# 1AC

### plan

#### The United States Federal Government should obtain, through alternative financing, electricity from small modular reactors for military bases in the United States.

### dod adv

#### DoD bases are vulnerable to grid disruptions which destroys command infrastructure – 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.

#### Those communication breakdowns go nuclear

Andres and Breetz 11

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The DOD interest in small reactors derives largely from problems with base and logistics vulnerability. Over the last few years, the Services have begun to reexamine virtually every aspect of how they generate and use energy with an eye toward cutting costs, decreasing carbon emissions, and reducing energy-related vulnerabilities. These actions have resulted in programs that have significantly reduced DOD energy consumption and greenhouse gas emissions at domestic bases. Despite strong efforts, however, two critical security issues have thus far proven resistant to existing solutions: bases’ vulnerability to civilian power outages, and the need to transport large quantities of fuel via convoys through hostile territory to forward locations. Each of these is explored below. 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. 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 the vast 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 shuts down US military operations

Paul Stockton 11, 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.

#### Nuclear war

Frederick Kagan and Michael O’Hanlon 7, Fred’s a resident scholar at AEI, Michael is a senior fellow in foreign policy at Brookings, “The Case for Larger Ground Forces”, April, <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, SinoTaiwanese 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.

#### SMR’s “island” bases by providing constant reliable power

King 11

Marcus King, Ph.D., Center for Naval Analyses Project Director and Research Analyst for the Environment and Energy TeamLaVar Huntzinger, Thoi Nguyen, March 2011, Feasibility of Nuclear Power on U.S.Military Installations, www.cna.org/sites/default/files/research/Nuclear Power on Military Installations D0023932 A5.pdf

Having a reliable source of electricity is critically important for many DoD installations. Fort Meade, Maryland, which hosts the National Security Agency’s power intensive computers, is an example of where electricity is mission critical. Installations need to be more robust against interruptions caused by natural forces or intentional attack. Most installations currently rely on the commercial electricity grid and backup generators. Reliance on generators presents some limitations. A building dedicated generator only provides electricity to a specific building when there is a power outage. Typically, diesel standby generators have an availability of 85 percent when operated for more than 24 hours [38]. Most DoD installations keep less than a 5-day supply of fuel. Small nuclear power plants could contribute to electrical energy surety and survivability. Having nuclear power plants networked with the grid and other backup generating systems 5 could give DoD installations higher power availability during extended utility power outages and more days of utility-independent operation. Existing large commercial nuclear power plants have an availability of over 90 percent. When a small nuclear power plant is networked with existing backup generating systems and the grid, overall availability values could be as high as 99.6 percent [39]. Since proposed small reactors have long refueling intervals (from 4 to 30 years), if power from the commercial grid became unavailable, a small reactor could provide years of electrical power independent of the commercial grid [4]. Power assurance to DoD installations also involves three infrastructure aspects of electricity delivery: electrical power transmission, electricity distribution, and electricity control (of distribution and transmission). Electric power transmission is the bulk transfer of electrical energy from generating plants to substations located near population centers. Electricity distribution networks carry electricity from the substations to consumers. Electricity control is the management of switches and connections to control the flow of electricity through transmission and distribution networks. Typically, transmission lines transfer electricity at high voltages over long distances to minimize loss; electricity distribution systems carry medium voltages. For electrical power transmission, very little additional infrastructure is required to incorporate small nuclear power plants because they would be located on or near the DoD installation being serviced. However, redundancy in transmission lines would make the overall network more robust. Electricity control capabilities, such as self-healing 6 and optimization of assets to increase operational efficiency, could improve overall power availability; however, they are not necessary for the integration of small nuclear power plants. Key components for improving electricity control include advanced electricity meters and electricity meter data management. These tools are needed in order to establish islanding, a condition in which a portion of the utility system, which contains both load and generation, is isolated from the remainder of the utility system and continues to operate. Since the power generation capacities of small nuclear power plants are larger than required for most DoD bases, islanding could extend to adjacent communities if sufficient technical upgrades were performed to systems outside of the installation. This contributes to DoD missions because civilians and service members working on the installation often live with their families in adjacent communities. The power would ensure that critical services such as emergency response, waste water treatment, and hospitals could be maintained.

#### DoD bypasses regulatory hurdles and safety hazards

Loudermilk 11

Micah J. Loudermilk, Research Associate for the Energy & Environmental Security Policy program with the Institute for National Strategic Studies at National Defense University, 5/31/11, Small Nuclear Reactors and US Energy Security: Concepts, Capabilities, and Costs, [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](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.

### water adv

Water scarcity coming now - it's a threat multiplier that enflames hotspots globally. Specifically, Egypt and Central Asia - their defense isn't predictive

Dinar et al 10/18/12

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In short, predictions of a Water World War are overwrought. However, tensions over water usage can still exacerbate other existing regional conflicts. Climate change is expected to intensify droughts, floods, and other extreme weather conditions that jeopardize freshwater quantity and quality and therefore act as a threat-multiplier, making shaky regions shakier. So what river basins constitute the biggest risks today? In a World Bank report we published in 2010 (as well as a subsequent article in a special issue of the Journal of Peace Research) we analyzed the physical effects of climate change on international rivers. We modeled the variability in river annual runoff in the past and for future climate scenarios. We also considered the existence and nature of the institutional capacity around river basins, in the form of international water treaties, to potentially deal with the effects of climate change. According to our research, 24 of the world's 276 international river basins are already experiencing increased water variability. These 24 basins, which collectively serve about 332 million people, are at high risk of water related political tensions. The majority of the basins are located in northern and sub-Saharan Africa. A few others are located in the Middle East, south-central Asia, and South America. They include the Tafna (Algeria and Morocco), the Dasht (Iran and Pakistan), the Congo (Central Africa), Lake Chad (Central Africa), the Niger (Western Africa), the Nile (Northeastern Africa), and the Chira (Ecuador and Peru). There are no strong treaties governing the use of these water reserves in tense territories. Should conflicts break out, there are no good mechanisms in place for dealing with them. By 2050, an additional 37 river basins, serving 83 million people, will be at high risk for feeding into political tensions. As is the case currently, a large portion of these are in Africa. But, unlike today, river basins within Central Asia, Eastern Europe, Central Europe, and Central America will also be at high risk within 40 years. Some of these include the Kura-Araks (Iran, Turkey, and the Caucasus), the Neman (Eastern Europe) Asi-Orontes (Lebanon, Syria, Turkey), and the Catatumbo Basins (Colombia and Venezuela). CROSSING THE NILE Among the larger African basins, the Nile has the greatest implications for regional and global security. Tensions over access to the river already pit Ethiopia and Egypt, two important Western allies, against one another. Egypt has been a major player in the Middle East Peace Process and Ethiopia is an important regional force in the Horn of Africa, currently aiding other African forces to battle Al-Shabbab in Somalia. Over the years, a number of international water treaties have made rules for the basin, but they are largely limited to small stretches of it. In particular, only Egypt and Sudan are party to the 1959 Nile River Agreement, the principal treaty regarding the river. Egypt, which is the furthest downstream yet is one of the most powerful countries in the region, has been able to heavily influence the water-sharing regime. Upstream countries, such as Ethiopia and Burundi, have been left out, hard-pressed to harness the Nile for their own needs. In 1999, with increasingly vitriolic rhetoric between Egypt and Ethiopia sidetracking regional development, the World Bank stepped up its involvement in the basin. It helped create a network of professional water managers as well as a set of investments in a number of sub-basins. Still, the drafting of a new agreement stalled: upstream countries would not compromise on their right to develop water infrastructure while downstream countries would not compromise on protecting their shares. In 2010, Ethiopia signed an agreement with a number of the other upstream countries hoping to balance against Egypt and Sudan. More recently, the country has also announced plans to construct a number of large upstream dams, which could affect the stability of the region. By 2050, the environmental state of the Nile Basin will be even worse. That is why it is important to create a robust and equitable water treaty now. Such a treaty would focus on ways to harness the river's hydropower potential to satiate the energy needs of all the riparian states while maintaining ecosystem health. The construction of dams and reservoirs further upstream could likewise help even out water flows and facilitate agricultural growth. Projects such as these, mitigating damage to ecosystem health and local populations, would benefit all parties concerned and thus facilitate further basin-wide cooperation. UP IN THE ARAL Another water basin of concern is the Aral Sea, which is shared by Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. The basin consists of two major rivers, the Syr Darya and Amu Darya. During the Soviet era, these two rivers were managed relatively effectively. The break-up of the Soviet Union, however, ended that. The major dispute now is between upstream Kyrgyzstan and downstream Uzbekistan over the Syr Darya. During the winter, Kyrgyzstan needs flowing water to produce hydroelectricity whereas Uzbekistan needs to store water to later irrigate cotton fields. The countries have made several attempts to resolve the dispute. In particular, downstream Uzbekistan, which is rich in fuel and gas, has provided energy to Kyrgyzstan to compensate for keeping water in its large reservoirs until the cotton-growing season. Such barter agreements, however, have had limited success because they are easily manipulated. Downstream states might deliver less fuel during a rainy year, claiming they need less water from upstream reservoirs, and upstream states might deliver less water in retaliation. Kyrgyzstan, frustrated and desperate for energy in winter months, plans to build mega hydro-electric plants in its territory. And another upstream state, Tajikistan, is likewise considering hydro-electricity to satiate its own energy needs. Meanwhile, Uzbekistan is building large reservoirs. Although these plans might make sense in the very near term, they are inefficient in the medium and long term because they don't solve the real needs of downstream states for large storage capacity to protect against water variability across time. In fact, both Kyrgyzstan and Uzbekistan, along with Kazakhstan, will see substantial increases in water variability between now and 2050. And so, the need to share the benefits of existing large-capacity upstream reservoirs and coordinate water uses through strong and more efficient inter-state agreements is unavoidable. A stabilized Aral Sea basin would also benefit the United States. With its withdrawal from Afghanistan, Washington has been courting Uzbekistan as a potential alternative ally and provider of stability in the region. The Uzbek government seems willing to host U.S. military bases and work as a counter-weight to Russia. Kyrgyzstan is also an important regional player. The Manas Air Base, the U.S. military installation near Bishkek, is an important transit point. The country is also working with the United States to battle drug trafficking and infiltration of criminal and insurgent groups. Regional instability could disrupt any of these strategic relationships. If the past is any indication, the world probably does not need to worry about impending water wars. But they must recognize how tensions over water can easily fuel larger conflicts and distract states from other important geopolitical and domestic priorities. Since formal inter-state institutions are key to alleviating tensions over shared resources, it would be wise, then, for the involved governments as well as the international community to negotiate sufficiently robust agreements to deal with impending environmental change. Otherwise, freshwater will only further frustrate stability efforts in the world's volatile regions.

#### Those wars go global

Reilly ‘2

(Kristie, Editor for In These Times, a nonprofit, independent, national magazine published in Chicago. We’ve been around since 1976, fighting for corporate accountability and progressive government. In other words, a better world, “NOT A DROP TO DRINK,” <http://www.inthesetimes.com/issue/26/25/culture1.shtml>)

\*Cites environmental thinker and activist Vandana Shiva Maude Barlow and Tony Clarke—probably North America’s foremost water experts

The two books provide a chilling, in-depth examination of a rapidly emerging global crisis. “Quite simply,” Barlow and Clarke write, “unless we dramatically change our ways, between one-half and two-thirds of humanity will be living with severe fresh water shortages within the next quarter-century. … The hard news is this: Humanity is depleting, diverting and polluting the planet’s fresh water resources so quickly and relentlessly that every species on earth—including our own—is in mortal danger.” The crisis is so great, the three authors agree, that the world’s next great wars will be over water. The Middle East, parts of Africa, China, Russia, parts of the United States and several other areas are already struggling to equitably share water resources. Many conflicts over water are not even recognized as such: Shiva blames the Israeli-Palestinian conflict in part on the severe scarcity of water in settlement areas. As available fresh water on the planet decreases, today’s low-level conflicts can only increase in intensity.

#### And nuclear

Weiner ‘90

(Jonathan, Visiting Professor of Molecular Biology at Princeton University. The Next One Hundred Years: Shaping the Fate of Our Living Earth, p. 214)

If we do not destroy ourselves with the A-bomb and the H-bomb, then we may destroy ourselves with the C-bomb, the Change Bomb. And in a world as interlinked as ours, one explosion may lead to the other. Already in the Middle East, from North Africa to the Persian Gulf and from the Nile to the Euphrates, tensions over dwindling water supplies and rising populations are reaching what many experts describe as a flashpoint. A climate shift in the single battle-scarred nexus might trigger international tensions that will unleash some of the 60,000 nuclear warheads the world has stockpiled since Trinity.

#### Indo-Pak water scarcity’s coming – causes escalatory disputes

Nitish Priyadarshi 12, lecturer in the department of environment and water management at Ranchi University in India, “War for water is not a far cry”, June 16, <http://www.cleangangaportal.org/node/44>

Such is the deep nexus between water and global warming that the increased frequency of climate change-driven extreme weather events like hurricanes, droughts and flooding, along with the projected rise of ocean levels, is likely to spur greater interstate and intrastate migration- especially of the poor and the vulnerable- from delta and coastal regions to the hinterland.

As the planet warms, water grow scarcer. Global warming will endanger the monsoon, which effects much greater than those of drought alone-particularly in India given that 70 percent of India’s rainfall comes from the monsoon.

The declining snow cover and receding glaciers in the Himalayan state of Jammu and Kashmir could trigger renewed hostilities between India and Pakistan, neighbouring states in the South Asian region that are at odds on a host of issues.

The two countries share the Indus River, one of the longest rivers in the world. The river rises in southwestern Tibet and flows northwest through the Himalayas. It crosses into the Kashmir region, meandering to the Indian and Pakistani administered areas of the territory.

Pakistan and India have long been embroiled in a territorial dispute over Kashmir, but have so far managed to uphold a World Bank-mediated Indus Water Treaty (IWT) that provides mechanisms for resolving disputes over water sharing. Any drastic reduction in the availability of water in the region has the potential of causing a war between the hostile south Asian neighbors.

The Indus water system is the lifeline for Pakistan, as 75 to 80 percent of water flows to Pakistan as melt from the Himalayan glaciers. This glacier melt forms the backbone of irrigation network in Pakistan, with 90 percent of agricultural land being fed by the vastly spread irrigation network in Pakistan, one of the largest in the world. Any disruption of water flow would cause a grave impact on agriculture produce in Pakistan.

The Indus Waters Treaty is a water-sharing treaty between the Republic of India and Islamic Republic of Pakistan, brokered by the World Bank (then the International Bank for Reconstruction and Development). The treaty was signed in Karachi on September 19, 1960 by Indian Prime Minister Jawaharlal Nehru and President of Pakistan Mohammad Ayub Khan. The treaty was a result of Pakistani fear that since the source rivers of the Indus basin were in India, it could potentially create droughts and famines in Pakistan, especially at times of war. However, India did not revoke the treaty during any of three later Indo-Pakistani Wars.

Until now, the Indus Water Treaty has worked well, but the impact of climate change would test the sanctity of this treaty. Under the treaty signed in 1960, the two countries also share five tributaries of the Indus river, namely, Jhelum, Chenab, Ravi, Beas and Sutlej. The agreement grants Pakistan exclusive rights over waters from the Indus and its westward-flowing tributaries, the Jhelum and Chenab, while the Ravi, Beas and Sutlej rivers were allocated for India’s use.

Transboundary water sharing between India and Pakistan will become an extremely difficult proposition as surface water would become a scarce commodity with the depletion of water reserves up in the mountains.

