego Ideal and the (objective) Symbolic Order. **This leads him to analyse our entire culture as a single subject–object,** whose perverse (or perhaps even psychotic) structure is expressed in every manifestation of contemporary life. Žižek’s decisive political- theoretic errors, one substantive and the other methodological, are different (see Figure 5.1)

The *substantive problem* is to equate any political change worth the name with the total change of the subject–object that is, today, global capitalism. This is a type of change that can only mean equating politics with violent regime change, and ultimately embracing dictatorial government, as Žižek now frankly avows (*IDLC* 412–19). We have seen that the ultra- political form of Žižek’s criticism of everyone else, **the theoretical Left and** the **wider politics**, is that **no one is sufficiently radical for him** – even, we will discover, Chairman Mao. We now see that **this is because Žižek’s model of politics** proper **is modelled on** a pre- critical analogy with the total transformation of a subject’s entire subjective structure, at the end of the talking cure. For what could the concrete consequences of this governing analogy be?

We have seen that **Žižek equates the individual** fantasy **with** the **collective identity of an entire people.** The social fantasy, he says, structures the regime’s ‘inherent transgressions’: at once subjects’ habitual ways of living the letter of the law, and the regime’s myths of origin and of identity. **If political action is modelled on the Lacanian cure, it must involve the complete ‘traversal’** – in Hegel’s terms, the abstract versus the determinate negation – **of** all these **lived myths**, practices and habits. Politics must involve the periodic founding of entire new subject–objects. Providing the model for this set of ideas, the fi rst Žižekian political subject was Schelling’s divided God, who gave birth to the entire Symbolic Order before the beginning of time (*IDLC* 153; *OB* 144–8).

But **can the political theorist reasonably** hope or **expect** that **subjects will simply give up on all their inherited ways**, myths and beliefs, all in one world- creating moment? And can they be legitimately asked or expected to, on the basis of a set of ideals whose legitimacy they will only retrospectively see, after they have acceded to the Great Leap Forward? And **if they do not** – for Žižek laments that today subjects are politically disengaged in unprecedented ways – **what means can the theorist and his allies use to move them to do so?**

### China

**Only the permutation solves --- rigid rejection of “China threat” gets warped into a new orthodoxy and fuels extremism. Recognizing plural interpretations and linkages is more productive.**

**Callahan 5** (William A., Professor of Politics – University of Manchester, “How to Understand China: The Dangers and Opportunities of Being a Rising Power”, Review of International Studies, 31)

Although ‘China threat theory’ is ascribed to the Cold War thinking of foreigners who suffer from an enemy deprivation syndrome, the use of containment as a response to threats in Chinese texts suggests that Chinese strategists are also seeking to fill the symbolic gap left by the collapse of the Soviet Union, which was the key threat to the PRC after 1960. **Refutations of ‘China threat theory**’ do not seek to deconstruct the discourse of ‘threat’ as part of critical security studies. Rather they **are expressions of a geopolitical identity politics because they refute ‘Chinese’ threats as a way of facilitating the production of an America threat**, a Japan threat, an India threat, and so on. Uniting to fight these foreign threats affirms China’s national identity. Unfortunately, **by refuting China threat in this** bellicose **way** – that is by generating a new series of threats – **the China threat theory** texts **end up confirming the threat that they seek to deny**: Japan, India and Southeast Asia are increasingly threatened by China’s protests of peace.43 Moreover, the estrangement produced and circulated in China threat theory is not just among nation-states. The recent shift in the focus of the discourse from security issues to more economic and cultural issues suggests that China is estranged from the ‘international standards’ of the ‘international community’. After a long process of difficult negotiations, China entered the WTO in December 2001. Joining the WTO was not just an economic or a political event; it was an issue of Chinese identity.44 As Breslin, Shih and Zha describe in their articles in this Forum, this process was painful for China as WTO membership subjects the PRC to binding rules that are not the product of Chinese diplomacy or culture. Thus although China enters international organisations like the WTO based on shared values and rules, China also needs to distinguish itself from the undifferentiated mass of the globalised world. Since 2002, a large proportion of the China threat theory articles have been published in economics, trade, investment, and general business journals – rather than in international politics, area studies and ideological journals as in the 1990s. Hence China threat theory is one way to differentiate China from these international standards, which critics see as neo-colonial.45 Another way is for China to assert ownership over international standards to affirm its national identity through participation in globalisation.46 Lastly, some China threat theory articles go beyond criticising the ignorance and bad intentions of the offending texts to conclude that those who promote China threat must be crazy: ‘There is a consensus within mainland academic circles that there is hardly any reasonable logic to explain the views and practices of the United States toward China in the past few years. It can only be summed up in a word: ‘‘Madness’’ ’.47 Indians likewise are said to suffer from a ‘China threat theory syndrome’.48 This brings us back to Foucault’s logic of ‘rationality’ being constructed through the exclusion of a range of activities that are labelled as ‘madness’. The rationality of the rise of China depends upon distinguishing it from the madness of those who question it. **Like** Joseph Nye’s **concern** **that warnings of a China threat could become a self-fulfilling prophesy, China threat theory** texts vigorously **reproduce the dangers of the very threat they seek to deny**. Rather than adding to the debate, they end up policing what Chinese and foreigners can rationally say. Conclusion The argument of this essay is not that China is a threat. Rather, it has examined the productive linkages that knit together the image of China as a peacefully rising power and the discourse of China as a threat to the economic and military stability of East Asia. It would be easy to join the chorus of those who denounce ‘China threat theory’ as the misguided product of the Blue Team, as do many in China and the West. But that would be a mistake, because depending on circumstances anything – from rising powers to civilian aircraft – can be interpreted as a threat. The purpose is not to argue that interpretations are false in relation to some reality (such as that China is fundamentally peaceful rather than war-like), but that it is necessary to unpack the political and historical context of each perception of thre**at**. Indeed, ‘China threat’ has never described a unified American understanding of the PRC: it has always been one position among many in debates among academics, public intellectuals and policymakers. **Rather than inflate extremist positions** (in both the West and China) into irrefutable truth, **it is more interesting to examine the debates that produced the threat/opportunity dynamic**.