The sharing of the Ganges waters is a long-standing issue between India and Bangladesh over the appropriate allocation and development of the water resources of the Ganges River that flows from northern India into Bangladesh. The issue has remained a subject of conflict for almost 35 years, with several bilateral agreements and rounds of talks failing to produce results.

#### Goes 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 toward 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 both the 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.

#### Water scarcity causes Central Asian war

Nitish Priyadarshi 12, lecturer in the department of environment and water management at Ranchi University in India, “War for water is not a far cry”, June 16, <http://www.cleangangaportal.org/node/44>

That's been a constant dilemma for the Central Asian states since they became independent after the Soviet break-up.

Much of Central Asia's water flows from the mountains of Kyrgyzstan and Tajikistan, leaving downstream countries Uzbekistan, Kazakhstan, and Turkmenistan dependent and worried about the effects of planned hydropower plants upstream.

Tashkent fears that those two countries' use of water from Central Asia's two great rivers -- the Syr Darya and Amu Darya -- to generate power will diminish the amount reaching Uzbekistan, whose 28 million inhabitants to make up Central Asia's largest population.

After the collapse of communism in the 1990s, a dispute arose between Hungary and Slovakia over a project to dam the Danube River. It was the first of its type heard by the International Court of Justice and highlighted the difficulty for the Court to resolve such issues decisively. There are 17 European countries directly reliant on water from the Danube so there is clear potential for conflict if any of these countries act selfishly.

Experts worry that dwindling water supplies could likely result in regional conflicts in the future. For example, in oil-and-gas rich Central Asia, the upstream countries of Kyrgyzstan and Tajikistan hold 90 percent of the region's water resources, while Uzbekistan, the largest consumer of water in the region, is located downstream.

#### Extinction

**Blank 2k** [Stephen J. - Expert on the Soviet Bloc for the Strategic Studies Institute, “American Grand Strategy and the Transcaspian Region”, World Affairs. 9-22]

Thus many structural conditions for conventional war or protracted ethnic conflict where third parties intervene now exist in the Transcaucasus and Central Asia. The outbreak of violence by disaffected Islamic elements, the drug trade, the Chechen wars, and the unresolved ethnopolitical conflicts that dot the region, not to mention the undemocratic and unbalanced distribution of income across corrupt governments, provide plenty of tinder for future fires. Many Third World conflicts generated by local structural factors also have great potential for unintended escalation. Big powers often feel obliged to rescue their proxies and proteges. One or another big power may fail to grasp the stakes for the other side since interests here are not as clear as in Europe. Hence commitments involving the use of nuclear weapons or perhaps even conventional war to prevent defeat of a client are not well established or clear as in Europe. For instance, in 1993 Turkish noises about intervening on behalf of Azerbaijan induced Russian leaders to threaten a nuclear war in that case. Precisely because Turkey is a NATO ally but probably could not prevail in a long war against Russia, or if it could, would conceivably trigger a potential nuclear blow (not a small possibility given the erratic nature of Russia's declared nuclear strategies), the danger of major war is higher here than almost everywhere else in the CIS or the "arc of crisis" from the Balkans to China. As Richard Betts has observed, The greatest danger lies in areas where (1) the potential for serious instability is high; (2) both superpowers perceive vital interests; (3) neither recognizes that the other's perceived interest or commitment is as great as its own; (4) both have the capability to inject conventional forces; and (5) neither has willing proxies capable of settling the situation.(77)

#### Only SMR’s solve

IAEA 7, “Economics of Nuclear Desalination: New Developments and Site Specific Studies”, July, <http://www-pub.iaea.org/MTCD/publications/PDF/te_1561_web.pdf>

Seventy percent of the planet is covered with water, but only 2.5% of that is fresh water. Nearly 70% of this fresh water is frozen in the icecaps of Antarctica and Greenland. Most of the rest is in the form of soil moisture or in deep inaccessible aquifers or comes in the form of heavy rains and floods that are difficult to contain and exploit. Consequently, only less than 0.008% (about 70 000 km3) of the world’s water is readily accessible for direct human use, and even that is very unevenly distributed. Recent statistics show that currently 2.3 billion people live in water-stressed areas and among them 1.7 billion live in water-scarce areas, where the water availability per person is less than 1000 m3/year. In fact, the situation is expected to worsen further since, by 2025, the number of people suffering from water stress or scarcity could swell to 3.5 billion, out of which 2.4 billion would live in water-scarce regions. Water scarcity is a global issue. Every year new countries are affected by growing water problems.

It is for this reason that the Millennium Declaration by UN General Assembly in 2000 set up a target

to halve, by the year 2015, the world population, which is unable to reach, or to afford, safe drinking

water. Vision 21: shared vision for Hygiene, Water Supply and Sanitation, has a target to provide

water, sanitation and hygiene for all by 2025.

Better water conservation, water management, pollution control and water reclamation are all part of the integrated solution to projected water stresses. So too are new sources of fresh water, including the desalination of seawater.

Desalination technologies have been well established since the mid-20th century and widely deployed in the Middle East and North Africa. The contracted capacity of desalination plants has increased steadily since 1965 and is now about 36 million m3/day worldwide, as shown in Figure 1. This capacity could cater to world’s population roughly 6 litres a day per capita of fresh potable water. If this capacity were available to 1.5 billion in the world without direct access to drinking water, it would provide approximately 20 litres/day/capita.

Large scale commercially available desalination processes can generally be classified into two categories: (a) distillation processes that require mainly heat plus some electricity for ancillary equipment, and (b) membrane processes that require only electricity. In the first category (distillation) there are two major processes: multi-stage flash (MSF) and multi-effect distillation (MED). In both processes, seawater is heated; the steam that evaporates is condensed and collected as freshwater; and the residual brine is discharged.

In the second category (membranes) is the reverse osmosis process (RO), in which pure water passes from the high-pressure seawater side of a semi-permeable membrane to the low-pressure freshwater side. The pressure differential must be high enough to overcome the natural tendency for water to move from the low concentration freshwater side of a membrane to the high concentration seawater side in order to balance osmotic pressures.

The energy for the desalination plants is generally supplied in the form of either steam or electricity. Conventional fossil fuel-powered plants have normally been utilized as the primary sources but their intensive use raises increasing environmental concerns, specifically in relation to greenhouse gas emissions (Section 1.3.3). The depleting sources and the future price uncertainty of the fossil fuels and their better use for other vital industrial applications are also the factors to be considered.

1.3. THE ROLE OF NUCLEAR POWER IN DESALINATION

The world energy requirements are presently met from oil, coal, gas, hydro, nuclear and renewable energies in that order as shown in Table 1.

It is now universally recognized that there will be an increase in the world’s requirement for electricity over the next few decades. The present trend towards meeting this demand includes the building of fossil fuel plants, particularly combined cycle gas fired plants.

However, the spiralling increase in greenhouse gas (GHG) emissions has resulted in setting the emission targets in international meetings held at Toronto, Rio de Janeiro and Kyoto. The IAEA predicts that the GHG emissions would be 36-50% higher by 2010 compared to 1990 levels. Many analysts, therefore, feel that the only viable alternative to fossil fuels is nuclear energy to reduce the rate of increase of GHG, particularly, carbon dioxide.

Yet another incentive for nuclear power is to maintain diversity of supply. A national strategy limited to one particular form of energy (fossil fuels) will be vulnerable to increased fuel costs and pressures from exporting countries.

Nuclear power is a proven technology, which has provided more than 16% of world electricity supply in over 30 countries. More than ten thousand reactor-years of operating experience have been accumulated over the past 5 decades.

There are many reasons which favour a possible revival of the nuclear power production in the years to come. It is thus expected that this revival would also lead to an increased role of nuclear energy in non-electrical energy services, which, at the moment, are almost entirely dominated by fossil energy sources. Among various utilization of nuclear energy for non-electrical products, using it for the production of freshwater from seawater (nuclear desalination) has been drawing broad interest in the IAEA Member States as a result of acute water shortage issues in many arid and semi-arid zones worldwide. With technical co-ordination or support of the IAEA, several demonstration programs of nuclear desalination are also in progress in several Member States to confirm its technical and economical viability under country-specific conditions

The desalination of seawater using nuclear energy is a feasible option to meet the growing demand for potable water. Over 175 reactor-years of operating experience on nuclear desalination have already been accumulated worldwide.

1.3.1. Nuclear desalination

In the IAEA terminology, nuclear desalination is defined to be the production of potable water from seawater in a facility in which a nuclear reactor is used as the source of energy for the desalination process. Electrical and/or thermal energy may be used in the desalination process on the same site. The facility may be dedicated solely to the production of potable water, or may be used for the generation of electricity and production of potable water, in which case only a portion of the total energy output of the reactor is used for water production.

The design approaches for a nuclear desalination plant are essentially derived from those of the nuclear reactor alone, with some additional aspects to be considered in the design of a desalination plant and its integration with the nuclear system.

All nuclear reactor types can provide the energy required by the various desalination processes. In this regard, it has been shown that Small and Medium Reactors (SMRs) offer the largest potential as coupling options to nuclear desalination systems in developing countries. The development of innovative reactor concepts and fuel cycles with enhanced safety features as well as their attractive economics are expected to improve the public acceptance and further the prospects of nuclear desalination.

The coupling with nuclear system is not difficult technically but needs some consideration in (a)

avoiding cross-contamination by radioactivity, (b) providing backup heat or power sources in case the

nuclear system is not in operation (e.g. for refuelling and maintenance), (c) incorporation of certain

design features, minimising the impact of the thermal desalination systems’ coupling to the nuclear

reactors (Section 1.6).

1.3.2. Why nuclear desalination?

The International Atomic Energy Agency is a specialized organization of the UN system that seeks to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. The institutional basis for the IAEA’s involvement in nuclear desalination is in its Statute and Medium Term Strategy.

Article II of the IAEA Statute provides that:

“ The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world”.

This refers implicitly to nuclear desalination as an option for the use of nuclear technologies.

The same applies to the Article III of the Statute, which authorizes the IAEA:

“ To encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world….”; (Article III, A.1); and

“To foster the exchange of scientific and technical information on peaceful uses of atomic energy.” (Article III, A.3).

In addition, Objective A.3 of the Agency’s Medium Term Strategy requires the Agency:

“ To support and facilitate the development of new and emerging applications of nuclear technologies by co-generation and heat applications, including seawater desalination”.

Request of assessing feasibility of using nuclear energy for seawater desalination was first made by the five North African countries to the IAEA in 1989 and the General Conference adopted its resolution to resume the study. These countries are located in semi-arid zones and already suffer from water shortages.

In recent years, interests have been also been indicated by Member States in South and South East Asia for the feasibility, as well as the demonstration, of nuclear desalination projects. The issue has since then been repeatedly stressed at the General Conference (Committee on the Whole) and supported by many Member States including most members of Group-77. The support stems not only from their expectation of its possible contribution to the freshwater issue but has also been motivated by a variety of reasons that include: the economic competitiveness of nuclear desalination in areas lacking cheap hydropower or fossil fuel resources, energy supply diversification, conservation of fossil fuel resources and spin-off effects of nuclear technology for industrial development.

Looking to the future, there are several reasons for focusing now on expanding nuclear power’s contribution to desalination. Apart from the expanding demand for freshwater and the increasing concern about GHG emissions and pollution from fossil fuels, there is a renewed and growing emphasis on small and medium sized nuclear reactors, and this is particularly important for desalination because the countries most in need of new sources of freshwater often have limited industrial infrastructures and relatively weaker electricity grids. The size of the grid limits the possibilities for integrating a co-generating nuclear power plant into the grid to supply the electricity market, in addition to meeting the energy requirements of a desalination plant. The largest power unit that can be integrated into an electricity grid must not exceed about 10-20 % of the total grid capacity. Of course, smaller nuclear reactors would be more appropriate for remote areas that are not suitable for connections to the grid.

For nuclear desalination to be attractive in any given country, two conditions have to be satisfied simultaneously: a lack of water and the ability to use nuclear energy for desalination. In most regions, only one of the two is present. Both are present for example in China, the Republic of Korea, India and Pakistan. These regions already account for almost half the world’s population, and thus represent a potential long term market for nuclear desalination. The market will expand further to the extent that regions with high projected water needs, such as the Middle East and North Africa, increase their nuclear expertise and capabilities.

1.3.3. Environmental impact of desalination by fossil fuelled energy sources

Desalination is an energy intensive process. A future desalination strategy based only on the use of fossil fuelled systems is not sustainable: Fossil fuel reserves are finite and must be conserved for more important uses such as transport, petrochemical industry etc. Besides, the demands for desalted water would continue increasing as population grows and standards of living improve. Conservation measures such as the modernisation of water networks to minimise leakages, the recycling of used water etc. will certainly reduce the future water demands slightly but they would not be able to halt the dissemination of desalination plants and consequently of the fossil fuelled based systems for the production of needed electricity and heat.

The following paragraphs illustrate the damaging consequences of such a policy by taking the example of the Mediterranean region.

Following the recent “Blue Plan” [2], the total available natural water resources (1), based on the statistics from 1990 to 1998, in the principle countries of the Mediterranean region, are as shown in Table 2.

The projected demands (3) for the year 2025 [31] are also included in Table 1.

It is obvious that available natural water resources would rather decrease in 2025 because of increased pollution, over exploitation and other human activities. However, to keep matters simple, it would be supposed that they would remain at the same level as in 1998.

It can be observed that, in 2025, the total projected water deficit (balance) in the Mediterranean region would of the order of 294 km3/per year.

Not all this required capacity would be met by desalination plants. Current contribution of desalination is of the order of 1 to 2 %. If it is supposed that in 2025, this contribution would be about 2.5 %, then the total required desalting capacity would be 7.3 km3/year (20.1 million m3/day).

According to the EC ExternE study2, the total emissions of GHG per MW(e).h of electricity produced by representative fossil fuelled power plants in France, are as presented in Table 3.

The specific heat and electricity consumptions of three main desalination plants are given in Table 4, [3].

The data presented in the above Tables allows to calculate the approximate3 total GHG emissions produced by the fossil fuelled plants and the three desalination plants.

Results for a total desalting capacity of 20.1 million m3/day are presented in Table 5.

It can thus be concluded that for a desalting capacity of 20.1 million m3/day in the Mediterranean region alone, required in 2025, one would produce, depending upon the energy source and the desalination process used,

13 to 264 million tonnes/year of CO2.

1350 to 1 310 000 tonnes/year of SOx.

21 100 to 540 000 tonnes/year of NOx.

1190 to 40 000 tonnes/year of particles.

The potential levels of GHG and particle emissions on the world scale could then be more than double these figures.

These could naturally be avoided through the use of nuclear energy.

#### Key to deescalate conflicts

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**.”

#### It’s economically viable

Gamini Seneviratne 7, Nuclear News’s Vienna Correspondent, “Research projects show nuclear

desalination economical”, April, <http://www.ans.org/pubs/magazines/nn/docs/2007-4-3.pdf>

The desalination of seawater using nuclear power is cost-effective compared with other primary energies, according to researchers in 10 countries who have studied various options at specific sites in their own countries. Their findings show nuclear to be at least competitive in all cases.

Researchers from Argentina, China, Egypt, France, India, Korea, Pakistan, Russia, Syria, and the United States focused on the economics of producing potable water by using various desalination technologies and energy sources at particular sites. The participants followed an agreed procedure throughout a coordinated research project (CRP), Economics of Nuclear Desalination— New Developments and Site-specific Studies, set up by the International Atomic Energy Agency. The findings of the studies, carried out over three years and ending in November 2006, are included in a technical document (IAEA-TECDOC) already at the printer.

“There is a dire shortage of fresh water for drinking in many countries already, and when you realize that 70 percent of the planet is covered with water but only 2.5 percent of that is fresh water, it is hardly surprising,” Ibrahim Khamis, who heads the IAEA’s desalination unit, told Nuclear News. He added that 70 percent of that fresh water is frozen in the polar icecaps and Greenland, and most of the rest is in soil moisture, inaccessible underground aquifers, or comes as heavy rain that is difficult to capture. “So only some 0.008 percent, about 70 000 km3, is readily available, and even that is very unevenly distributed.”

According to Khamis, recent statistics show 2.3 billion people living in water stressed areas, 1.7 billion of them in areas where the availability is on average less than 1000 m3 a year. Given human population growth and the increasing demands of industry and agriculture, the projections point to a continuously worsening situation, even if the effects of global warming are not taken into account. Khamis said he foresaw a time when nuclear power will be sought for desalination rather than for electricity generation, at least in some specific regions of the world such as the Middle East. “You can live without electricity for quite a long time; without water, only a matter of days.” The U.S. study, which was undertaken by Argonne National Laboratory (ANL), notes that “the need for fresh water, high-purity water, and other grades of water for various domestic, industrial, and agricultural applications is ever increasing in the United States.” Demand is driven mainly by population, as well as continuous economic and technological growth, and it is predicted that more than an additional 60 billion m3 of water a year will be needed for municipal and light industrial uses by the year 2020. An additional 11–19 liters per day per person will be needed to generate hydrogen, should transportation be based mainly on hydrogen-powered vehicles in the future. “Cogeneration of water and power could offer a major portion of the additional water needed, in addition to providing much needed energy for maintaining sustainable development and growth,” the ANL report says.

The IAEA report says that desalinating seawater is not the only solution under discussion for remedying the water scarcity, but it is an important one. There are essentially two methods: distillation using heat, and the use of membranes and electricity directly. The two main distillation modes, known as multistage flash (MSF) and multieffect distillation (MED), both involve heating seawater to produce steam, followed by evaporation, condensation, and, finally, pure water collection. The method using membranes, which is called reverse osmosis (RO), uses electricity to create a pressure differential across a semipermeable membrane, allowing fresh water to pass through to the low-pressure side, and leaving salty seawater on the high-pressure side.

Desalination plant capacity worldwide is close to 40 million m3 today, mostly by distillation using fossil energy, and mostly in the Middle East and North Africa. Nuclear desalination has so far been exclusively for use within the nuclear power plants themselves, except at the Soviet-built BN-350 fast reactor in Aktau, Kazakhstan, which supplied potable water to local communities until it was shut down in 1999.

Currently, only India supplies nuclear desalinated water outside the plant site. Having earlier used MSF to get plant-use water, it has also integrated RO to the desalination unit at its Kalpakkam pressurized heavy-water reactor (PHWR) in Chenai, and it has begun (experimentally) supplying some water outside the power station. Pakistan has begun a similar project at its Karachi nuclear power plant (KANUPP) to couple a 1600 m3/day MED unit to the nuclear plant, which earlier operated a 454 m3/day RO facility for plant use.

Fresh water is needed for many purposes. Saudi Arabia alone already irrigates crops with desalinated water. A number of countries, notably Egypt, the Persian Gulf States, Israel, Jordan, and Libya, depend on the technology to maintain tourism. Khamis said nuclear desalination has been held back by two key factors: economics, and the unavailability of reactors of appropriate size.

The CRP addressed the former, comparing cost performance between reactor plus desalination method combinations. The perception that nuclear is less cost-effective than other energy sources was repudiated by the studies.

The report says that the country case studies “have shown that in general, the nuclear desalination costs can vary from $0.5 to $0.94/m3 for RO, from $0.6 to $0.96/m3 for MED, and from $1.18 to $1.48/m3 for MSF plants. All nuclear options are economically attractive as compared with the gas turbine combined-cycle–based desalination systems, as long as gas prices remain higher than $150/toe [metric tons oil equivalent] or $21/bbl [barrel].”

### solvency

#### DoD acquisition of SMR’s ensures rapid military adoption, commercialization, and U.S. leadership

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 United States; 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, Massachusetts Institute of Technology 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 arrangements reduce costs and spur unique commercial spillover

Fitzpatrick, Freed and Eyoan, 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 t**o 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**.

#### SMR’s are super cost-effective and safe

Ioannis N. Kessides and Vladimir Kuznetsov 12, Ioannis is a researcher for the Development Research Group at the World Bank, Vladimir is a consultant for the World Bank, “Small Modular Reactors for Enhancing Energy Security in Developing Countries”, August 14, Sustainability 2012, 4(8), 1806-1832

SMRs offer a number of advantages that can potentially offset the overnight cost penalty that they suffer relative to large reactors. Indeed, several characteristics of their proposed designs can serve to overcome some of the key barriers that have inhibited the growth of nuclear power. These characteristics include [23,24]: \* • Reduced construction duration. The smaller size, lower power, and simpler design of SMRs allow for greater modularization, standardization, and factory fabrication of components and modules. Use of factory-fabricated modules simplifies the on-site construction activities and greatly reduces the amount of field work required to assemble the components into an operational plant. As a result, the construction duration of SMRs could be significantly shorter compared to large reactors leading to important economies in the cost of financing. \* • Investment scalability and flexibility. In contrast to conventional large-scale nuclear plants, due to their smaller size and shorter construction lead-times SMRs could be added one at a time in a cluster of modules or in dispersed and remote locations. Thus capacity expansion can be more flexible and adaptive to changing market conditions. The sizing, temporal and spatial flexibility of SMR deployment have important implications for the perceived investment risks (and hence the cost of capital) and financial costs of new nuclear build. Today’s gigawatt-plus reactors require substantial up-front investment—in excess of US$ 4 billion. Given the size of the up-front capital requirements (compared to the total capitalization of most utilities) and length of their construction time, new large-scale nuclear plants could be viewed as “bet the farm” endeavors for most utilities making these investments. SMR total capital investment costs, on the other hand, are an order of magnitude lower—in the hundreds of millions of dollars range as opposed to the billions of dollars range for larger reactors. These smaller investments can be more easily financed, especially in small countries with limited financial resources. SMR deployment with just-in-time incremental capacity additions would normally lead to a more favorable expenditure/cash flow profile relative to a single large reactor with the same aggregate capacity—even if we assume that the total time required to emplace the two alternative infrastructures is the same. This is because when several SMRs are built and deployed sequentially, the early reactors will begin operating and generating revenue while the remaining ones are being constructed. In the case of a large reactor comprising one large block of capacity addition, no revenues are generated until all of the investment expenditures are made. Thus the staggered build of SMRs could minimize the negative cash flow of deployment when compared to emplacing a single large reactor of equivalent power [25]. \* • Better power plant capacity and grid matching. In countries with small and weak grids, the addition of a large power plant (1000 MW(e) or more) can lead to grid stability problems—the general “rule of thumb” is that the unit size of a power plant should not exceed 10 percent of the overall electricity system capacity [11]. The incremental capacity expansion associated with SMR deployment, on the other hand, could help meet increasing power demand while avoiding grid instability problems. \* • Factory fabrication and mass production economies. SMR designs are engineered to be pre-fabricated and mass-produced in factories, rather than built on-site. Factory fabrication of components and modules for shipment and installation in the field with almost Lego-style assembly is generally cheaper than on-site fabrication. Relative to today’s gigawatt-plus reactors, SMRs benefit more from factory fabrication economies because they can have a greater proportion of factory made components. In fact, some SMRs could be manufactured and fully assembled at the factory, and then transported to the deployment site. Moreover, SMRs can benefit from the “economies of multiples” that accrue to mass production of components in a factory with supply-chain management. \* • Learning effects and co-siting economies. Building reactors in a series can lead to significant per-unit cost reductions. This is because the fabrication of many SMR modules on plant assembly lines facilitates the optimization of manufacturing and assembly processes. Lessons learned from the construction of each module can be passed along in the form of productivity gains or other cost savings (e.g., lower labor requirements, shorter and more efficiently organized assembly lines) in successive units (Figure 6). Moreover, additional learning effects can be realized from the construction of successive units on the same site. Thus multi-module clustering could lead to learning curve acceleration. Since more SMRs are deployed for the same amount of aggregate power as a large reactor, these learning effects can potentially play a much more important role for SMRs than for large reactors [26]. Also, sites incorporating multiple modules may require smaller operator and security staffing. \* • Design simplification. Many SMRs offer significant design simplifications relative to large-scale reactors utilizing the same technology. This is accomplished thorough the adoption of certain design features that are specific to smaller reactors. For example, fewer and simpler safety features are needed in SMRs with integral design of the primary circuit (i.e., with an in vessel location of steam generators and no large diameter piping) that effectively eliminates large break LOCA. Clearly one of the main factors negatively affecting the competitiveness of small reactors is economies of scale—SMRs can have substantially higher specific capital costs as compared to large-scale reactors. However, SMRs offer advantages that can potentially offset this size penalty. As it was noted above, SMRs may enjoy significant economic benefits due to shorter construction duration, accelerated learning effects and co-siting economies, temporal and sizing flexibility of deployment, and design simplification. When these factors are properly taken into account, then the fact that smaller reactors have higher specific capital costs due to economies of scale does not necessarily imply that the effective (per unit) capital costs (or the levelized unit electricity cost) for a combination of such reactors will be higher in comparison to a single large nuclear plant of equivalent capacity [22,25]. In a recent study, Mycoff et al. [22] provide a comparative assessment of the capital costs per unit of installed capacity of an SMR-based power station comprising of four 300 MW(e) units that are built sequentially and a single large reactor of 1200 MW(e). They employ a generic mode to quantify the impacts of: (1) economies of scale; (2) multiple units; (3) learning effects; (4) construction schedule; (5) unit timing; and (6) plant design (Figure 7). To estimate the impact of economies of scale, Mycoff et al. [22] assume a scaling factor n = 0.6 and that the two plants are comparable in design and characteristics—i.e., that the single large reactor is scaled down in its entirety to ¼ of its size. According to the standard scaling function, the hypothetical overnight cost (per unit of installed capacity) of the SMR-based power station will be 74 percent higher compared to a single large-scale reactor. Based on various studies in the literature, the authors posit that the combined impact of multiple units and learning effects is a 22 percent reduction in specific capital costs for the SMR-based station. To quantify the impact of construction schedule, the authors assume that the construction times of the large reactor and the SMR units are five and three years respectively. The shorter construction duration results in a 5 percent savings for the SMRs. Temporal flexibility (four sequentially deployed SMRs with the first going into operation at the same time as the large reactor and the rest every 9 months thereafter) and design simplification led to 5 and 15 percent reductions in specific capital costs respectively for the SMRs. When all these factors are combined, the SMR-based station suffers a specific capital cost disadvantage of only 4 percent as compared to the single large reactor of the same capacity. Thus, the economics of SMRs challenges the widely held belief that nuclear reactors are characterized by significant economies of scale [19].

#### DoD installations are key – market pull

Jeffrey **Marqusee 12**, Executive Director of the Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP) at the Department of Defense, “Military Installations and Energy Technology Innovation”, March, <http://bipartisanpolicy.org/sites/default/files/Energy%20Innovation%20at%20DoD.pdf>

The key reason that DoD cannot passively rely on the private sector to provide a suite of new, cost-effective energy technologies is the difficulty of the transition from research and development to full deployment. Many have noted this challenge; it is often described as the “Valley of Death,” a term widely used in the early and mid-1990s to describe the obstacles to commercialization and deployment of environmental technologies. DoD’s environmental technology demonstration program, the Environmental Security Technology Certification Program (ESTCP), was created to overcome that hurdle. Why can’t DoD rely on the Department of Energy (DOE) to solve the commercialization and deployment problem? DOE has a mixed record in this area. Reasons for past failures at DOE are: 1) the lack of a market within DOE for the technologies; 2) overly optimistic engineering estimates; 3) lack of attention to potential economic or market failures; 4) a disconnect between business practices at DOE and commercial practices, which leads to demonstration results that are not credible in the private sector; and 5) programs completely driven by a technology “push,” rather than a mix of technology push and market-driven pull.81 Many of these issues can be viewed as arising from the first: the lack of a market within DOE. Since DOE is neither the ultimate supplier nor buyer of these technologies at the deployment scale, it is not surprising that there are challenges in creating a system that can bring technologies across the Valley of Death. DoD’s market size allows it to play a critical role in overcoming this challenge for the energy technologies the department’s installations require, as it has for environmental technologies. In addressing the barriers energy technologies face, and understanding the role DoD installations can play, it is important to understand the type and character of technologies that DoD installations need. Energy technologies span a wide spectrum in costs, complexities, size, and market forces. Installation energy technologies are just a subset of the field, but one that is critical in meeting the nation’s and DoD’s energy challenges. DOE, in its recent strategic plans and quadrennial technology review, has laid out the following taxonomy (figure 3.5): It is useful to divide these energy technologies into two rough classes based on the nature of the market and the characteristics of deployment decisions. There are technologies whose capital costs at full scale are very high, for which a modest number of players will play a key role in implementation decisions. Examples include utility-scale energy generation, large-scale carbon sequestration, commercial production of alternative fuels, nextgeneration utility-grid-level technologies, and manufacturing of new transportation platforms. Some of these technologies produce products (e.g., fuel and power from the local utility) that DoD installations buy as commodities, but DoD does not expect to buy the underlying technology. A second but no less important class of energy technologies are those that will be widely distributed upon implementation, and the decisions to deploy them at scale will be made by thousands, if not millions, of decision makers. These include: 1) Technologies to support improved energy efficiency and conservation in buildings; 2) Local renewable or distributed energy generation; and 3) Local energy control and management technologies. Decisions on implementing these technologies will be made in a distributed sense and involve tens of thousands of individual decision makers if they are ever to reach large-scale deployment. These are the energy technologies that DoD installations will be buying, either directly through appropriated funds or in partnership with third-party financing through mechanisms such as Energy Saving Performance Contracts (ESPCs) or Power Purchase Agreements (PPAs). In the DOE taxonomy shown above, these distributed installation energy technologies cover the demand space on building and industrial efficiency, portions of the supply space for clean electricity when restricted to distributed generation scale, and a critical portion in the middle where microgrids and their relationship to energy storage and electric vehicles reside.

#### And expertise

Armond Cohen 12, Executive Director of the Clean Air Task Force, “DoD: A Model for Energy Innovation?”, May 29, <http://www.catf.us/blogs/ahead/2012/05/29/dod-a-model-for-energy-innovation/>

Unlike most other agencies, including the Energy Department, the Pentagon is the ultimate customer for the new technology it helps create, spending some $200 billion each year on R&D and procurement. The implications of DoD’s role as customer have not been widely appreciated, as: · DoD, uniquely in government, supports multi-year, billion-dollar “end to end” innovation efforts that produce technology that is continuously tested, deployed and refined on bases and in the field, providing real world feedback that leads to increases in performance and reductions in cost. By contrast, most of the federal government’s civilian energy innovation efforts involve research loosely connected at best with the few commercialization efforts that it supports. · DoD and its contractors know how to bring together multiple innovations to achieve system-level advances leading to big performance gains (examples range from nuclear submarines to unmanned aircraft to large-scale information systems). This systems approach is precisely what is needed to advance clean energy technologies. · Relatively stable, multi-year funding allows the Pentagon to pursue “long cycle” innovation that is necessary for large, capital- intensive technologies and supports a highly capable contractor base that can respond to changing national security demands. · The Pentagon’s scope and budget has allowed it to experiment with new and creative innovation tools such as the well-known Defense Advanced Projects Research Agency, which has produced extraordinary technological breakthroughs; and the Environmental Security Technology Certification Program, which develops and demonstrates cost-effective improvements in environmental and energy technologies for military installations and equipment. · Because of DoD’s size and demands for performance and reliability, it is unique among government and private sector organizations as a demonstration test-bed. Smart-grid technologies and advanced energy management systems for buildings are already poised to benefit from this aspect of the Pentagon’s innovation system. · DoD has collaborated effectively with other federal agencies, including the Department of Energy and its predecessors (for example, to advance nuclear energy technologies). Continuing competition and cooperation between DoD and DOE will spur energy innovation.  DoD’s innovation capabilities can enhance U.S. national security, improve U.S. international competitiveness, and spur global energy restructuring and greenhouse gas emissions reductions. At the same time, while providing enormous opportunities to develop and test energy efficiency technologies and small scale distributed energy appropriate to forward bases, the Pentagon is unlikely to become an all-purpose hub for advancing all categories of clean-energy technologies, because its energy innovation activities will be sustainable only where they can support the nation’s defense capabilities. Therefore, many other large-scale technologies that are of great importance to improving the environment, such as carbon-free central station generation or zero carbon transportation, may not as easily fit with DoD’s mission. Possible exceptions might include small modular nuclear reactors that can be used for producing independent, non-grid power at military bases, or, conceivably, zero-carbon liquid fuels other than anything resembling current generation biofuels.