**AND PAN HIMSELF ADMITS THAT CHINA THREAT CONSTRUCTION IS INEVITABLE AND REFLEXIVELY BASED ON CHINESE STATE BEHAVIOUR.**

**Moran 2k11**

[lee, pride of the fleet: china’ first aircraft carrier…”, <http://www.dailymail.co.uk/news/article-2024425/Chinas-aircraft-carrier-takes-seas--fuelling-fears-countrys-military-strength.html>]

The official state **Xinhua news agency** **added**: 'Building a strong navy that is commensurate with **China's rising status is a necessary step and an inevitable choice for the country** to safeguard its increasingly globalised national interests.'¶ But **Chengxin Pan, an expert on China at Deakin University in Australia, warned it could unsettle neighbouring countries.**¶ He said: 'For many neighbours, it may symbolise something different and more unsettling.¶ **'It is inevitable that neighbouring countries will react with some alarm, especially given recent disputes in the South China Sea** as well as the maritime incident between China and Japan last year.'¶ Refitting and test work will now continue on the carrier.¶ The Varyag, yet to be officially renamed, was towed from Ukraine in 2001 as an empty shell without engines, weapons systems or other crucial equipment.¶ Ashley Townshend, at the Lowy Institute for International Policy in Sydney, said China would need at least three carriers if it was 'serious' about having a viable carrier strike group.¶ He also said that it would have to develop support ships and aircraft for any carrier group, which could take ten years.¶ China's neighbours India and Thailand already have aircraft carriers, and Australia has ordered two multi-purpose carriers. The United States operates 11.¶ The former chief of the Philippine's navy Admiral Ferdinand Golez said his country should not be worried by the development. He said: 'The Philippines should not be concerned with this development.¶ 'An aircraft carrier is an offensive tool but I don't think China has the intention to use it to bully its neighbours.'¶ Before the launch, a Pentagon spokesman played down the likelihood of any immediate leaps from China's carrier programme. ¶ But that is just one part of China's naval modernisation drive, which has forged ahead while other powers tighten their military budgets to cope with debt woes. ¶ China has been building new submarines, surface ships and anti-ship ballistic missiles as part of its naval modernisation, which has triggered regional jitters that have fed into long-standing territorial disputes, and could speed up military expansion across Asia.¶ In the past year, China has had run-ins at sea with Japan, Vietnam and the Philippines. The incidents - boat crashes and charges of territorial incursions - have been minor, but the diplomatic reaction often heated. ¶ Chengxin **Pan added: 'Overall, the perception of a rapidly rising and potentially threatening China is likely to be reinforced and Beijing will face enormous challenges in dispelling such a perception.**'

**Our reps of China are correct—they’re key to long-term cooperation**

**Blumenthal 10—current commissioner and former vice chairman of the U.S.-China Economic and Security Review Commission at AEI, J.D., Duke Law School M.A., School of Advanced International Studies, Johns Hopkins University B.A., Washington University Chinese language studies, Capital Normal University—AND—Michael Mazza, program manager for AEI's annual Executive Program on National Security Policy and Strategy, M.A., international relations (strategic studies and international economics), Paul H. Nitze School of Advanced International Studies (SAIS), Johns Hopkins University Inter-university Program for Chinese Language Studies, Tsinghua University, Beijing, China B.A., history, Cornell University (Dan, NBR Analysis, December 2010, “Sino-U.S. Competition and U.S. Security: How Do We Assess the Military Balance?,” RBatra)**

**Why Study a Sino-U.S. Military Balance?**

**Since the end of the Cold War, a broad consensus has emerged among policymakers and analysts that Asia is becoming the center of power in world affairs. As Asia’s prominence grows, so do U.S. interests in the region. Scholars and policymakers all agree that both the manner in which China becomes a great power and the way it exercises power is central to Asia’s future. At the same time, many have recognized that China’s growing military capabilities could disrupt the region’s ongoing peaceful transformation. Thus, U.S. policy has been based on two broad impulses. Washington seeks cooperative relations to integrate China into the international system, and it has sought to hedge against or balance China’s growing military might. Sino-U.S. relations are thus characterized by elements of cooperation and competition, which U.S. policy must balance. While this may be counterintuitive, if the United States maintains a favorable balance of power, it is more likely to have cooperative relations with Beijing.**

**The United States can only compete, however, if it knows over what it is competing. This in turn requires an understanding of the dynamic Sino-U.S. military balance. A clearer picture of how U.S. military forces measure up against China’s should be the basis for a sound policy. Knowledge of the military balance can help policymakers with both the cooperative and the competitive elements of the relationship with China.2 On the competitive side, presidents and their advisors can better assess how to adjust the U.S. force posture to balance China’s growing power and reassure allies that China will not dominate Asia. In doing so, they can help the world’s most rapidly growing region avoid costly, perhaps even uncontrollable (and nuclear), arms races and conflicts. On the cooperative side, a sense of where the country stands in a competition with China could help U.S. leaders decide when to accommodate Beijing in ways that would not harm national security. Once we know what really matters, in all likelihood, we will be less worried about some Chinese capabilities.**

### 2ac- Cap Frontline

**Capitalism is closing the global income gap and even if it wasn’t everyone is still better off**

**Norberg, 03**

< Fellow, Timbro institute, Johan, In Defense of Global Capitalism pg 54>

This progress is all very well, many **critics of globalization will argue**, but even if the majority are better off, gaps have widened and wealthy people and countries have improved their lot more rapidly than others. So **inequality has grown**. The critics point to the fact that the combined per capita GDP of the 20 richest countries was 15 times greater than that of the 20 poorest countries 40 years ago and is now about 30 times greater. There are two reasons why this objection to globalization does not hold up. First, **even if this were true it would not matter very much. If everyone is coming to be better off, what does it matter that the improvement comes faster for some than for others?** Surely the important thing is for everyone to be as well off as possible, not whether one group is better off than another. Only those who consider wealth a greater problem than poverty can find a problem in some becoming millionaires while others grow wealthier from their own starting points. **It is better to be poor in the** inegalitarian **U**nited **S**tates, where the poverty line for individuals in 2001 was about $9,039 per year, **than to be equal in countries like Rwanda**, where in 2001 GDP per capita (adjusted for purchasing power) was $1,000, or Bangladesh ($1,750), or Uzbekistan ($2,500).`° Often **the reason why gaps have widened in certain reforming countries**, such as China, **is that the towns and cities have grown faster than the countryside**. But **given the unprecedented poverty reduction this has entailed** in both town and country, **can anyone wish that this development had never happened? Second, the allegation of increased inequality is just wrong**. **The notion** that global **inequality has increased** **is** largely **based on the figures from the UN Development Program**, in particular its *Human Development report* from 1999. **But the problem with these figures is that they are not adjusted for purchasing power.** That is, the UNDP numbers don’t take into account what people can actually buy with their money. Without that adjustment the figures mainly show the level of a country’s official exchange rate and what its currency is worth on the international, market, which is a poor yardstick of poverty. Poor people’s actual living standard, needless to say, hinges far more on the cost of their food, clothing, and housing than on what they would get for their money when vacationing in Europe. The odd thing is that the UNDP itself uses purchasing power—adjusted figures in its Human Development Index (HDI), which is its universal yardstick of living standards. It only resorts to the unadjusted figures in order to prove a thesis of inequality. **A report from the Norwegian Institute for Foreign Affairs investigated global inequality by means of figures adjusted for purchasing power. Their data show that, contrary to the conventional wisdom, inequality between countries has been continuously declining** ever since the end of the 1970s. This decline was especially rapid between 1993 and 1998, when globalization really gathered speed.22 More recently, **similar research by Columbia University development economist** Xavier Sala-i-Martin **has confirmed those findings**. When the UNDP’s own numbers are adjusted for purchasing power, Sala-i-Martin found that world inequality declined sharply by any of the common ways of measuring it.23 Bhalla and Sala-i-Martin also independently found that if we focus on inequality between persons, rather than inequality between countries, global inequality at the end of 2000 was at its lowest point since the end of World War II. **Estimates that compare countries rather than individuals**, as both authors note, **grossly overestimate real inequality** because they allow gains for huge numbers of people to be outweighed by comparable losses for far fewer. Country aggregates treat China and Grenada as data points of equal weight, even though China’s population is 12,000 times Grenada’s. **Once we shift our focus to people rather than nations, the evidence is overwhelming that the past 30 years have witnessed a global equalization**.24 Comparing just the richest and poorest tenths, inequality has increased, suggesting that a small group has lagged behind (we shall be returning to see which countries and why), but a study of all countries clearly points to a general growth of equality. If, for example, we compare the richest and poorest fifth or the richest and poorest third, we find the differences diminishing.

#### Existence comes first

Kacou 8

Amien. WHY EVEN MIND? On The A Priori Value Of “Life”, Cosmos and History: The Journal of Natural and Social Philosophy, Vol 4, No 1-2 (2008) cosmosandhistory.org/index.php/journal/article/view/92/184

Furthermore, that manner of finding things good that is in pleasure can certainly not exist in any world without consciousness (i.e., without “life,” as we now understand the word)—slight analogies put aside. In fact, we can begin to develop a more sophisticated definition of the concept of “pleasure,” in the broadest possible sense of the word, as follows: it is the common psychological element in all psychological experience of goodness (be it in joy, admiration, or whatever else). In this sense, pleasure can always be pictured to “mediate” all awareness or perception or judgment of goodness: there is pleasure in all consciousness of things good; pleasure is the common element of all conscious satisfaction. In short, it is simply the very experience of liking things, or the liking of experience, in general. In this sense, pleasure is, not only uniquely characteristic of life but also, the core expression of goodness in life—the most general sign or phenomenon for favorable conscious valuation, in other words. This does not mean that “good” is absolutely synonymous with “pleasant”—what we value may well go beyond pleasure. (The fact that we value things needs not be reduced to the experience of liking things.) However, what we value beyond pleasure remains a matter of speculation or theory. Moreover, we note that a variety of things that may seem otherwise unrelated are correlated with pleasure—some more strongly than others. In other words, there are many things the experience of which we like. For example: the admiration of others; sex; or rock-paper-scissors. But, again, what they are is irrelevant in an inquiry on a priori value—what gives us pleasure is a matter for empirical investigation. Thus, we can see now that, in general, something primitively valuable is attainable in living—that is, pleasure itself. And it seems equally clear that we have a priori logical reason to pay attention to the world in any world where pleasure exists. Moreover, we can now also articulate a foundation for a security interest in our life: since the good of pleasure can be found in living (to the extent pleasure remains attainable),[17] and only in living, therefore, a priori, life ought to be continuously (and indefinitely) pursued at least for the sake of preserving the possibility of finding that good. However, this platitude about the value that can be found in life turns out to be, at this point, insufficient for our purposes. It seems to amount to very little more than recognizing that our subjective desire for life in and of itself shows that life has some objective value. For what difference is there between saying, “living is unique in benefiting something I value (namely, my pleasure); therefore, I should desire to go on living,” and saying, “I have a unique desire to go on living; therefore I should have a desire to go on living,” whereas the latter proposition immediately seems senseless? In other words, “life gives me pleasure,” says little more than, “I like life.” Thus, we seem to have arrived at the conclusion that the fact that we already have some (subjective) desire for life shows life to have some (objective) value. But, if that is the most we can say, then it seems our enterprise of justification was quite superficial, and the subjective/objective distinction was useless—for all we have really done is highlight the correspondence between value and desire. Perhaps, our inquiry should be a bit more complex.

#### The alt causes transition wars

Anderson 1984. professor of sociology – UCLA, ’84 (Perry, In the tracks of historical materialism, p. 102-103)

That background also indicates, however, what is essentially missing from his work. How are we to get from where we are today to where he point us to tomorrow? There is no answer to this question in Nove. His halting discussion of “transition” tails away into apprehensive admonitions to moderation to the British Labor Party, and pleas for proper compensation to capitalist owners of major industries, if these are to be nationalized. Nowhere is there any sense of what a titanic political change would have to occur, with what fierceness of social struggle, for the economic model of socialism he advocates ever to materialize. Between the radicalism of the future end-state he envisages, and the conservatism of the present measures he is prepared to countenance, there is an unbridgeable abyss. How could private ownership of the means of production ever be abolished by policies less disrespectful of capital than those of Allende or a Benn, which he reproves? What has disappeared from the pages of The Economics of Feasible Socialism is virtually all attention to the historical dynamics of any serious conflict over the control of the means of production, as the record of the 20th century demonstrates them. If capital could visit such destruction on even so poor and small an outlying province of its empire in Vietnam, to prevent its loss, is it likely that it would suffer its extinction meekly in its own homeland? The lessons of the past sixty-five years or so are in this respect without ambiguity or exception, there is no case, from Russia to China, from Vietnam to Cuba, from Chile to Nicaragua, where the existence of capitalism has been challenged, and the furies of intervention, blockade and civil strife have not descended in response. Any viable transition to socialism in the West must seek to curtail that pattern: but to shrink from or to ignore it is to depart from the world of the possible altogether. In the same way, to construct an economic model of socialism in one advanced country is a legitimate exercise: but to extract it from any computable relationship with a surrounding, and necessarily opposing, capitalist environment—as this work does—is to locate it in thin air.

#### Goes nuclear

Kothari 1982

Kothari, profrssor of political science – University of Delhi, ‘82

(Rajni, Towards a Just Social Order, Alternatives, p. 571)

Attempts at global economic reform could also lead to a world racked by increasing turbulence, a greater sense of insecurity among the major centres of power -- and hence to a further tightening of the structures of domination and domestic repression – producing in their wake an intensification ofthe old arms race and militarization of regimes, encouraging regional conflagrations and setting the stage for eventual global holocaust.