### link uq

#### DoE just massively increased SMR incentives, but it fails

DoD Energy Blog, 2/16/11, Good Things in Small Packages:Small Reactors for Military Power Good Things in Small Packages:Small Reactors for Military Power, dodenergy.blogspot.com/2011/02/good-things-in-small-packagessmall.html

They conclude that DOD should lead the charge for small reactors to meet their own needs as well as to make sure that the US leads that industry’s development. When first written the paper mentioned that most of the technology was stymied somewhere between the drawing board and production. But there is good news in the President’s 2011 Budget for nukes. The New York Times reported that the budget contains $500 million over five years for DOE to complete two designs and secure National Regulatory Commission (NRC) approval. The reactors will be built entirely in a factory and trucked to the site, like “modular homes”. Sounds just like what Dr. Andres ordered. **Only problem is that $500 million is only about half of the cost to get to NRC approval. Actual production is in the $2 billion neighborhood**, and that is a pricey neighborhood. Enter Amory Lovins. Amory has often derided the cost for nuclear power as an unnecessary expenditure. His argument is that micropower is the way of the future, not big honking gigawatt nuclear power plants. Although there has been a resurgence in the interest in nuclear power, **it is still difficult to find private investments willing to underwrite the expense**. Maybe the development of small nukes for national security reasons will lead to cost effective small nukes for distributed micropower nationwide. Small reactors for FOBs are more problematic. Even Bagram only needs about 25 MW with other FOBS being smaller. Security will be the first concern. If someone tries a smash and grab at Fort Hood they have to go through a couple of armored divisions and have a long way to got to get away. Kabul to Peshawar is only 128 miles. Cost shouldn’t be an overriding factor in considering secure power, but even at a 75% cost reduction in production, half a billion for 25MW is a bit much. Of course if you could produce a 300MW system, Bagram could air condition Kabul! The real soft power. My buddy, T.C. the fighter pilot, would tell you that DOD's mission is to fight and win the Nation's wars, not spark business recovery. DOD needs to focus on conserving energy. “Reducing the consumption at Miramar by 50% might save a lot of fuel and money, but I'd rather reduce consumption by 50% at PB Jugroom even though the savings in gallons and dollars are tiny.” Reducing demand reduces risk. All that being said, it may well be worth DOE and DOD efforts to explore the potential. It is something that may be beyond the means of commercial entities, but not government (See China). If there is going to be a market here, let us not be left behind as we have been with other alternative energy production means.

#### And there are 3 demo projects in progress, but no incentives

ANA 12

(Alliance for Nuclear Accountability, “ Documents Reveal Time-line and Plans for “Small Modular Reactors” (SMRs) at the Savannah River Site (SRS) Unrealistic and Promise no Funding” June 8, 2012, <http://www.ananuclear.org/Issues/PlutoniumFuelMOX/tabid/75/articleType/ArticleView/articleId/558/Default.aspx>)

“While SRS may superficially appear to present certain attractive aspects for the location of SMRs, the site has not had experience with operation of nuclear reactors in over twenty years and has no current expertise in reactor operation,” said Clements. “While DOE is set to chose two SMR designs to fund for further development, SRS affirms that no construction funds will be provided, leaving vendors with the difficult and perhaps insurmountable task to find private funding for SMR construction.”

Two of the three separate “Memoranda of Agreement” for three different and still hypothetical SMR designs include deployment timelines which are already admitted by DOE to be inaccurate since they were signed less than six months ago.

# 2AC

## heg bad

#### Pursuit of hegemony’s locked-in

Zach Dorfman 12, assistant editor of Ethics and International Affairs, the journal of the Carnegie Council, and co-editor of the Montreal Review, “What We Talk About When We Talk About Isolationism”, May 18, <http://dissentmagazine.org/online.php?id=605>

The rise of China notwithstanding, the United States remains the world’s sole superpower. Its military (and, to a considerable extent, political) hegemony extends not just over North America or even the Western hemisphere, but also Europe, large swaths of Asia, and Africa. Its interests are global; nothing is outside its potential sphere of influence. There are an estimated 660 to 900 American military bases in roughly forty countries worldwide, although figures on the matter are notoriously difficult to ascertain, largely because of subterfuge on the part of the military. According to official data there are active-duty U.S. military personnel in 148 countries, or over 75 percent of the world’s states. The United States checks Russian power in Europe and Chinese power in South Korea and Japan and Iranian power in Iraq, Afghanistan, and Turkey. In order to maintain a frigid peace between Israel and Egypt, the American government hands the former $2.7 billion in military aid every year, and the latter $1.3 billion. It also gives Pakistan more than $400 million dollars in military aid annually (not including counterinsurgency operations, which would drive the total far higher), Jordan roughly $200 million, and Colombia over $55 million.

U.S. long-term military commitments are also manifold. It is one of the five permanent members of the UN Security Council, the only institution legally permitted to sanction the use of force to combat “threats to international peace and security.” In 1949 the United States helped found NATO, the first peacetime military alliance extending beyond North and South America in U.S. history, which now has twenty-eight member states. The United States also has a trilateral defense treaty with Australia and New Zealand, and bilateral mutual defense treaties with Japan, Taiwan, the Philippines, and South Korea. It is this sort of reach that led Madeleine Albright to call the United States the sole “indispensible power” on the world stage.

The idea that global military dominance and political hegemony is in the U.S. national interest—and the world’s interest—is generally taken for granted domestically. Opposition to it is limited to the libertarian Right and anti-imperialist Left, both groups on the margins of mainstream political discourse. Today, American supremacy is assumed rather than argued for: in an age of tremendous political division, it is a bipartisan first principle of foreign policy, a presupposition. In this area at least, one wishes for a little less agreement.

In Promise and Peril: America at the Dawn of a Global Age, Christopher McKnight Nichols provides an erudite account of a period before such a consensus existed, when ideas about America’s role on the world stage were fundamentally contested. As this year’s presidential election approaches, each side will portray the difference between the candidates’ positions on foreign policy as immense. Revisiting Promise and Peril shows us just how narrow the American worldview has become, and how our public discourse has become narrower still.

Nichols focuses on the years between 1890 and 1940, during America’s initial ascent as a global power. He gives special attention to the formative debates surrounding the Spanish-American War, U.S. entry into the First World War, and potential U.S. membership in the League of Nations—debates that were constitutive of larger battles over the nature of American society and its fragile political institutions and freedoms. During this period, foreign and domestic policy were often linked as part of a cohesive political vision for the country. Nichols illustrates this through intellectual profiles of some of the period’s most influential figures, including senators Henry Cabot Lodge and William Borah, socialist leader Eugene Debs, philosopher and psychologist William James, journalist Randolph Bourne, and the peace activist Emily Balch. Each of them interpreted isolationism and internationalism in distinct ways, sometimes deploying the concepts more for rhetorical purposes than as cornerstones of a particular worldview.

Today, isolationism is often portrayed as intellectually bankrupt, a redoubt for idealists, nationalists, xenophobes, and fools. Yet the term now used as a political epithet has deep roots in American political culture. Isolationist principles can be traced back to George Washington’s farewell address, during which he urged his countrymen to steer clear of “foreign entanglements” while actively seeking nonbinding commercial ties. (Whether economic commitments do in fact entail political commitments is another matter.) Thomas Jefferson echoed this sentiment when he urged for “commerce with all nations, [and] alliance with none.” Even the Monroe Doctrine, in which the United States declared itself the regional hegemon and demanded noninterference from European states in the Western hemisphere, was often viewed as a means of isolating the United States from Europe and its messy alliance system.

In Nichols’s telling, however, modern isolationism was born from the debates surrounding the Spanish-American War and the U.S. annexation of the Philippines. Here isolationism began to take on a much more explicitly anti-imperialist bent. Progressive isolationists such as William James found U.S. policy in the Philippines—which it had “liberated” from Spanish rule just to fight a bloody counterinsurgency against Philippine nationalists—anathema to American democratic traditions and ideas about national self-determination.

As Promise and Peril shows, however, “cosmopolitan isolationists” like James never called for “cultural, economic, or complete political separation from the rest of the world.” Rather, they wanted the United States to engage with other nations peacefully and without pretensions of domination. They saw the United States as a potential force for good in the world, but they also placed great value on neutrality and non-entanglement, and wanted America to focus on creating a more just domestic order. James’s anti-imperialism was directly related to his fear of the effects of “bigness.” He argued forcefully against all concentrations of power, especially those between business, political, and military interests. He knew that such vested interests would grow larger and more difficult to control if America became an overseas empire.

Others, such as “isolationist imperialist” Henry Cabot Lodge, the powerful senator from Massachusetts, argued that fighting the Spanish-American War and annexing the Philippines were isolationist actions to their core. First, banishing the Spanish from the Caribbean comported with the Monroe Doctrine; second, adding colonies such as the Philippines would lead to greater economic growth without exposing the United States to the vicissitudes of outside trade. Prior to the Spanish-American War, many feared that the American economy’s rapid growth would lead to a surplus of domestic goods and cause an economic disaster. New markets needed to be opened, and the best way to do so was to dominate a given market—that is, a country—politically. Lodge’s defense of this “large policy” was public and, by today’s standards, quite bald. Other proponents of this policy included Teddy Roosevelt (who also believed that war was good for the national character) and a significant portion of the business class. For Lodge and Roosevelt, “isolationism” meant what is commonly referred to today as “unilateralism”: the ability for the United States to do what it wants, when it wants.

Other “isolationists” espoused principles that we would today call internationalist. Randolph Bourne, a precocious journalist working for the New Republic, passionately opposed American entry into the First World War, much to the detriment of his writing career. He argued that hypernationalism would cause lasting damage to the American social fabric. He was especially repulsed by wartime campaigns to Americanize immigrants. Bourne instead envisioned a “transnational America”: a place that, because of its distinct cultural and political traditions and ethnic diversity, could become an example to the rest of the world. Its respect for plurality at home could influence other countries by example, but also by allowing it to mediate international disputes without becoming a party to them. Bourne wanted an America fully engaged with the world, but not embroiled in military conflicts or alliances.

This was also the case for William Borah, the progressive Republican senator from Idaho. Borah was an agrarian populist and something of a Jeffersonian: he believed axiomatically in local democracy and rejected many forms of federal encroachment. He was opposed to extensive immigration, but not “anti-immigrant.” Borah thought that America was strengthened by its complex ethnic makeup and that an imbalance tilted toward one group or another would have deleterious effects. But it is his famously isolationist foreign policy views for which Borah is best known. As Nichols writes:

He was consistent in an anti-imperialist stance against U.S. domination abroad; yet he was ambivalent in cases involving what he saw as involving obvious national interest….He also without fail argued that any open-ended military alliances were to be avoided at all costs, while arguing that to minimize war abroad as well as conflict at home should always be a top priority for American politicians.

Borah thus cautiously supported entry into the First World War on national interest grounds, but also led a group of senators known as “the irreconcilables” in their successful effort to prevent U.S. entry into the League of Nations. His paramount concern was the collective security agreement in the organization’s charter: he would not assent to a treaty that stipulated that the United States would be obligated to intervene in wars between distant powers where the country had no serious interest at stake.

Borah possessed an alternative vision for a more just and pacific international order. Less than a decade after he helped scuttle American accession to the League, he helped pass the Kellogg-Briand Pact (1928) in a nearly unanimous Senate vote. More than sixty states eventually became party to the pact, which outlawed war between its signatories and required them to settle their disputes through peaceful means. Today, realists sneer at the idealism of Kellogg-Briand, but the Senate was aware of the pact’s limitations and carved out clear exceptions for cases of national defense. Some supporters believed that, if nothing else, the law would help strengthen an emerging international norm against war. (Given what followed, this seems like a sad exercise in wish-fulfillment.) Unlike the League of Nations charter, the treaty faced almost no opposition from the isolationist bloc in the Senate, since it did not require the United States to enter into a collective security agreement or abrogate its sovereignty. This was a kind of internationalism Borah and his irreconcilables could proudly support.

The United States today looks very different from the country in which Borah, let alone William James, lived, both domestically (where political and civil freedoms have been extended to women, African Americans, and gays and lesbians) and internationally (with its leading role in many global institutions). But different strains of isolationism persist. Newt Gingrich has argued for a policy of total “energy independence” (in other words, domestic drilling) while fulminating against President Obama for “bowing” to the Saudi king. While recently driving through an agricultural region of rural Colorado, I saw a giant roadside billboard calling for American withdrawal from the UN.

Yet in the last decade, the Republican Party, with the partial exception of its Ron Paul/libertarian faction, has veered into such a belligerent unilateralism that its graybeards—one of whom, Senator Richard Lugar of Indiana, just lost a primary to a far-right challenger partly because of his reasonableness on foreign affairs—were barely able to ensure Senate ratification of a key nuclear arms reduction treaty with Russia. Many of these same people desire a unilateral war with Iran.

And it isn’t just Republicans. Drone attacks have intensified in Yemen, Pakistan, and elsewhere under the Obama administration. Massive troop deployments continue unabated. We spend over $600 billion dollars a year on our military budget; the next largest is China’s, at “only” around $100 billion. Administrations come and go, but the national security state appears here to stay.

#### No transition

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 suggests that adjusting to a plural world is not easy for the United States. 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 United States 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.

## econ

#### Grid collapse destroys the economy

Lieutenant Colonel Anton H. Nerad II 7, United States Marine Corps, Masters in Security Studies from the War College, “Distributed Generation to Counter Grid Vulnerability”, March 27, <http://www.hsdl.org/?view&did=10493>

The U.S. electric power system is a tempting target because electric energy is a large part of the U. S. economy and an important ingredient for our culture and way of life.7 Although our electric energy production, storage, and transportation facilities are dispersed across the United States, the interconnectedness, openness, and centralized locations make our system vulnerable to various forms of terrorist attack. During electrical power outages of any length of time, homes and businesses currently stand to lose not only idle time, but money as well. Today people and businesses have built their worlds around, and are in need of, reliable and uninterruptible sources of electrical energy. In 1978 explosives left by an unknown source left a hole in the Trans Alaskan pipeline which caused a spill of approximately 670,000 gallons of oil. In 2001 Al Qaeda operatives destroyed the World Trade Center and have designs for more attacks against the U. S. economy. As the World Trade Center was a central, large, local target, our nation’s electrical power generation network presents many of the same vulnerabilities. In 2001 a man with a high powered rifle shot a hole in the Trans Alaskan pipeline, causing a spill of over 285,600 gallons and $8 million dollars in lost royalty revenue and taxes and $20 million dollars in clean up costs.8 In 2003 a single downed power line caused 21 electric power plants to shut down leaving approximately 50 million people in the Northeastern United States without electricity for over 30 hours.9 In 2006 Hewlett-Packard estimated that a 15-minute electricity outage at only one of their chip manufacturing plants would cost the company $30 million in lost production and recovery services, all while costing the electrical power company little at all.10 These kinds of losses can devastate a region, not just the company. The 2003 U. S. blackout lucidly demonstrates the vulnerability to our electrical power grid and the rapidly ensuing negative effects of electrical power loss. It demonstrates that a tightly interconnected electric grid, as in our current system, can be not only its greatest strength but also its biggest weakness. When there is a problem with even a seemingly minor subsystem, in this case a broken power line, the interconnected grid itself becomes a very large vulnerability.11 “The Great Blackout of 2003 will go down in history as one more wake-up call for a nation grown weary of them, a vivid demonstration that the most critical technology of modern life – the electricity that powers virtually every aspect of it – is vulnerable to severe disruption, and growing more so by the day.”12 The loss of any major electrical power plant could leave large regions of the country without electricity.13 Even an imbalance of electrical power on the grid can cause the “fail safe” system to fail, resulting in the loss of electricity to tens of millions of people at once or, even more disrupting, an electrical power plant could burn out.