#### Transition fails—causes war—consumption would reemerge even worse—try or die assessments are wrong

Monbiot 9

George Monbiot. 2009. The Guardian, Is there any point in fighting to stave off industrial apocalypse?, www.guardian.co.uk/commentisfree/cif-green/2009/aug/17/environment-climate-change

I detect in your writings, and in the conversations we have had, an attraction towards – almost a yearning for – this apocalypse, a sense that you see it as a cleansing fire that will rid the world of a diseased society. If this is your view, I do not share it. I'm sure we can agree that the immediate consequences of collapse would be hideous: the breakdown of the systems that keep most of us alive; mass starvation; war. These alone surely give us sufficient reason to fight on, however faint our chances appear. But even if we were somehow able to put this out of our minds, I believe that what is likely to come out on the other side will be worse than our current settlement.¶ Here are three observations: 1 Our species (unlike most of its members) is tough and resilient; 2 When civilisations collapse, psychopaths take over; 3 We seldom learn from others' mistakes.¶ From the first observation, this follows: even if you are hardened to the fate of humans, you can surely see that our species will not become extinct without causing the extinction of almost all others. However hard we fall, we will recover sufficiently to land another hammer blow on the biosphere. We will continue to do so until there is so little left that even Homo sapiens can no longer survive. This is the ecological destiny of a species possessed of outstanding intelligence, opposable thumbs and an ability to interpret and exploit almost every possible resource – in the absence of political restraint.¶ From the second and third observations, this follows: instead of gathering as free collectives of happy householders, survivors of this collapse will be subject to the will of people seeking to monopolise remaining resources. This will is likely to be imposed through violence. Political accountability will be a distant memory. The chances of conserving any resource in these circumstances are approximately zero. The human and ecological consequences of the first global collapse are likely to persist for many generations, perhaps for our species' remaining time on earth. To imagine that good could come of the involuntary failure of industrial civilisation is also to succumb to denial. The answer to your question – what will we learn from this collapse? – is nothing.

#### Capitalism is the most ethical system

C. Bradley Thompson. 1993. BB&T Research Professor at Clemson University and the Executive Director of the Clemson Institute for the Study of Capitalism “Socialism vs. Capitalism: which is the moral system”On Principle, v1n3 October 1993

The intellectuals’ mantra runs something like this: In theory socialism is the morally superior social system despite its dismal record of failure in the real world. Capitalism, by contrast, is a morally bankrupt system despite the extraordinary prosperity it has created. In other words, capitalism at best, can only be defended on pragmatic grounds. We tolerate it because it works. Under socialism a ruling class of intellectuals, bureaucrats and social planners decide what people want or what is good for society and then use the coercive power of the State to regulate, tax, and redistribute the wealth of those who work for a living. In other words, socialism is a form of legalized theft. The morality of socialism can be summed-up in two words: envy and self-sacrifice. Envy is the desire to not only possess another’s wealth but also the desire to see another’s wealth lowered to the level of one’s own. Socialism’s teaching on self-sacrifice was nicely summarized by two of its greatest defenders, Hermann Goering and Bennito Mussolini. The highest principle of Nazism (National Socialism), said Goering, is: "Common good comes before private good." Fascism, said Mussolini, is " a life in which the individual, through the sacrifice of his own private interests…realizes that completely spiritual existence in which his value as a man lies." Socialism is the social system which institutionalizes envy and self-sacrifice: It is the social system which uses compulsion and the organized violence of the State to expropriate wealth from the producer class for its redistribution to the parasitical class. Despite the intellectuals’ psychotic hatred of capitalism, it is the only moral and just social system. Capitalism is the only moral system because it requires human beings to deal with one another as traders--that is, as free moral agents trading and selling goods and services on the basis of mutual consent. Capitalism is the only just system because the sole criterion that determines the value of thing exchanged is the free, voluntary, universal judgement of the consumer. Coercion and fraud are anathema to the free-market system. It is both moral and just because the degree to which man rises or falls in society is determined by the degree to which he uses his mind. Capitalism is the only social system that rewards merit, ability and achievement, regardless of one’s birth or station in life. Yes, there are winners and losers in capitalism. The winners are those who are honest, industrious, thoughtful, prudent, frugal, responsible, disciplined, and efficient. The losers are those who are shiftless, lazy, imprudent, extravagant, negligent, impractical, and inefficient. Capitalism is the only social system that rewards virtue and punishes vice. This applies to both the business executive and the carpenter, the lawyer and the factory worker. But how does the entrepreneurial mind work? Have you ever wondered about the mental processes of the men and women who invented penicillin, the internal combustion engine, the airplane, the radio, the electric light, canned food, air conditioning, washing machines, dishwashers, computers, etc.? What are the characteristics of the entrepreneur? The entrepreneur is that man or woman with unlimited drive, initiative, insight, energy, daring creativity, optimism and ingenuity. The entrepreneur is the man who sees in every field a potential garden, in every seed an apple. Wealth starts with ideas in people’s heads. The entrepreneur is therefore above all else a man of the mind. The entrepreneur is the man who is constantly thinking of new ways to improve the material or spiritual lives of the greatest number of people. And what are the social and political conditions which encourage or inhibit the entrepreneurial mind? The free-enterprise system is not possible without the sanctity of private property, the freedom of contract, free trade and the rule of law. But the one thing that the entrepreneur values over all others is freedom--the freedom to experiment, invent and produce. The one thing that the entrepreneur dreads is government intervention. Government taxation and regulation are the means by which social planners punish and restrict the man or woman of ideas. Welfare, regulations, taxes, tariffs, minimum-wage laws are all immoral because they use the coercive power of the state to organize human choice and action; they’re immoral because they inhibit or deny the freedom to choose how we live our lives; they’re immoral because they deny our right to live as autonomous moral agents; and they’re immoral because they deny our essential humanity. If you think this is hyperbole, stop paying your taxes for a year or two and see what happens. The requirements for success in a free society demand that ordinary citizens order their lives in accordance with certain virtues--namely, rationality, independence, industriousness, prudence, frugality, etc. In a free capitalist society individuals must choose for themselves how they will order their lives and the values they will pursue. Under socialism, most of life’s decisions are made for you. Both socialism and capitalism have incentive programs. Under socialism there are built-in incentives to shirk responsibility. There is no reason to work harder than anyone else because the rewards are shared and therefore minimal to the hard-working individual; indeed, the incentive is to work less than others because the immediate loss is shared and therefore minimal to the slacker. Under capitalism, the incentive is to work harder because each producer will receive the total value of his production--the rewards are not shared. Simply put: socialism rewards sloth and penalizes hard work while capitalism rewards hard work and penalizes sloth..