#### Extinction

Kemp 10

Geoffrey Kemp, Director of Regional Strategic Programs at The Nixon Center, served in the White House under Ronald Reagan, special assistant to the president for national security affairs and senior director for Near East and South Asian affairs on the National Security Council Staff, Former Director, Middle East Arms Control Project at the Carnegie Endowment for International Peace, 2010, The East Moves West: India, China, and Asia’s Growing Presence in the Middle East, p. 233-4

The second scenario, called Mayhem and Chaos, is the opposite of the first scenario; everything that can go wrong does go wrong. The world economic situation weakens rather than strengthens, and India, China, and Japan suffer a major reduction in their growth rates, further weakening the global economy. As a result, energy demand falls and the price of fossil fuels plummets, leading to a financial crisis for the energy-producing states, which are forced to cut back dramatically on expansion programs and social welfare. That in turn leads to political unrest: and nurtures different radical groups, including, but not limited to, Islamic extremists. The internal stability of some countries is challenged, and there are more “failed states.” Most serious is the collapse of the democratic government in Pakistan and its takeover by Muslim extremists, who then take possession of a large number of nuclear weapons. The danger of war between India and Pakistan increases significantly. Iran, always worried about an extremist Pakistan, expands and weaponizes its nuclear program. That further enhances nuclear proliferation in the Middle East, with Saudi Arabia, Turkey, and Egypt joining Israel and Iran as nuclear states. Under these circumstances, the potential for nuclear terrorism increases, and the possibility of a nuclear terrorist attack in either the Western world or in the oil-producing states may lead to a further devastating collapse of the world economic market, with a tsunami-like impact on stability. In this scenario, major disruptions can be expected, with dire consequences for two-thirds of the planet’s population.

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#### Financial incentives induce production using cash – that includes power purchasing

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.

#### Precision – our definition’s from the DoE

Waxman 98 **–** Solicitor General of the US (Seth, Brief for the United States in Opposition for the US Supreme Court case HARBERT/LUMMUS AGRIFUELS PROJECTS, ET AL., PETITIONERS v. UNITED STATES OF AMERICA, http://www.justice.gov/osg/briefs/1998/0responses/98-0697.resp.opp.pdf)

2 On November 15, 1986, Keefe was delegated “the authority, with respect to actions valued at $50 million or less, to approve, execute, enter into, modify, administer, closeout, terminate and take any other necessary and appropriate action (collectively, ‘Actions’) with respect to Financial Incentive awards.” Pet. App. 68, 111-112. Citing DOE Order No. 5700.5 (Jan. 12, 1981), the delegation defines “Financial Incentives” as the authorized financial incentive programs of DOE, “including direct loans, loan guarantees, purchase agreements, price supports, guaranteed market agreements and any others which may evolve.” The delegation proceeds to state, “[h]owever, a separate prior written approval of any such action must be given by or concurred in by Keefe to accompany the action.” The delegation also states that its exercise “shall be governed by the rules and regulations of [DOE] and policies and procedures prescribed by the Secretary or his delegate(s).” Pet. App. 111-113.

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#### nuclear technocracy’s key to solve

Nordhaus 11, chairman – Breakthrough Instiute, and Shellenberger, president – Breakthrough Insitute, MA cultural anthropology – University of California, Santa Cruz, 2/25/‘11

(Ted and Michael, <http://thebreakthrough.org/archive/the_long_death_of_environmenta>)

Tenth, we are going to have to get over our suspicion of technology, especially nuclear power. There is **no credible path** to reducing global carbon emissions without an enormous expansion of nuclear power. It is the only low carbon technology we have today with the demonstrated capability to generate large quantities of centrally generated electrtic power. It is the low carbon of technology of choice for much of the rest of the world. Even uber-green nations, like Germany and Sweden, have reversed plans to phase out nuclear power as they have begun to reconcile their energy needs with their climate commitments. Eleventh, we will need to embrace again the role of the state as a direct provider of public goods. The modern environmental movement, borne of the new left rejection of social authority of all sorts, has embraced the notion of state regulation and even creation of private markets while largely rejecting the generative role of the state. In the modern environmental imagination, government promotion of technology - whether nuclear power, the green revolution, synfuels, or ethanol - almost always ends badly. Never mind that virtually the entire history of American industrialization and technological innovation is the story of government investments in the development and commercialization of new technologies. Think of a transformative technology over the last century - computers, the Internet, pharmaceutical drugs, jet turbines, cellular telephones, nuclear power - and what you will find is government investing in those technologies at a scale that private firms simply cannot replicate. Twelveth, big is beautiful. The rising economies of the developing world will continue to develop whether we want them to or not. The solution to the ecological crises wrought by modernity, technology, and progress will be more modernity, technology, and progress. The solutions to the ecological challenges faced by a planet of 6 billion going on 9 billion will not be decentralized energy technologies like solar panels, small scale organic agriculture, and a drawing of unenforceable boundaries around what remains of our ecological inheritance, be it the rainforests of the Amazon or the chemical composition of the atmosphere. Rather, these solutions will be: large central station power technologies that can meet the energy needs of billions of people increasingly living in the dense mega-cities of the global south without emitting carbon dioxide, further intensification of industrial scale agriculture to meet the nutritional needs of a population that is not only growing but eating higher up the food chain, and a whole suite of new agricultural, desalinization and other technologies for gardening planet Earth that might allow us not only to pull back from forests and other threatened ecosystems but also to create new ones. The New Ecological Politics The great ecological challenges that our generation faces demands an ecological politics that is **generative, not restrictive.** An ecological politics capable of addressing global warming will require us to reexamine virtually every prominent strand of post-war green ideology. From Paul Erlich's warnings of a population bomb to The Club of Rome's "Limits to Growth," contemporary ecological politics have consistently embraced green Malthusianism despite the fact that the Malthusian premise has persistently failed for the better part of three centuries. Indeed, the green revolution was exponentially increasing agricultural yields at the very moment that Erlich was predicting mass starvation and the serial predictions of peak oil and various others resource collapses that have followed have continue to fail. This does not mean that Malthusian outcomes are impossible, but neither are they inevitable. **We do have a choice** in the matter, but it is not the choice that greens have long imagined. The choice that humanity faces is not whether to constrain our growth, development, and aspirations or die. It is whether we will continue to innovate and accelerate technological progress in order to thrive. Human technology and ingenuity have repeatedly confounded Malthusian predictions yet green ideology continues to cast a suspect eye towards the very technologies that have allowed us to avoid resource and ecological catastrophes. But such solutions will require environmentalists to abandon the "small is beautiful" ethic that has also characterized environmental thought since the 1960's. We, the most secure, affluent, and thoroughly modern human beings to have ever lived upon the planet, must abandon both the dark, zero-sum Malthusian visions and the idealized and nostalgic fantasies for a simpler, more bucolic past in which humans lived in harmony with Nature.

**The status quo is structurally improving**

Indur **Goklany 10**, policy analyst for the Department of the Interior – phd from MSU, “Population, Consumption, Carbon Emissions, and Human Well-Being in the Age of Industrialization (Part III — Have Higher US Population, Consumption, and Newer Technologies Reduced Well-Being?)”, April 24, <http://www.masterresource.org/2010/04/population-consumption-carbon-emissions-and-human-well-being-in-the-age-of-industrialization-part-iii-have-higher-us-population-consumption-and-newer-technologies-reduced-well-being/#more-9194>

In my previous post I showed that, notwithstanding the Neo-Malthusian worldview, human well-being has advanced globally since the start of industrialization more than two centuries ago, despite massive increases in population, consumption, affluence, and carbon dioxide emissions. In this post, I will focus on long-term trends in the U.S. for these and other indicators. Figure 1 shows that despite several-fold increases in the use of metals and synthetic organic chemicals, and emissions of CO2 stoked by increasing populations and affluence, life expectancy, the single best measure of human well-being, increased from 1900 to 2006 for the US. Figure 1 reiterates this point with respect to materials use. These figures indicate that since 1900, U.S. population has quadrupled, affluence has septupled, their product (GDP) has increased 30-fold, synthetic organic chemical use has increased 85-fold, metals use 14-fold, material use 25-fold, and CO2 emissions 8-fold. Yet life expectancy advanced from 47 to 78 years. Figure 2 shows that during the same period, 1900–2006, emissions of air pollution, represented by sulfur dioxide, waxed and waned. Food and water got safer, as indicated by the virtual elimination of deaths from gastrointestinal (GI) diseases between 1900 and 1970. Cropland, a measure of habitat converted to human uses — the single most important pressure on species, ecosystems, and biodiversity — was more or less unchanged from 1910 onward despite the increase in food demand. For the most part, life expectancy grew more or less steadily for the U.S., except for a brief plunge at the end of the First World War accentuated by the 1918-20 Spanish flu epidemic. As in the rest of the world, today’s U.S. population not only lives longer, it is also healthier. The disability rate for seniors declined 28 percent between 1982 and 2004/2005 and, despite quantum improvements in diagnostic tools, major diseases (e.g., cancer, and heart and respiratory diseases) now occur 8–11 years later than a century ago. Consistent with this, data for New York City indicate that — despite a population increase from 80,000 in 1800 to 3.4 million in 1900 and 8.0 million in 2000 and any associated increases in economic product, and chemical, fossil fuel and material use that, no doubt, occurred —crude mortality rates have declined more or less steadily since the 1860s (again except for the flu epidemic). Figures 3 and 4 show, once again, that whatever health-related problems accompanied economic development, technological change, material, chemical and fossil fuel consumption, and population growth, they were overwhelmed by the health-related benefits associated with industrialization and modern economic growth. This does not mean that fossil fuel, chemical and material consumption have zero impact, but it means that overall benefits have markedly outweighed costs. The reductions in rates of deaths and diseases since at least 1900 in the US, despite increased population, energy, and material and chemical use, belie the Neo-Malthusian worldview. The improvements in the human condition can be ascribed to broad dissemination (through education, public health systems, trade and commerce) of numerous new and improved technologies in agriculture, health and medicine supplemented through various ingenious advances in communications, information technology and other energy powered technologies (see here for additional details). The continual increase in life expectancy accompanied by the decline in disease during this period (as shown by Figure 2) indicates that the new technologies reduced risks by a greater amount than any risks that they may have created or exacerbated due to pollutants associated with greater consumption of materials, chemicals and energy, And this is one reason why the Neo-Malthusian vision comes up short. It dwells on the increases in risk that new technologies may create or aggravate but overlooks the larger — and usually more certain — risks that they would also eliminate or reduce. In other words, it focuses on the pixels, but misses the larger picture, despite pretensions to a holistic worldview.

#### Their impact is wrong – debate over even the most technical issues improves decision-making and advocacy

**Hager**, professor of political science – Bryn Mawr College, **‘92**

(Carol J., “Democratizing Technology: Citizen & State in West German Energy Politics, 1974-1990” *Polity*, Vol. 25, No. 1, p. 45-70)

What is the role of the citizen in the modern technological state? As political decisions increasingly involve complex technological choices, does a citizen's ability to participate in **decision making** diminish? These questions, long a part of theoretical discourse, gained new salience with the rise of **grassroots environmental protest in advanced industrial states.** In West Germany, where a strong environmental movement arose in the 1970s, protest has centered as much on questions of democracy as it has on public policy. Grassroots groups challenged not only the construction of large technological projects, especially power plants, but also the **legitimacy of the bureaucratic institutions** which produced those projects. Policy studies generally ignore the legitimation aspects of public policy making.2 A discussion of both dimensions, however, is crucial for understanding the significance of grassroots protest for West German political development in the technological age and for assessing the likely direction of citizen politics in united Germany. In the field of energy politics, West German citizen initiative groups tried to politicize and ultimately to democratize policy making.3 The **technicality** **of the issue** **was not a barrier** to their participation. On the contrary, **grassroots groups proved to be able participants in technical energy debate, often proposing innovative solutions to technological problems.** Ultimately, however, they wanted not to become an elite of "counterexperts," but **to create a political discourse between policy makers and citizens** through which the **goals of energy policy could be recast** and its legitimacy restored. Only a deliberative, expressly democratic form of policy making, they argued, could enjoy the support of the populace. To this end, protest groups developed new, grassroots democratic forms of decision making within their own organizations, which they then tried to transfer to the political system at large. The legacy of grassroots **energy protest in West Germany** is twofold. First, it **produced major substantive changes in public policy.** Informed citizen pressure was largely responsible for the introduction of new plant and pollution control technologies. Second, grassroots protest **undermined** the **legitimacy** of bureaucratic experts. Yet, an acceptable forum for a broadened political discussion of energy issues has not been found; the energy debate has taken place largely outside the established political institutions. Thus, the legitimation issue remains unresolved. It is likely to reemerge as Germany deals with the problems of the former German Democratic Republic. Nevertheless, an evolving ideology of citizen participationa vision of "technological democracy"-is an important outcome of grassroots action.