#### Alt fails- totalizing rejection is impossible

Gibson-Graham 96

(JK, feminist economists, End of Capitalism)

One of our goals as Marxists has been to produce a knowledge of capitalism. Yet as “that which is known,” **Capitalism has become the intimate enemy. We have uncloaked the ideologically-clothed, obscure monster, but we have installed a naked and visible monster in its place. In return for our labors of creation, the monster has robbed us of all force**. We hear – and find it easy to believe – that the left is in disarray. Part of what produces the disarray of the left is the vision of what the left is arrayed against. **When capitalism is represented as a unified system coextensive with the nation or even the world, when it is portrayed as crowding out all other economic forms, when it is allowed to define entire societies, it becomes something that can only be defeated and replaced by a mass collective movement** (or by a process of systemic dissolution that such a movement might assist**). The revolutionary task of replacing capitalism now seems outmoded and unrealistic, yet we do not seem to have an alternative conception of class transformation to take its place**. The old political economic “systems” and “structures” that call forth a vision of revolution as systemic replacement still seem to be dominant in the Marxist political imagination. The New World Order is often represented as political fragmentation founded upon economic unification. In this vision the economy appears as the last stronghold of unity and singularity in a world of diversity and plurality. But why can’t the economy be fragmented too? If we theorized it as fragmented in the United States, we could being to see a huge state sector (incorporating a variety of forms of appropriation of surplus labor), a very large sector of self-employed and family-based producers (most noncapitalist), a huge household sector (again, quite various in terms of forms of exploitation, with some households moving towards communal or collective appropriation and others operating in a traditional mode in which one adult appropriates surplus labor from another). None of these things is easy to see. If capitalism takes up the available social space, there’s no room for anything else. **If capitalism cannot coexist, there’s no possibility of anything else. If capitalism functions as a unity, it cannot be partially or locally replaced. My intent is to help create the discursive conception under which socialist or other noncapitalist construction becomes “realistic” present activity rather than a ludicrous or utopian goal. To achieve this I must smash Capitalism and see it in a thousand pieces.** I must make its unity a fantasy, visible as a denial of diversity and change

#### Capitalism isn’t dead and its inevitable

Walter Russell Mead, 2008. James Clarke Chace Professor of Foreign Affairs and Humanities at Bard College , The Australian, “Boom and bust the way of the West”, Dec 5, 2008,

And those 300 years have been marked by one financial crisis after another. Even before the English began to dominate global markets, the Dutch suffered though the tulip bubble of the 17thcentury. There was the South Sea bubble of the early 18th century. There were the panics of the Napoleonic wars, followed by successive and intensifying panics and crashes during the 19th century. Financial crises have continued throughout the 20th century and now into the 21st. And none of those panics and crashes interrupted or fundamentally altered the liberal capitalist path of development. It is possible, of course, that this time is different, but history gives us sound reason to believe that this kind of economic crisis does not mean the system is failing or has failed. Indeed, economic crisis is intrinsic to the capitalist economic system. It's not pleasant, but it is a regular and inevitable part of our lives. This is because the essence of capitalism is change. Capitalism constantly forces us to innovate, to do things differently, and as the economy changes we no longer understand it as well as we once did. In the past 25 years we have seen a series of revolutionary changes taking place in financial markets. We have seen extraordinary progress in the way information technology has been harnessed for the purposes of market trading. There have been new kinds of securities developed. The crisis occurred because market participants and regulators no longer fully understand how the toe bone is connected to the foot bone in an international financial crisis. But none of this means capitalism has failed; it means capitalism is succeeding. The history of the world economy shows us that crisis and panic have been our teachers. It is only through the study of past crashes that we have been able to understand risks and trade-offs in markets. We will come to grips with our past failures and figure out ways to protect against the problems that have landed us here, at least until markets develop a new level of complexity that defeats us and leads to yet another meltdown.

### Death

**. Human life has inherent value – arguing otherwise is a slippery slope to slavery and eugenics**

Melinda **Penner** (Director of Operations – STR, Stand To Reason) **2005** “End of Life Ethics: A Primer”, Stand to Reason, http://www.str.org/site/News2?page=NewsArticle&id=5223

Intrinsic value is very different. Things with intrinsic value are valued for their own sake. They don’t have to achieve any other goal to be valuable. They are goods in themselves. Beauty, pleasure, and virtue are likely examples. Family and friendship are examples. Something that’s intrinsically valuable might also be instrumentally valuable, but even if it loses its instrumental value, its intrinsic value remains. **Intrinsic value is what people mean when they use the phrase "the sanctity of life." Now when someone argues that someone doesn’t have "quality of life" they are arguing that life is only valuable as long as it obtains something else with quality, and when it can’t accomplish this, it’s not worth anything anymore. It's only instrumentally valuable. The problem with this view is that it is entirely subjective and changeable with regards to what might give value to life**. Value becomes a completely personal matter, and, as we all know, our personal interests change over time. **There is no grounding for objective human value and human rights if it’s not intrinsic value. Our legal system is built on the notion that humans have intrinsic value**. The Declaration of Independence: "We hold these truths to be self-evident, that all men are created equal, that each person is endowed by his Creator with certain unalienable rights...." **If human beings only have instrumental value, then slavery can be justified because there is nothing objectively valuable that requires our respect. There is nothing other than intrinsic value that can ground the unalienable equal rights we recognize because there is nothing about all human beings that is universal and equal. Intrinsic human value is what binds our social contract of rights. So if human life is intrinsically valuable, then it remains valuable even when our capacities are limited. Human life is valuable even with tremendous limitations. Human life remains valuable because its value is not derived from being able to talk, or walk, or feed yourself, or even reason at a certain level. Human beings don’t have value only in virtue of states of being (e.g., happiness) they can experience. The "quality of life" view is a poison pill because once we swallow it, we’re led down a logical slippery slope**. The exact same principle can be used to take the life of human beings in all kinds of limited conditions because I wouldn't want to live that way. Would you want to live the life of a baby with Down’s Syndrome? No? Then kill her. Would you want to live the life of an infant with cerebral palsy? No? Then kill him. Would you want to live the life of a baby born with a cleft lip? No? Then kill her. (In fact, they did.) **Once we accept this principle, it justifies killing every infant born with a condition that we deem a life we don’t want to live. There’s no reason not to kill every handicapped person who can’t speak for himself — because I wouldn’t want to live that way.** This, in fact, is what has happened in Holland with the Groningen Protocol. Dutch doctors euthanize severely ill newborns and their society has accepted it.

### Politics

#### Won’t Pass: Gang of 8 and LGBT conditions

Brock 2/9

[PolicyMic, Jana, Political columnist, <http://www.policymic.com/articles/25188/immigration-reform-2013-what-the-president-can-learn-from-the-obamacare-battle>, mg]

Immigration reform is at the forefront of President Obama's agenda for the year. He plans to make it a major part of his State of the Union Address on Tuesday, February 12. However, like with everything else the president has done so far, his immigration reform does not come without controversy — harkening back to his Obamacare effort.¶ Looking at Obama's plan, it is quite similar to the bipartisan group of senators one labeled the "gang of eight" — and their plan to make it possible for 11 million illegal immigrants to achieve citizenship. This includes granting "probationary legal status" for eligible undocumented workers, learning English, and paying taxes. While this measure has been praised by Obama recently, it now appears the plan could be dead in the water thanks to Obama himself.¶ Apparently, Obama has his own strings attached to immigration reform. He is against the "border security plan" first, which was the main stipulation brought forth by the conservatives within the "gang of eight." Senator Marco Rubio (R-Fla.) said he "will not be supporting any law that does not ensure that the enforcement things happen."¶ Another wrench Obama has thrown into his immigration reform is guaranteeing bi-national same sex couples the same rights as heterosexual couples. Just as both Senate and House members were warming up to the idea of immigration reform, Obama's extra additives could throw the reform effort into limbo. Senator John McCain (R-Ariz.) said, "what is more important, LGBT or border security?" ¶ McCain is right. The two issues are completely separate. Obama is being reckless in using this issue to go along with immigration reform. At this juncture, he risks conservatives abandoning the effort for immigration reform and others who were on board. He will lose the "gang of eight" backing for sure.

#### Obama’s capital is irrelevant and winners win

Michael Hirsh, National Journal, 2/7/13, There’s No Such Thing as Political Capital, www.nationaljournal.com/magazine/there-s-no-such-thing-as-political-capital-20130207

Meanwhile, the Republican members of the Senate’s so-called Gang of Eight are pushing hard for a new spirit of compromise on immigration reform, a sharp change after an election year in which the GOP standard-bearer declared he would make life so miserable for the 11 million illegal immigrants in the U.S. that they would “self-deport.” But this turnaround has very little to do with Obama’s personal influence—his political mandate, as it were. It has almost entirely to do with just two numbers: 71 and 27. That’s 71 percent for Obama, 27 percent for Mitt Romney, the breakdown of the Hispanic vote in the 2012 presidential election. Obama drove home his advantage by giving a speech on immigration reform on Jan. 29 at a Hispanic-dominated high school in Nevada, a swing state he won by a surprising 8 percentage points in November. But the movement on immigration has mainly come out of the Republican Party’s recent introspection, and the realization by its more thoughtful members, such as Sen. Marco Rubio of Florida and Gov. Bobby Jindal of Louisiana, that without such a shift the party may be facing demographic death in a country where the 2010 census showed, for the first time, that white births have fallen into the minority. It’s got nothing to do with Obama’s political capital or, indeed, Obama at all. The point is not that “political capital” is a meaningless term. Often it is a synonym for “mandate” or “momentum” in the aftermath of a decisive election—and just about every politician ever elected has tried to claim more of a mandate than he actually has. Certainly, Obama can say that because he was elected and Romney wasn’t, he has a better claim on the country’s mood and direction. Many pundits still defend political capital as a useful metaphor at least. “It’s an unquantifiable but meaningful concept,” says Norman Ornstein of the American Enterprise Institute. “You can’t really look at a president and say he’s got 37 ounces of political capital. But the fact is, it’s a concept that matters, if you have popularity and some momentum on your side.” The real problem is that the idea of political capital—or mandates, or momentum—is so poorly defined that presidents and pundits often get it wrong. “Presidents usually over-estimate it,” says George Edwards, a presidential scholar at Texas A&M University. “The best kind of political capital—some sense of an electoral mandate to do something—is very rare. It almost never happens. In 1964, maybe. And to some degree in 1980.” For that reason, political capital is a concept that misleads far more than it enlightens. It is distortionary. It conveys the idea that we know more than we really do about the ever-elusive concept of political power, and it discounts the way unforeseen events can suddenly change everything. Instead, it suggests, erroneously, that a political figure has a concrete amount of political capital to invest, just as someone might have real investment capital—that a particular leader can bank his gains, and the size of his account determines what he can do at any given moment in history. Naturally, any president has practical and electoral limits. Does he have a majority in both chambers of Congress and a cohesive coalition behind him? Obama has neither at present. And unless a surge in the economy—at the moment, still stuck—or some other great victory gives him more momentum, it is inevitable that the closer Obama gets to the 2014 election, the less he will be able to get done. Going into the midterms, Republicans will increasingly avoid any concessions that make him (and the Democrats) stronger. But the abrupt emergence of the immigration and gun-control issues illustrates how suddenly shifts in mood can occur and how political interests can align in new ways just as suddenly. Indeed, the pseudo-concept of political capital masks a larger truth about Washington that is kindergarten simple: You just don’t know what you can do until you try. Or as Ornstein himself once wrote years ago, “Winning wins.” In theory, and in practice, depending on Obama’s handling of any particular issue, even in a polarized time, he could still deliver on a lot of his second-term goals, depending on his skill and the breaks. Unforeseen catalysts can appear, like Newtown. Epiphanies can dawn, such as when many Republican Party leaders suddenly woke up in panic to the huge disparity in the Hispanic vote. Some political scientists who study the elusive calculus of how to pass legislation and run successful presidencies say that political capital is, at best, an empty concept, and that almost nothing in the academic literature successfully quantifies or even defines it. “It can refer to a very abstract thing, like a president’s popularity, but there’s no mechanism there. That makes it kind of useless,” says Richard Bensel, a government professor at Cornell University. Even Ornstein concedes that the calculus is far more complex than the term suggests. Winning on one issue often changes the calculation for the next issue; there is never any known amount of capital. “The idea here is, if an issue comes up where the conventional wisdom is that president is not going to get what he wants, and he gets it, then each time that happens, it changes the calculus of the other actors” Ornstein says. “If they think he’s going to win, they may change positions to get on the winning side. It’s a bandwagon effect.”

#### Overloading Congress causes agenda success—focusing his capital kills it

Chuck Todd, NBC, 2/5/13, First Thoughts: Flooding the zone, firstread.nbcnews.com/\_news/2013/02/05/16852487-first-thoughts-flooding-the-zone?lite

Flooding the zone: Exactly one week away from President Obama’s State of the Union address, the White House has spent the early days of the second term flooding the zone with its legislative agenda. Last week, the president delivered his big immigration speech in Las Vegas. Yesterday, he spoke about gun violence in Minnesota. Today, he’s meeting at the White House with progressive, labor, and business leaders to discuss immigration reform and the budget situation. What’s going on here: The Obama White House wants to overload Washington’s political circuits in an effort to see what it can get through Congress -- without letting Congress define what issues get addressed. After all, Republicans want to solely talk about the budget before the March budget showdown (see yesterday’s multiple coordinated responses by House Republicans on the White House’s announcement it would be late with its budget). Yet by flooding the zone, Team Obama -- with the bully pulpit and the State of the Union at its disposal -- wants to widen the political dialogue beyond that one issue. This “flooding the zone” concept is how the Obama White House operated in the first six months of the first term, and it’s where he got most of his legislative achievements. When the White House got bogged down on ONE issue (health care, debt ceiling, etc), officials determined they lost some of their political capital.