## nrc / market cp

#### SMR’s can compete, but up-front costs are too high – gov key

Rosner and Goldberg 11

Robert Rosner, Stephen Goldberg, Energy Policy Institute at Chicago, The Harris School of Public Policy Studies, November 2011, SMALL MODULAR REACTORS –KEY TO FUTURE NUCLEAR POWER GENERATION IN THE U.S., <https://epic.sites.uchicago.edu/sites/epic.uchicago.edu/files/uploads/EPICSMRWhitePaperFinalcopy.pdf>

U.S. SMR vendors have privately financed the initial stages of SMR design and licensing studies without direct federal assistance. As the level of design, licensing, and engineering activity increases**, it is not clear whether the SMR vendors will be able to continue to garner the private sector investment capital needed to bring initial commercial SMR plants into the market** in the 2020 timeframe. While the market potential for SMRs is significant (as discussed in Section 8.3), the size of the upfront capital investment relative to the financial capabilities of the nascent SMR industry is challenging. To put the financial challenge into perspective, the cost for commercialization of an SMR technology is about the same as the cost to bring a new pharmaceutical to market, but for a large drug company such as Pfizer or Merck, this represents less than 1% of market capitalization, while for an “illustrative SMR vendor” (see Table C.1), this represents 30% of its market capitalization – posing a significant financial barrier. Additional data are presented in Appendix C. SMR technology has certain attributes that are attractive to venture capital investment, including the potentially disruptive nature of the technology and the possibility of initial commercial deployment within 10 years. Significant economic returns on investment, however, depend upon the rate of market penetration, are probably two decades away, and are subject to significant uncertainties, such as the potential impact of licensing on cost and schedule. Third party financing, such as venture capital, may be inadequate to support SMR technology development through full commercialization. SMR customers, e.g., the electric power generation companies, while interested in SMR deployment, have limited incentive to invest in SMR technology development activities. Regulated utilities are restricted by State Commissions in their ability to recover R&D costs in customer rates, and merchant generators in competitive markets are subject to strong competitive market pressures to minimize costs. In sum, the higher costs associated with the LEAD and FOAK SMR plants may discourage potential “first movers.” The uncertainty over possible future carbon pricing also poses a challenge to private investment in SMR commercialization. A price per ton on carbon production would provide economic incentive for the deployment of all forms of carbon-free generation technology, but the prospect for enactment of a national policy of carbon reduction is highly uncertain.60 􀁸 Successful commercialization of SMRs will require not merely a successful prototype deployment, but also the development of an “order book” for an initial commercial deployment program. An “order book” of a substantial number of modules will be needed to support the private sector investment in module manufacturing facilities so that SMR vendors can manufacture sufficient modules to realize the benefits of learning.61 Thus, the traditional energy technology commercialization strategy of building a one-ofakind demonstration is necessary but not sufficient: it must be closely linked to a followon “order book” for additional SMRs in order to lead to a commercially viable NOAK SMR cost structure. 􀁸 Because of the significant role of learning in SMR commercialization, there are significant disincentives to be an “early mover.” “Late adopters” can garner the benefits of the learning experience of early movers. **Absent a government role, there is no market mechanism to align risks and benefits between the early movers and the late adopters.** 􀁸 Successful commercialization of SMRs will require a “level playing field” in terms of **federal financial incentives** relative to other clean energy generation technologies. Wind and solar energy currently qualify for a production tax credit (PTC), which can be converted into either an investment tax credit (ITC), or monetized in the form of a cash grant from the U.S. Treasury.62 Large commercial LWRs also can qualify for a PTC, which is capped at 6,000 MW of capacity. Early SMR deployments (LEAD or FOAK plants) potentially could meet the statutory 2021 commercial operations date (COD) to qualify for the existing PTC, but would not otherwise meet the current Department of Treasury administrative criteria, including the 2014 date for start of construction.63 􀁸 **Acceleration of SMR deployment activities to serve national energy policies will require government incentives.** **Absent government incentives, there is no assurance that current privately funded efforts will be carried to fruition, and even if so, on what schedule.** 􀁸 The events at the Fukushima nuclear plant in the aftermath of the March 2011 Japanese earthquake, while not yet fully assessed, may prove to be a mixed blessing for SMRs. On the one hand, the experience at Fukushima could underscore the benefits of SMR technology: smaller source terms, easier decay heat removal, passive cooling, and below-grade construction. On the other hand, heightened public concerns about nuclear safety in general could be a disincentive for private capital investment in SMR development.

#### Only picking winners can solve bases

This card’s also in ‘dod key – base adv’

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)

The preceding analysis suggests that DOD should seriously consider taking a leadership role on small reactors. This new technology has the potential to solve two of the most serious energy-related problems faced by the department today. Small reactors could island domestic military bases and nearby communities, thereby protecting them from grid outages. They could also drastically reduce the need for the highly vulnerable fuel convoys used to supply forward operating bases abroad. The technology being proposed for small reactors (much of which was originally developed in U.S. Government labs) is promising. A number of the planned designs are self-contained and highly mobile, and could meet the needs of either domestic or forward bases. Some promise to be virtually impervious to accidents, with design characteristics that might allow them to be used even in active operational environments. These reactors are potentially safer than conventional light water reactors. The argument that this technology could be useful at domestic bases is virtually unassailable. The argument for using this technology in operational units abroad is less conclusive; however, because of its potential to save lives, it warrants serious investigation. Unfortunately, the technology for these reactors is, for the most part, caught between the drawing board and production. Claims regarding the field utility and safety of various reactors are plausible, but authoritative evaluation will require substantial investment and technology demonstration. In the U.S. market, DOD could play an important role in this area. In the event that the U.S. small reactor industry succeeds without DOD support, the types of designs that emerge might not be useful for the department since some of the larger, more efficient designs that have greater appeal to private industry would not fit the department’s needs. Thus, there is significant incentive for DOD to intervene to provide a market, both to help the industry survive and to shape its direction. Since the 1970s, in the United States, only the military has overcome the considerable barriers to building nuclear reactors. This will probably be the case with small reactors as well. If DOD leads as a first mover in this market—initially by providing analysis of costs, staffing, reactor lines, and security, and, when possible, by moving forward with a pilot installation—the new technology will likely survive and be applicable to DOD needs. If DOD does not, it is possible the technology will be unavailable in the future for either U.S. military or commercial use.

#### Their theory is garbage

Lewis Milford 11, founder and President of Clean Energy Group, “Picking Winners or Losers”, August 26, <http://www.cleanegroup.org/blog/picking-winners-or-losers/>

Some arguments never die. Recently, some members of Congress criticized Energy Secretary Chu for “picking winners’ through his research and development programs like ARPA-E. This is an old canard that often comes from people who really think that the private sector alone, without government help, creates products and services. The evidence is so overwhelming to the contrary that the debate seems almost one sided by now. Everything from computer chips to cars is a result of long-term government research and development—as well illustrated in a recent Breakthrough Institute report. The argument against picking winners is especially wrong for emerging technologies that require deep and persistent public support. In the late 1990s, two Harvard professors in a book titled “Investing in Innovation: Creating Research and Innovation Policy that Works” demolished the myth that government should not be in the business of “picking winners.” And they came up with some surprising conclusions about the role of government in technology innovation. Branscomb and Keller describe how this bias against a government technology role can lead to two incorrect conclusions: …First, that markets do that most effectively; and second, that pork barrel politics is more likely to support the losers anyway. This neat two-step eliminates from the role of technology policy everything for which government is institutionally well-suited, from infrastructure building and investment incentives to support of skills training. It then notes that what is left is, of course, institutionally more appropriate for the market. The argument is legitimated simultaneously by our ancient faith in markets and our recent cynicism about politics. They admitted that the “picking winners and losers argument” might apply to some government efforts but not to the development of new technologies. Here’s why: \* Private markets often under-investment in new technologies; “empirical evidence suggests that as a result of spillovers of all kinds, the social returns to R&D spending on new technologies far exceed the private returns, perhaps by as much as 50 to 100 percent.” Private rates of return may not equal social rates of return—companies often cannot appropriate all the social benefits of an innovation and so fail to invest in what could be socially optimal technology. \* Because innovation is highly contingent—the actions of developers, governments and users are highly uncertain, making good information hard to come by, leading to great risks for investment—there is an inevitable misallocation of resources. “Some bets will pay off; some not at all. Winners and losers can only be positively identified in the revealing gaze of hindsight.” \* And finally, “…there is absolutely no evidence, beyond the economist’s leap of faith, that private investment is any more capable than public investment of separating the winners from the losers before the fact. The major difference is that private losers exit the market, while publicly backed losers are held to the higher standard of wasting taxpayers’ money.” Further, they confront another myth about government technology policy—that the federal government has in the past and in the future should only focus on R&D rather than commercial diffusion and use. Instead, they point out, in those areas where success has occurred, government has in fact played a much more expansive role than simply research and development. The most unlikely proof is in the defense area. Referring to the post-World War Two period in the U.S. regarding defense industry support as the most obvious time when many government policy tools were used, they note: Public spending supported the enormous development costs of relevant new technologies…In these cases, government underwrote the basic science research at universities and labs; direct R&D contracts accelerated the development of the technology; and defense procurement at premium prices constituted a highly effective initial launch market…A variety of mechanisms, ranging from patent pooling and hardware leasing (such as machine tool pools) to loan guarantees for building production facilities, helped to lower entry costs, diffused technology widely among competitors and set the stage for commercial market penetration. Aspects of this support model were adapted for government investment in other sectors, notably for public health, and produced similarly beneficial results… In the defense area, the U.S. government did not limit its role to only R&D, the typical critic’s myth, but “to the successful launch and diffusion of a technology development path—a trajectory—whose characteristics corresponded to the requirements of the commercial marketplace.” So to those who say, don’t pick winners, say it has always been so, and the country is better off for it. The alternative is to let losers win, and who wants that.

#### They’re wrong.

Xie 11

(Yanmei - Nucleonics Week, “Think tanks differ on government's role in SMR development” Inside Stories; Pg. 3 Vol. 52 No. 6)

At an industry-sponsored forum February 7 in Washington, Michael Shellenberger, president of the Breakthrough Institute, said the government has done "far too little" to help advance SMR technologies. According to its website, the Oakland, California-based group is "committed to modernizing liberal thought" on environmental causes. And Shellenberger said the institute believes nuclear energy is the only low-cost source of baseload power that emits no greenhouse gases If the US government is serious about expanding nuclear power, it needs to provide "a much more robust set of R&D investments both for the development and the demonstration and the deployment" of SMR designs, including those for thorium reactors and fast reactors, he said. The IAEA defines small modular reactors as those rated at up to 300 MW. Breakthrough Chairman Ted Nordhaus, who spoke at the same event, said the government needs to "accelerate the deployment and commercialization" of SMRs through a "procurement mechanism." A policy paper on energy innovation released by Breakthrough last fall urged that the departments of Energy and Defense "procure and demonstrate small modular reactors at DOE nuclear facilities and DOD military bases." The Washington-based Heritage Foundation, however, warned last week that government subsidies would stifle innovation in the fledgling SMR industry instead of nurturing it. The Heritage Foundation, which promotes conservative values including free enterprise and limited government, released a report February 2 in which it described "a young, robust, innovative and growing" industry with "companies of all sizes investing in these smaller, safer, and more cost-efficient nuclear reactors." But in order for this industry to thrive, "policymakers should reject the temptation to offer the same sort of subsidies and government programs" as it is doing for large reactors, it said. DOE is preparing to launch a program to pay for part of the costs of commercializing two SMR designs. The program is awaiting budget approval from Congress, but it has received bipartisan support at committee levels in both the House and the Senate and is popular among industry supporters. DOE officials have said only light water reactor designs, the type operating in the US, would be eligible to apply. Government subsidies like the DOE's cost-sharing program would be "detrimental to SMRs," the Heritage report said, because "the federal government picks winners and losers through programs where bureaucrats and well-connected lobbyists decide which technologies are permitted." Instead of offering subsidies, the report recommended that the government focus on reforming NRC's licensing process, which the report said is "ill-prepared ? for new reactor technologies." "The NRC is built to regulate large light water reactors. It simply does not have the regulatory capability and resources to efficiently regulate other technologies," the paper said. NRC spokesman Scott Burnell has said the NRC is focusing on reviewing LWR designs and the Next Generation Nuclear Plant, a high-temperature gas-cooled reactor project mandated by Congress. For any other applications, "we are budgeted for limited non-resource intensive activities," which would take "only a few hours of staff time on a non-routine, infrequent basis," Burnell said in a February 1 e-mail. The result of such limits at NRC "is that enthusiasm for building non-light-water SMRs is generally squashed at the NRC as potential customers realize that there is little chance that the NRC will permit the project within a time frame that would promote near-term investment," the Heritage report said. It suggested that Congress provide NRC funding "to develop additional broad expertise for liquid-metal cooled, fast reactors and high-temperature, gas-cooled reactors." The report also urged the SMR industry to resist government loan guarantees, an approach it said has not helped accelerate nuclear construction. A smaller, less expensive modular reactor "would be very attractive to private investors even without government intervention," it said. But the Breakthrough Institute's Nordhaus said the idea to have the industry reject government subsidies is "ridiculous." "The entire history of the commercial nuclear power Industry is a history of state support for the development of those technologies and the deployment of those technologies," he said.

## elections

#### Both candidates have same Iran policy

Aaron David **Miller 12**, scholar at the Woodrow Wilson International Center, “Barack O'Romney”, May 23, http://www.foreignpolicy.com/articles/2012/05/23/barack\_oromney

It's not only on these core assumptions that the candidates share a broad agreement. These principles translate into specific policies where it would be tough to tell the difference between a Romney and an Obama presidency: Iran: Sorry, I just don't see any significant difference between the way Obama is handling Iran's nuclear program and the way Romney might as president. And that's because there's seems to be an inexorable arc to the Iranian nuclear problem. If by 2013 sanctions and negotiations don't produce a sustainable deal and Iran continues its quest for a nuclear weapon, one of two things is going to happen: Israel is likely to strike, or we will. If it's the former, both Obama and Romney would be there to defend the Israelis and manage the mess that would follow. Both would be prepared to intercede on Israel's behalf if and when it came to that. As for a U.S. strike, it's becoming a bipartisan article of faith that the United States will not permit Iran to acquire a nuclear weapon. And both men are prepared to use military strikes against Iran's nuclear sites as a last resort, even if it only means a delay (and that's what it would mean) in Iran's quest for nukes.

#### Iran policies are identical – heres every possible scenario

Pfeffer 12

(Anshel – Haaretz, “There’s no difference between Romney and Obama on Iran” Jul.30, 2012, http://www.haaretz.com/blogs/the-axis/there-s-no-difference-between-romney-and-obama-on-iran.premium-1.454743)

On just about every level, it is hard to imagine two presidential candidates as different as Barack Obama and Mitt Romney. **But once you strip away the rhetoric and bombast of Romney**’s visit to Israel and his speeches and interviews, you end up with two almost identical positions**.** Taking both men at their word, they share the same basic view, which is that Iran must not be allowed to acquire nuclear weapons and if the only way to prevent this is a military strike, the United States must carry it out. Romney himself underlined the agreement on this issue between him and the president in an interview with Haaretz last week when he said that “President Obama has said that a nuclear Iran is unacceptable. I feel a nuclear Iran is unacceptable. The term ‘unacceptable’ continues to have a meaning: It suggests that all options will be employed to prevent that outcome.” The presumptive Republican presidential candidate also reiterated his position that a strike is undesirable while there may be other options. “I think I made it clear in my address in Herzliya [in January 2007] that a military option is by far the least attractive option, but it should not be ruled out. The military option should be evaluated and available if no other course is successful.” There may be some variations in tone between the two and Romney was careful in his interview with Haaretz to conform to the tradition of not criticizing the president while on foreign soil. But in a speech last week in Reno, the Republican attacked Obama for not being tough enough in the negotiations with Iran, while failing to present an alternative coherent vision or policy of how he himself would handle the issue. **However, when you examine the likely scenarios that could play out regarding Iran, there seems very little chance of either candidate, if elected, choosing different courses of action**. Here are the scenarios: • Iran gets close to crossing the nuclear threshold – If there is incontrovertible evidence that Iran is about to cross the red line and attain real atomic capability (that is, reaching the point where a military strike could not prevent this eventuality), the United States would have the choice of following the North Korean precedent and having Iran make a laughingstock of successive administrations that swore it would never happen, or launching an attack. The strategic implications of a nuclear Iran are too great to ignore, and both Obama and Romney would give the order to attack. • Iran attacks shipping in the Gulf – Any Iranian attack on shipping going through the vital Strait of Hormuz, no matter which national flag the attacked ship is flying, is a threat to the global economy and a direct challenge to the U.S. forces stationed in the area. It is impossible to imagine an American president allowing such an event to pass by without a response, and the moment Americans are firing on Iranians, it won’t just be a maritime battle. Once again, Obama and Romney would have to react in similar fashion here. • Iran attacks an American ally in the Gulf – If Iran attacks under any pretext one of the Gulf States that is a U.S. ally, it will be tantamount to an attack on the American forces that guarantee their security. The U.S. response will have to be devastating or else the last remaining superpower will lose all credibility in the region and allow a belligerent Iran to get away with whatever it likes. Another no-brainer for either man as president. • Iran does nothing – If Iran does not provoke the U.S. in any of the above ways but continues to refuse to budge on uranium enrichment in the diplomatic engagement, it will all boil down to how close Iran seems to be getting to a bomb. As long as they don’t make a sudden dash for the threshold and it seems like the sanctions are biting seriously into Iran’s economy, neither Obama nor Romney will rush for the military option. • Israel attacks Iran – If Israel decides to go it alone and launches an attack on Iran, the administration will be in a very difficult position, since Israel will have been seen to have acted alone. In this case, there may be a different tone in the statements coming out of the White House but whoever is sitting in the Oval Office will have no choice but to rush to Israel’s assistance and help it defend itself from the inevitable Iranian retaliation. Israel is too much of an asset to the U.S, and it is both politically and diplomatically beholden to it. At the very least, we will see, as we did in 1991, an airlift of missile-defense batteries to help protect Israel’s cities. • Israel plans to attack – This is the real riddle: What will an American president do if he learns that Israel is about to launch an attack on Iran? The accepted wisdom here is that in this case, the president would exert diplomatic pressure in attempt to dissuade Israel from acting unilaterally. But the really big question is how hard he would try. In Jerusalem this week, Romney adviser Dan Senor told reporters that “if Israel has to take action on its own in order to stop Iran from developing the capability, the governor would respect that decision.” But 24 hours later he was forced to backtrack and say that “[Romney] believes we should employ any and all measures to dissuade the Iranian regime from its nuclear course, and it is his fervent hope that diplomatic and economic measures will do so. In the final analysis, of course, no option should be excluded.” The bottom line remains the same; on Iran, the differences between Obama and Romney are mainly in nuance. In any case, presidents may come and go but the core elements of America’s diplomatic, national-security and intelligence establishments and most crucially, its own national interest, will remain essentially the same. Whoever wins in November, U.S. policy on Iran will not change.