#### Plan’s popular- Bipart support

Pendidikan ‘11

Cinta writes for the Love and Like Education Blog, “Sanders is the Sole Vote Against Small Modular Reactor Research,” http://loveandlikeeducation.blogspot.com/2011/08/bernie-sanders-and-small-modular.html

Sanders is Sole Vote Against Small Modular Reactor Research¶ Bernie Sanders and Small Modular Reactors¶ Senator Bernie Sanders often speaks about his opposition to Vermont Yankee as having something to do with the age of the plant, the fact it is owned by Entergy, or his "state's rights" stance about regulating nuclear power plants.¶ Recently, however, Sanders made it clear that he is against nuclear power in any form and is proud of that opinion. On Senator Sanders website, he featured the fact that he was the only vote against "a pair of measures that would promote the development of small modular reactors."¶ One of these measures was the Nuclear Power Act S512. This act would authorize the Secretary of Energy to start a cost-shared program for development of small modular reactors (SMRs).¶ This act had strong bi-partisan support, being sponsored by 3 Republican and 4 Democratic Senators. The act requires research and development funds for SMRs. The Act is still in process, and does not have a firm dollar amount attached, but the dollar amount is likely to be small (in government terms, at least.). Current estimates are $100 million per fiscal year for four years, starting next year.¶ The act also requires that industry cost-share the expense. If industry doesn't think it is worth spending money on the research, the research will not receive government funding either.¶ As a background to the probable cost of this Act, we should note that President Obama requested $4.8 billion dollars for Department of Energy research, of which $3.2 billion is allocated for renewable energy and energy efficiency research. (This number has changed with the debt deal, but new numbers are not available at this time.)¶ Small Modular Reactors for The Future¶ Sander's opposition to this Nuclear Power Act will hurt America's chances to develop an important new exportable technology. Outside of Europe, the nuclear renaissance remains in full swing, with reactors being ordered and built in Arabia, China, India and Southeast Asia. Developing a strong set of SMR designs would be America's best chance to re-entering the world market for nuclear power.¶ SMRs are modular (assembled in a factory and delivered to the site), small (50 to 225 MW) and have many safety features, such as passive cooling. SMRs are expected to have a huge international market. They suitable for many places that do not have the population density or money for the current crop of huge reactors (1200 MW, built on site at great expense). SMRs would make nuclear power affordable and salable many places.¶ Westinghouse and Babcock & Wilcox have invested significant amounts of their own money in developing these products. The NRC is also active in assessing preliminary designs. At another Senate committee meeting on SMRs, Commissioner Magwood of the NRC said that he does not expect decisions made by the NRC to be the critical factor in the success or failure of SMRs. Magwood noted that SMRs have passive safety features and large water inventories; these would be considered during license review.¶ America Fallen Behind¶ America has fallen far behind the rest of the world in most nuclear technologies. Pressurized Water Reactors (PWRs) and Boiling Water Reactors (BWRs) were developed in this country. They are being sold all over the world, but not by United States companies. We're out of the running. Other countries licensed and improved our original technologies. Companies from France, Korea, Russia and China compete to build large reactors in China, Arabia, and Southeast Asia.¶ Three American companies have put millions of dollars into the development of SMRs: Westinghouse, Babcock & Wilcox, and NuScale (a small start-up). Many people in the nuclear industry feel that the race to develop the first successful SMR is a truly high-stakes race, being fought at the level of nationwide efforts. Luckily, SMR development has bi-partisan support, and Mr. Sanders was alone in his opposition to supporting American industry efforts to develop these plants.¶ Should Government Be Involved?¶ Of course, one can make a case that the government should get out of the energy research business altogether. If Senator Sanders wished to save tax dollars by cutting all energy-research programs, he might have a valid case. However, if the government does plan to spend money on energy research, cost-sharing with industry on a new nuclear technology is certainly a far better use of funds than many of the projects in the swollen DOE renewable budget.

#### DoD doesn’t link

**Appelbaum 12**

Binyamin, Defense cuts would hurt scientific R&D, experts say, The New York Times, 1-8, <http://hamptonroads.com/2012/01/defense-cuts-would-hurt-scientific-rd-experts-say>

Sarewitz, who studies the government's role in promoting innovation, said the Defense Department had been more successful than other federal agencies because it is the main user of the innovations that it finances. The Pentagon, which spends billions each year on weapons, equipment and technology, has an unusually direct stake in the outcome of its research and development **projects.**¶ "The central thing that distinguishes them from other agencies is that they are the customer," Sarewitz said. "You can't pull the wool over their eyes."¶ **Another factor is the Pentagon's** relative insulation from politics**, which has allowed it to sustain a long-term research agenda** in controversial areas**.** No matter which party is in power, **the Pentagon has continued to invest in clean-energy tech**nology, **for example,** in an effort to find ways to reduce one of its largest budget items, energy costs.

### Electricity

#### Prices going up – setting rates, utility upgrades

Fahey ‘12

(Alicia is the Associate Editor of HuffPost Small Business. “Electricity Prices Rise Despite Cheaper Costs For Utility Companies” 07/11/2012 3:34 pm, <http://www.huffingtonpost.com/2012/07/11/electric-prices-rise-despite-cheap-production_n_1665946.html>, TSW)

A plunge in the price of natural gas has made it cheaper for utilities to produce electricity. But the savings aren't translating to lower rates for customers. Instead, U.S. electricity prices are going up.¶ Electricity prices are forecast to rise slightly this summer. But any increase is noteworthy because natural gas, which is used to produce nearly a third of the country's power, is 43 percent cheaper than a year ago. A long-term downward trend in power prices could be starting to reverse, analysts say.¶ "It's caused us to scratch our heads," says Tyler Hodge, an analyst at the Energy Department who studies electricity prices.¶ The recent heat wave that gripped much of the country increased demand for power as families cranked up their air conditioners. And that may boost some June utility bills. But the nationwide rise in electricity prices is attributable to other factors, analysts say:¶ \_ In many states, retail electricity rates are set by regulators every few years. As a result, lower power costs haven't yet made their way to customers.¶ \_ Utilities often lock in their costs for natural gas and other fuels years in advance. That helps protect customers when fuel prices spike, but it prevents customers from reaping the benefits of a price drop.¶ \_ The cost of actually delivering electricity, which accounts for 40 percent of a customer's bill on average, has been rising fast. That has eaten up any potential savings from the production of electricity.¶ Utilities are building transmission lines, installing new equipment and fixing up power plants after what analysts say has been years of under-investment.

#### SMR’s cost competitive with traditional electricity production

**King et al 11**

(Marcus King, Associate Director of Research at The George Washington University's Elliott School of International Affairs LaVar Huntzinger, Thoi Nguyen, “Feasibility of Nuclear Power on U.S.

Military Installations” <http://www.cna.org/sites/default/files/research/Nuclear%20Power%20on%20Military%20Installations%20D0023932%20A5.pdf>, SEH)

Our estimates for the cost of electricity produced by a small nuclear¶ power plant ranged from a low of $0.066 per kWh to a high of $0.203.¶ Our estimate using the default values we regard as “best” for the input¶ parameters was $0.081 per kWh. Compared with buying commercial¶ power at projected market prices, the lower and default estimates¶ make power from a nuclear power plant viable almost everywhere¶ (depending on the value DoD places on achieving the objectives for¶ switching to nuclear power). As the estimated cost of power from a¶ nuclear plant rises above $0.10 per kWh, there are fewer sites where¶ the option is viable and the highest estimates make the option unattractive almost everywhere.

### NNSA

#### No tradeoffs—different talent pool, new nuclear demand solves

APS 8

APS (American Physical Society), Report from the APS Panel on Public Affairs Committee on Energy and Environment, June 2008, Readiness of the U.S. Nuclear Workforce for 21st Century Challenges, http://www.aps.org/policy/reports/popa-reports/upload/Nuclear-Readiness-Report-FINAL-2.pdf

Workforce shortages in the arena of commercial nuclear power, and the problem of maintaining modernized training facilities, mainly stem from the 30-year stasis in U.S. demand for new civilian nuclear power plants1. The number of operating civilian nuclear reactors in the U.S. has remained at about 100 during this time. Thus, U.S. vendors have been forced to look abroad for sales. Some have either ceased construction of new reactors entirely or else significantly scaled back business in this area. Their continuing, largely static, nuclear engineering workforce needs have been met through a combination of hiring those trained in university nuclear engineering programs and retraining others whose original expertise was in some other field (usually mechanical engineering). Retirees from the nuclear Navy also have played an important role.¶ A natural result of this stasis was for many years a greatly reduced interest among undergraduates in nuclear science and engineering programs2. In turn, this put great pressure on U.S. universities to scale back in these areas. Recently, however, the Federal government, through the Department of Energy (DOE), dramatically increased funding for these educational efforts. This played a major role in increasing undergraduate student enrollments in nuclear engineering from a low point of 480 in 1999 to 1,933 in 2007. Declaring the problem to be solved, DOE called for the termination of its university nuclear science and engineering programs for FY 2007. Congress in turn provided reduced funding for FY 2007 and transferred all the programs except reactor fuel services to the Nuclear Regulatory Commission (NRC) for FY 2008. These “feast or famine” gyrations have led to significant instabilities: the number of university nuclear engineering departments has decreased from 66 in the early 1980s to 30 today, and the number of university reactors has dwindled from 63 to 25 during essentially the same period.

#### Plan signal solves workforce shortage

Unistar, 10

(January, This UniStar Issue Brief is a publication of UniStar Nuclear Energy, a joint venture of Constellation Energy and EDF Group, “Rebuilding the Nuclear Energy Workforce,” http://www.unistarnuclear.com/IB/workforce.pdf)

The decades-long hiatus in construction of new nuclear energy facilities has contributed to this workforce decline, of course. As the marketplace became less interested in nuclear energy, fewer students entered the discipline, reducing enrollment and forcing the closure of university and skills-based programs. **Reversing this trend will require building confidence among individuals in the target demographic that the nuclear renaissance is real and long term.** Washington Must take a stand The nuclear energy industry can only go so far in making critical workforce investments **without a clear signal from the Federal government**. Spurred by both industry and political considerations, President Obama and Secretary of Energy Steven Chu have begun the task of promoting green and high-tech jobs in the U.S. In August 2008, while still the director of the Lawrence Berkeley National Laboratory, Dr. Chu and other National Laboratory Directors signed a statement calling for a federal commitment. “For example, the government should establish and fund a nuclear energy workforce development program at universities and colleges to meet the expected [workforce] need.” 11 As the American Nuclear Society stated, “America’s university-based [nuclear science and engineering] programs cannot continue to be leaders in the field without an active [NRC] university program.” Both the total number of nuclear engineering programs and the enrollment in those programs has fallen precipitously since the 1980s. 12 the tiMe is noW Increasing the use of nuclear energy—building new facilities and expanding or relicensing existing ones—will maintain or create tens of thousands of high-paying jobs for American workers. But two key ingredients for a true nuclear energy renaissance are missing. First, the federal government **must demonstrate a long term commitment to a resurgent nuclear energy industry. This means** expanding the NRC university program, funding and issuing loan guarantees, and other **concrete actions.** If we want people to stake their education and career choices on nuclear expansion, **they deserve a clear signal that the government supports the industry** with more than just words. Second, companies must commit to a continued investment in their own workforces, through research to understand the laborsupply environment, through training, and through partnerships with organized labor. Ultimately, the government and industry must act together to both provide career opportunities and also ensure that a trained workforce will be available to fill the demand.

#### Not zero-sum—training and surplus of candidates disprove the link

Stoneturn Consultants, A White Paper Prepared for the Blue Ribbon Commission on America's Nuclear Future, 3/14/11, From Three Mile Island to the Future Improving Worker Safety and Health In the U.S. Nuclear Power Industry, http://cybercemetery.unt.edu/archive/brc/20120621004952/http://brc.gov/sites/default/files/documents/stoneturn\_brc\_osh\_report\_revision\_1.pdf

There are also several reasons why this may not be as great a problem as it appears, and the majority of the individuals we spoke to favor this reasoning:

• If nuclear power plants end up not being built, then developing a large specialized workforce does not make sense. There has to be long-term sustainable employment for the workforce.

• The industry, contractors and unions have established many efforts to fill the gap that could result from baby-boomer attrition.

• Many nuclear power plant operators say they track their workforce beginning at age 55 in anticipation of an average retirement age of 60, to make sure they replace every skill that the person who retires well in advance of the actual retirement.

• Several also expressed the view that "if you build them they will come." Construction of a nuclear power plants offers several years of good jobs with good pay, and many workers will relocate for that opportunity. Another way of expressing this is that if the labor market conditions are favorable then recruitment takes care of itself. In regional markets with high pay, there is an abundance of applicants for slots at all levels expertise. It regional markets with low pay, it is much harder to find qualified people.

• There is no shortage of available training system capacity, which can be mobilized to fill the need for large numbers of crafts workers.

#### Other industries trigger (or disprove) the link

Gene Aloise, Director, Natural Resources and Environment, GAO, April 12, MODERNIZING THE NUCLEAR SECURITY ENTERPRISE: Strategies and Challenges in Sustaining Critical Skills in Federal and Contractor Workforces, http://www.gao.gov/assets/600/590488.pdf

Further complicating NNSA’s recruiting efforts is the demand for qualified candidates in the private sector as well, and private sector jobs may offer a work environment that many candidates may find more desirable. The same pool of candidates who can excel in engineering, modeling, and simulation tasks is also attractive to high technology firms. For example, according to M&O contractor officials at Lawrence Livermore National Laboratory, a web-based provider of DVD rentals and streaming media uses computational scientists to predict consumers’ preferences for films, which is the same skill set the weapons laboratories would use for modeling and simulation. However, this company does not have the constraints that a federal contractor has with compensation limits and a restrictive work environment.