#### Obama win is locked in—too many routes to victory

Robert Shrum, Daily Beast, 10/26/12, Robert Shrum: Why Obama Will Win, www.thedailybeast.com/articles/2012/10/26/robert-shrum-why-obama-will-win.html

Obama’s strategists knew the Romney spin was and is as ephemeral as the air it’s spoken on. For Romney may be the last refuge of a candidate who dares not be candid—who has to hide his beliefs and commitments in a fog of political presumption. But if you see past the smoke and mirrors, you will understand that Barack Obama continues to command the electoral landscape. After the debacle in Denver, I argued that the structure of the race hadn’t fundamentally changed—and wouldn’t unless the president faltered again in the second debate. He didn’t. He let Romney into the game; state and national polls did tighten—mostly because undecideds who lean Republican and voted for McCain moved to Romney. They would have anyway. Now the surge is receding—and contrary to the conventional verdict, the second and third debates not only stemmed Romney gains, but restored Obama’s advantage. Even the outlier of outliers, the flawed Gallup tracking poll, which recently accorded Romney a seven-point lead, shows him only three ahead in a seven-day average—which means the numbers will almost certainly shift further toward the president as the bad days drop out of the average. Gallup drives news, but it’s increasingly discounted by political analysts. The Greenberg survey for the Democracy Corps—a rare survey in which 33 percent of the respondents were reached on their cellphones—has Obama leading 49 to 46 percent. It’s not a big lead—and never will be. But the president has other big advantages that will prove decisive. And here is where the fundamentals haven’t changed. The outcome will be decided in the battleground states—and here Obama has many more paths to a 270 electoral-vote majority. For example, he could lose Ohio—and still get there if he took New Hampshire, Wisconsin, Iowa, and Colorado. But Ohio is anything but lost; after dispensing with the GOP-infected numbers of Rasmussen, and the figments of the fly-by-night pollsters, the president has a consistent margin of 4 to 5 percent—and is at or near 50 percent. Similarly, in the new PPP data, he is five points up in Virginia with 51 percent of the vote. In Nevada, Mark Melman, who almost alone called Senator Harry Reid’s 2010 triumph, shows Obama eight ahead. One of Republican Governor Brian Sandoval’s top advisers has bluntly predicted: “Obama will carry the state.” The adviser may not keep his job, but the president will take Nevada. So it goes across the swing states, even in Florida and except in North Carolina. But there, the Obama campaign has registered a legion of new voters—and everywhere it has the most in-depth, technologically sophisticated, and well-staffed turnout operation in history. That can and will make the difference where the contest is close. The president has twice as many field offices as Romney—800 of them across the battlegrounds. And Romney’s are afterthoughts—late to the game, run by the Republican National Committee, and without the rich, data-based voter targeting of the Obama effort. A GOP operative in Colorado says he adds two to four points to the president’s poll numbers in the state because Obama has a better organization. Finally, Romney can run, but he can’t hide—from the Bain ads that are on the air again in the Midwest, from the relentless Obama focus on the choice between a candidate who stands for the middle class and a candidate who favors the 1 percent. Now he faces the prospect of explaining his 1991 testimony in a post-divorce lawsuit against the founder of Staples—which has been unsealed by a court in Boston. This could be the next chapter in the story of a business career that was his calling card, but has become a political liability. Stuff just keeps happening to Mitt Romney. He has to flee the press to avoid answering questions about the only Senate candidate he’s made an ad for—Indiana’s Richard Mourdock, who suddenly dominated the national news with his repugnant divination that a pregnancy due to rape is “something God intended.” Romney can’t bring himself to pull the endorsement ad; he’s too afraid of his own right-wing shadow. He can’t escape the extremists in his party with whom he fellow-travelled as he pandered his way to the nomination. Thus the gender gap widens—and the moderate makeover unravels. Mitt is mired in the mid-20s with Hispanics, who heard him say “illegals” should “self-deport.” He’s far behind with younger voters—and the Obama organization will get them to the polls, with an assist from Romney’s position on social issues like reproductive rights and marriage equality. The restrictive voter-ID laws have mostly been struck down, at least for this year, and blacks and other minorities won’t be blocked from casting their ballots. Blue-collar workers in the Midwest can’t forgive Romney’s opposition to saving the auto industry—and they don’t trust the man from Bain. Even his lead among seniors is being eroded by his plan to replace Medicare with Vouchercare—and to raise the cost of their prescription drugs. That’s why enough of the battleground states, where the campaign is being fully engaged, will be Obama country on Election Night. The brief silly cycle of spin about the impending, even inevitable Romney presidency is ending.

#### Late developments can’t impact it

Ari Melber, Reuters, 10/26/12, Why Election Day no longer matters, blogs.reuters.com/great-debate/2012/10/26/why-election-day-no-longer-matters/

There is no Election Day in America anymore. By failing to understand this fact, much of today’s political chatter is based on an obsolete view of the presidential race. Until recently, of course, elections did occur on a single day. Nine out of 10 people cast their votes on the first Tuesday in November 2000. Now, one out of three Americans vote early, with even higher turnout in the decisive swing states. In 2008, a majority of citizens voted early in 10 states. Those trends continue today. This is a fairly sudden and radical shift in how we pick our president. Early voting shortens the race, locking in voter preferences long before big events, like the debates, are even finished. It also reduces the effects of late-breaking developments, from last-ditch October Surprises to unpredictable incidents, such as the video that Osama bin Laden released days before the 2004 election.

This dynamic inverts one iron law of campaigns – that nothing is more important than how a candidate closes. In many states, the candidates can now build a commanding lead long before the end of the race. In Ohio, early voting is cementing a lead that President Barack Obama built weeks ago, before the race began to tighten. If Republican nominee Mitt Romney loses, his biggest regret may be failing to push for summer debates. At the same time, however, the surge in early voting ensures that a very traditional political battle, the ground game, is more important than ever. In half the states, the period for mobilizing voters is now literally 10 times longer than the old days. Voting starts as early as September in some states. These features of early voting give a boost to campaigns that stake out an early lead and build a strong field program. Today, both those factors suggest an edge for Obama. Obama’s first presidential campaign organized the largest supporter list in U.S. history – more than 14 million people on email and text message lists, plus tens of millions more who opted in through social networks like Facebook. This year, the Obama campaign has doubled down on its ground game. The president opened 800 field offices nationwide, while Romney has just 300 and his campaign outsourced turnout to the Republican National Committee. (By setting up “hundreds” of field offices, Obama boosted his 2008 vote total by more than 3 points in some states, according to one study.)

#### Plan not perceived by voters—Hurricane Sandy

Bob King, Politico, 10/26/12, Election in Sandy's shadow, dyn.politico.com/printstory.cfm?uuid=938E15A3-DAB9-4528-8471-303B15DEC7CC

4) The distraction: As with Hurricane Irene last year, Sandy is threatening the media epicenters of New York and Washington, guaranteeing that the networks will be in All Storm All the Time mode just as Obama and Romney are trying to make their final pitches to voters. That leaves a lot less time for talking heads to parse the details of Obama’s jobs plans, the economic policy speech that Romney gave Friday in Iowa, Friday’s report on GDP growth or whether it was right for the president to call his opponent a “bull——er.” This could mostly hurt Obama, who still trails in many national tracking polls and has been trying to recapture the momentum he had in September. Or it could keep Romney from closing the deal in states where he’s still behind, like Ohio.

#### Uniqueness overwhelms for women and the key issue is the economy—not energy

Levy 8/30/12

Ariel Edwards, staff writer for huffington post, “Female Voters Prefer Obama To Romney, Are Focused On Economy, Poll Says,” <http://www.huffingtonpost.com/2012/08/30/female-voters-obama-romney-poll_n_1844312.html?1346360706>, AM

As women have found themselves in the center of much of 2012's political wrangling -- their bodies a topic for debate, and their hearts and minds a top campaign priority -- many are embracing their status as key voters, according to a poll released Thursday by Lifetime television. Female voters strongly favor President Barack Obama over GOP presidential nominee Mitt Romney, according to the survey, which was conducted by Republican pollster Kellyanne Conway of the polling company, inc./WomanTrend and Democratic pollster Celinda Lake of Lake Research Partners. "Both parties have women that they can appeal to," Lake said. "Women are the key swing vote and will probably decide the election, but I think women are more self-conscious about the role. I think the really interesting part is that women are poised to take things into their own hands." Obama received support from 52 percent of likely female voters, compared to 36 percent for Romney. That double-digit lead tracks with Obama's performance in 2008 exit polls, although it's a few points higher than Obama's lead among women in other recent polls. Half of the women polled said Obama deserved an "A" or "B" for his time in office, while 29 percent gave him a "D" or an "F." Michelle Obama also fared well, with 72 percent of women viewing her favorably. Ann Romney, who exclaimed "I love you women!" during her Wednesday convention speech, was far less well-known, with 30 percent viewing her favorably, and 45 percent saying they hadn't heard of her or had no opinion. The survey was conducted prior to the speech. As with the general electorate, women largely gave top priority to the economy and jobs. And although nine out of 10 women said it was important that a candidate understand women, even more prioritized an understanding of the middle class, with 94 percent calling it important.

## africa

#### Goes global

Glick 7

 Caroline Glick 7, deputy managing editor of The Jerusalem Post, Senior Fellow for Middle East Affairs of the Center for Security Policy, “Condi's African holiday”, December 11, http://www.rightsidenews.com/20071211309/editorial/us-opinion-and-editorial/our-world-condis-african-holiday.html

The Horn of Africa is a dangerous and strategically vital place. Small wars, which rage continuously, can easily escalate into big wars. Local conflicts have regional and global aspects. All of the conflicts in this tinderbox, which controls shipping lanes from the Indian Ocean into the Red Sea, can potentially give rise to regional, and indeed global conflagrations between competing regional actors and global powers.

#### It’s the most likely global war

Coddrington 7/1/10

<http://www.tomorrowtoday.co.za/2010/07/01/a-looming-crisis-world-water-wars/>

 Graeme Codrington is an expert on the new world of work and multi-generational workplaces. He is a keynote presenter, author, futurist, facilitator and strategy consultant working across multiple industries and sectors. His unique style blends cutting-edge research, thought leading insights with humour and multimedia-driven presentations and workshops. He has a particular interest in trends affecting how people live, work, interact and connect with each other. He speaks on the TIDES of change – the five disruptive forces shaping the new world of work in the next decade: Technology, Institutional change, Demographics, the Environment and shifting Social values. Speaking internationally to over 100,000 people in about 20 different countries every year, he has shared the platform with the likes of Edward de Bono, Jonas Ridderstrale, Allan Pease, Sir Ken Robinson and Neil Armstrong. He has won numerous awards for his speaking and facilitation, including “Speaker of the Year” by the Academy for Chief Executives. His client list includes some of the world’s top companies, and CEOs invite him back time after time to share his latest insights and help them and their teams gain a clear understanding of how to successfully prepare for the future. Graeme is the co-founder and a senior partner of TomorrowToday, a global firm of futurists and business strategists. He is also a guest lecturer at four top business schools, including the London Business School, Duke Corporate Education and the Gordon Institute of Business Science. He is a professional member of a number of associations, including the World Future Society, The Institute of Directors, the International Association for the Study of Youth Ministry, the SA Market Research Association, the Global Federation of Professional Speakers and MENSA. He has a Doctorate in Business Administration (note: his DBA was awarded by the now non-accredited Rushmore University – Graeme is in the process of completing further doctoral studies), a Masters in Sociology, an Honours in Youth Work and two undergraduate degrees – in Arts (Theology/Philosophy) and Commerce. He has three best-selling books published by Penguin, including the award winning, “Mind the Gap” and “Future-Proof Your Child”. He is currently involved in a number of writing projects. Graeme’s breadth of knowledge and expertise makes him highly relevant in today’s rapidly evolving business world. Along with his formal qualifications and research credentials, he has a wide range of business experience. He did Chartered Accountancy articles at KPMG, was involved in an IT startup, has been a professional musician, a strategy consultant and is now a full-time speaker, facilitator and author.

 People go to war when their way of life is threatened. I have written before about the many issues we face in the coming years that threaten our way of life. These include global warming/climate change, pollution, pandemics, nuclear bombs, intelligent machines, genetics, and more. More and more I am becoming convinced that the next major regional/global conflict will be over water. We are much more likely to have water wars in the next decade than nuclear ones. And I were to guess, I’d say that it is most likely to happen in around North East Africa. This is a region with its own internal issues. But it also has the foreign involvement of America, China, the Middle Eastern Arab nations, and (increasingly) Israel. Quite a potent mix… Last week, Addis Ababa, Ethiopia hosted the 18th regular meeting of the Council of Ministers of Water Affairs of the Nile Basin countries. In the lead up to the conference, Ethiopia, Rwanda, Uganda, Tanzania and Kenya, the five countries that are all upstream of Egypt and Sudan concluded a water-sharing treaty – to the exclusion of Egypt and Sudan. This has obviously reignited the longstanding dispute over water distribution of the world’s longest river in the world’s driest continent. Egypt is currently the largest consumer of Nile water and is the main beneficiary of a 1929 treaty which allows it to take 55.5 billion cubic metres of water each year, or 87% of the White and Blue Nile’s flow. By contrast, Sudan is only allowed to draw 18.5 billion cubic metres. On attaining independence Sudan refused to acknowledge the validity of the Nile water treaty and negotiated a new bilateral treaty with Egypt in 1959. Kenya, Tanzania and Uganda also expressly refused to be bound by the treaty when they attained independence, but have not negotiated a new treaty since then. Under the 1929 treaty, Egypt has powers over upstream projects: The Nile Waters Agreement of 1929 states that no country in the Nile basin should undertake any works on the Nile, or its tributaries, without Egypt’s express permission. This gives Egypt a veto over anything, including the building of dams on numerous rivers in Kenya, Burundi, Rwanda, Tanzania, Ethiopia, and by implication Egypt has control over agriculture, industry and infrastructure and basic services such as drinking water and electricity in these countries. This is surely untenable. But if the other countries broke the treaty, would Egypt respond with force? Since the late 1990s, Nile Basin states have been trying unsuccessfully to develop a revised framework agreement for water sharing, dubbed the Nile Basin Initiative (NBI). In May 2009, talks held in Kinshasa broke down because Egypt and Sudan’s historical water quotas were not mentioned in the text of the proposed agreement. Water ministers met again in July 2009 in Alexandria, where Egypt and Sudan reiterated their rejection of any agreement that did not clearly establish their historical share of water. This is an untenable position. Upstream states accuse Egypt and Sudan of attempting to maintain an unfair, colonial-era monopoly on the river. Egyptian officials and analysts, however, defend their position, pointing out that Egypt is much more dependent on the river for its water needs than its upstream neighbours. Egypt claims that Nile water accounts for more than 95% of Egypt’s total water consumption, although they appear to be working hard to reduce both their water usage (they’re stopping growing rice, for example) and their dependence on the Nile.

# 1AR

## water

#### SMRs get exported

Rosner and Goldberg 11

Robert Rosner, Stephen Goldberg, Energy Policy Institute at Chicago, The Harris School of Public Policy Studies, November 2011, SMALL MODULAR REACTORS –KEY TO FUTURE NUCLEAR POWER GENERATION IN THE U.S., <https://epic.sites.uchicago.edu/sites/epic.uchicago.edu/files/uploads/EPICSMRWhitePaperFinalcopy.pdf>

Previous studies have documented the potential for a significant export market for U.S. SMRs, mainly in lesser developed countries that do not have the demand or infrastructure to accommodate GW-scale LWRs. Clearly, the economics of SMR deployment depends not only on the cost of SMR modules, but also on the substantial upgrades in all facets of infrastructure requirements, particularly in the safety and security areas, that would have to be made, and as exemplified by the ongoing efforts in this direction by the United Arab Emirates (and, in particular, by Abu Dhabi). This is a substantial undertaking for these less developed countries. Thus, such applications may be an attractive market opportunity for FOAK SMR plants, even if the cost of such plants may not have yet achieved all of the learning benefits.

The Department of Commerce has launched the Civil Nuclear Trade Initiative, which seeks to identify the key trade policy challenges and the most significant commercial opportunities. The Initiative encompasses all aspects of the U.S. nuclear industry, and, as part of this effort, the Department identified 27 countries as “markets of interest” for new nuclear expansion. A recent Commerce Department report identified that “SMRs can be a solution for certain markets that have smaller and less robust electricity grids and limited investment capacity.” Studies performed by Argonne National Laboratory suggest that SMRs would appear to be a feasible power option for countries that have grid capacity of 2,000-3,000 MW. **Exports of SMR technology** also **could play an important role in furthering non-proliferation policy objectives.** The design of SMR nuclear fuel management systems, such as encapsulation of the fuel, may have non-proliferation benefits that merit further assessment. Also, the development of an SMR export industry would be step toward a U.S.-centric, bundled reliable fuel services.

#### Solves desal

IAEA 7, “Economics of Nuclear Desalination: New Developments and Site Specific Studies”, July, <http://www-pub.iaea.org/MTCD/publications/PDF/te_1561_web.pdf>

The contributions to the CRP, presented as annexes to this TECDOC, have clearly shown that in all three respects, the CRP has achieved its objectives:

• Results of calculation have shown that nuclear desalination systems are not only technically feasible but economically attractive options in varying site conditions and with a variety of nuclear reactor concepts.

• The cost of desalination by nuclear options, as compared to the most economical fossil fuelled based option, the gas turbine combined cycle plant (CC), could be in some cases 30 to 60% lower, depending upon the gas prices used. The overall conclusion is that nuclear options will be competitive as long as gas prices remain above 150 $/toe and discount rates are below 10%.

• Through numerous discussions during the CRP meetings and the studies carried out by the participating Member States, the software package DEEP (version 3) has been considerably improved.

• The results of the CRP demonstrate that the methodology used in the DEEP software may become an international and consistent approach for desalination cost evaluations of both fossil and nuclear energy based systems. However, more work is required to benchmark and validate DEEP results.

• Several approaches have been proposed and studied in participating countries to reduce the cost of nuclear desalination. The first of these is the use of waste heat from nuclear reactors for desalination. Thus for example, the waste heat rejected by the PWRs to the heat sink through their condensers can be profitably used to preheat the feed-water for RO systems (the ROph process) resulting in from 7 to 15% cost reductions as compared to traditional RO systems. Similarly, the waste heat from the pre-cooler and intercooler exchangers of the new generation HTRs, such as the GT-MHR and the PBMR, can lead to drastic cost reductions in MED systems coupled to such reactors. A third approach to cost reduction would be the use of hybrid thermal/RO systems leading to a considerably enhanced flexibility of the combined system to meet the varying water demands and in which the overall cost of the system is significantly lower. Yet another approach to increase the overall efficiency of the desalination systems would be to extract strategic and valuable materials from the concentrated brine rejected by the desalination plants. This would simultaneously render nuclear desalination systems relatively more environmentally friendly since no discharges would be made directly to the sea.

• Nuclear desalination costs are strongly influenced by such parameters as the interest and discount rates, the total plant availability, the power costs, the specific water plant base costs etc. In general, it can be stated that RO costs would be in the range of 0.5 to 0.9 $/m3. Desalination costs from thermal systems such as the MED would be slightly higher being in the range of 0.6 to 0.96 $/m3. It should be recalled that the product water salinity by thermal desalination plants is much lower (about 30 ppm) as compared to 300 to 500 ppm from RO plants. The real choice of one over the other would thus be a complex problem, depending upon the specific industrial, agricultural and potable water needs of the countries.

• The water transport costs are an essential part of the global picture. Judging from the results of two reported studies it can be stated that they would be in the range of 0.1 to 0.2 cents/m3/km. These costs should be added to the above production costs to obtain the real cost of desalted water.

The foremost challenge facing nuclear desalination is that the countries suffering from scarcity of water are, generally speaking, not the holders of nuclear technology and of the infrastructure for product water distribution. The utilization of nuclear energy in those countries will require infrastructure building and other institutional arrangements for financing, liability, safeguards, security. It will also require preparation for the fuel cycle including upstream and downstream. The concept of multi-national or international fuel cycle centres, as is proposed by the IAEA, could be used to assure a supply of nuclear material to legitimate would-be users with the control of sensitive parts of the nuclear fuel cycle.

## impact

Reject their impact card

Jewish Tribune, 8/25/’5

(<http://www.jewishtribune.ca/tribune/jt-050825-05.html>)

B’nai Brith Canada reacted with concern after reviewing materials posted on the GlobalResearch.ca web site run by Michel Chossudovsky, a professor of economics at the University of Ottawa, which are rife with anti-Jewish conspiracy theories and Holocaust denial.

“There is no doubt about it. The material on the site is full of wild conspiracy theories that go so far as to accuse Israel, America and Britain of being behind the recent terrorist bombings in London. They echo the age-old antisemitic expressions that abound in the Arab world, which blame the Jews for everything from 9/11 to the more recent Tsunami disaster,” said Frank Dimant, executive vice president of B’nai Brith Canada.

“We have written to officials at the University of Ottawa, which appears to have no formal affiliation to Global Research, to convey our deep concern. We have asked the university to conduct its own investigation of this propagandist site and to take appropriate action under its academic policies. We trust that the university will fulfill its responsibility – first and foremost to its student body – to take all necessary steps to ensure that such poisoned messaging does not find its way into the classroom.”

The story broke last weekend in the Ottawa Citizen in an article by Pauline Tam.

The Citizen said the web site also reprints articles from other writers that accuse Jews of controlling the US media and masterminding the terrorist attacks of Sept. 11, 2001. Other postings suggest Israel, the U.S. and Britain are the real perpetrators of the recent attacks on London.

The site, which is not hosted by the university, is run by Chossudovsky, and came to the attention of B'nai Brith Canada after receiving public complaints.

The organization singles out a discussion forum, moderated by Chossudovsky, that features a subject heading called Some Articles On The Truth of the Holocaust. The messages have titles such as Jewish Lies of Omission (about the ‘Holocaust’), Jewish Hate Responsible For Largest Mass Killing at Dachau, and Did Jews Frame the Arabs for 9/11?

Another posting suggests the number of Jews who died at Auschwitz during the Second World War is inflated.

#### No pressure for strikes

Slavin, 3/23/12

[Barbara, Senior Fellow at the Atlantic Council, Washington, D.C, “ Iran, Israel and U.S. moves from war rhetoric back to diplomacy,” <http://womennewsnetwork.net/2012/03/23/iran-israel-us-war-rhetoric/>]

 After months of sabre-rattling rhetoric by Iran, Israel and the United States, there seems to be a collective, and welcome, time out. Since President Barack Obama’s 4 March speech to the American Israel Public Affairs Committee (AIPAC), all sides have been stressing non-military means to try to resolve the crisis over Iran’s nuclear program. While asserting that he is determined to prevent Iran from developing nuclear weapons, Obama spent much of his AIPAC address decrying what he called “loose talk” of war. He spoke eloquently of the costs of military conflict for a nation that has fought two wars in the last decade. His message to visiting Israeli Prime Minister Benjamin Netanyahu was clear: I am not going to start another war and you are not going to drag me into one. Netanyahu, for his part, appeared to bow to several realities. A savvy politician, he is recalculating the odds that Obama will be re-elected for another four-year term. The Israeli leader also knows that most of Israel’s defense and intelligence establishment – as well as a majority of the Israeli people – oppose a unilateral strike on Iran that could spark massive retaliation without significantly setting back the Iranian nuclear program. Former Mossad chief Meir Dagan has called such a strike “stupid”. Obama argues that economic sanctions are having a major impact on the Iranian economy and should be given more time to work. Evidence bears this out. U.S. banking sanctions and the threat of a European oil embargo have reduced the value of Iran’s currency by half, increased inflation and unemployment and depressed oil production. The International Energy Agency reported last week that Iran is pumping only 3.3 million barrels a day – down from 3.8 million barrels last year – and Iran’s oil exports may drop by as much as 50 per cent this summer. While denying that sanctions are a factor, Iranian leaders have agreed to come back to negotiations with the so-called P5+1 – the five permanent members of the UN Security Council plus Germany. Talks – the first since January 2011 – are expected to take place after the Iranian New Year holiday. In advance, the Islamic Republic has been conducting a charm offensive. Supreme Leader Ayatollah Ali Khamenei on 8 March reaffirmed a 1995 fatwa that building nuclear weapons would be a “great sin”. He also praised Obama for criticising war talk. “Such remarks are good and indicate a step out of delusions”, Khamenei said. On 15 March, Mohammad Javad Larijani, a U.S.-educated physicist and adviser to Khamenei, told CNN’s Christiane Amanpour that Iran would provide “full transparency” for its nuclear program in return for acceptance of Iran’s right to peaceful nuclear energy under the Nuclear Non-Proliferation Treaty. Larijani also denied that Iran had any intention of attacking Israel, saying that Iran would defend itself against aggression but would not strike another country first. The Iranians have signaled their interest in dialogue with the United States in other ways. On 5 March, Iran’s Supreme Court ordered a retrial for an Iranian American former U.S. Marine who had been sentenced to death as a CIA spy. On 13 March, the U.S. deported back to Iran an Iranian arms dealer arrested in 2007 in a sting operation in the Republic of Georgia. Taken together, these steps improve the atmosphere for negotiations. However, it remains unclear whether the Obama administration and its partners will put forward proposals that could provide Iran a face-saving way to reduce tensions.

#### Empirics go neg

Kevin Drum, Staff Writer for the Washington Monthly, 9/9/’7

(<http://www.washingtonmonthly.com/archives/individual/2007_09/012029.php>)

Having admitted, however, that the odds of a military success in Iraq are almost impossibly long, Chaos Hawks nonetheless insist that the U.S. military needs to stay in Iraq for the foreseeable future. Why? Because if we leave the entire Middle East will become a bloodbath. Sunni and Shiite will engage in mutual genocide, oil fields will go up in flames, fundamentalist parties will take over, and al-Qaeda will have a safe haven bigger than the entire continent of Europe. Needless to say, this is nonsense. Israel has fought war after war in the Middle East. Result: no regional conflagration. Iran and Iraq fought one of the bloodiest wars of the second half the 20th century. Result: no regional conflagration. The Soviets fought in Afghanistan and then withdrew. No regional conflagration. The U.S. fought the Gulf War and then left. No regional conflagration. Algeria fought an internal civil war for a decade. No regional conflagration.

## at: russia

No war

Weitz 11 (Richard, senior fellow at the Hudson Institute and a World Politics Review senior editor 9/27/2011, “Global Insights: Putin not a Game-Changer for U.S.-Russia Ties,” <http://www.scribd.com/doc/66579517/Global-Insights-Putin-not-a-Game-Changer-for-U-S-Russia-Ties>)

Fifth, there will inevitably be areas of conflict between Russia and the United States regardless of who is in the Kremlin. Putin and his entourage can never be happy with having NATO be Europe's most powerful security institution, since Moscow is not a member and cannot become one. Similarly, the Russians will always object to NATO's missile defense efforts since they can neither match them nor join them in any meaningful way. In the case of Iran, Russian officials genuinely perceive less of a threat from Tehran than do most Americans, and Russia has more to lose from a cessation of economic ties with Iran -- as well as from an Iranian-Western reconciliation. On the other hand, these conflicts can be managed, since they will likely **remain limited and compartmentalized**. Russia and the West **do not have fundamentally conflicting vital interests of the kind countries would go to war over**. And as the Cold War demonstrated, nuclear weapons are a great pacifier under such conditions. Another novel development is that Russia is much more integrated into the international economy and global society than the Soviet Union was, and Putin's popularity depends heavily on his economic track record. Beyond that, there are objective criteria, such as the smaller size of the Russian population and economy as well as the difficulty of controlling modern means of social communication, that will constrain whoever is in charge of Russia.

#### Romney is posturing, Putin doesn’t care

Turkish Weekly 9/6/12

<http://www.turkishweekly.net/news/141414/romney%C3%ADs-tough-russia-rhetoric-an-election-ploy-analysts-say.html>

Romney’s Tough Russia Rhetoric An Election Ploy, Analysts Say But relations have also taken several high-profile hits recently, such as when Putin accused the United States of sponsoring the anti-Kremlin opposition rallies that erupted after last December’s parliamentary elections. The two countries have also locked horns on Syria, with U.S. officials accusing Russia of aiding and abetting Syrian strongman Bashar al-Assad. Kremenyuk notes it’s difficult to ascertain just how successful the U.S.-Russian “reset” truly was – and whether that trend could follow Romney to the White House. “Anyone can understand whatever he wants about the ‘reset’: an improvement? To some extent we improved [our relations],” he said. “But does that mean we have now finally identified a new agenda, what both nations want from each other? No.” For his part, Putin said Wednesday he is ready to work with the next U.S. president regardless of who wins in the November election, so long as that person is ready to work with Russia “Whoever the American public elects, we will work with them,” he told RT TV in an interview on Wednesday. “But we will work together only as effectively as our partners want to.” Lukyanov, of Russia in Global Affairs, said the Kremlin has largely taken Romney’s sharp comments with a grain of salt. “When Romney repeatedly said that Russia is the main geopolitical foe of the United States, it was actually perceived with irony, because no one – including the most hawkish Americans – believes that,” he said. “This is seen as a sign of his inexperience and very little interest [in Russia].”

#### Relations collapse inevitable—election irrelevant

Bovt 9/12/12

Georgy Bovt is a political analyst.

http://www.themoscowtimes.com/opinion/article/whether-obama-or-romney-the-reset-is-dead/467947.html

Whether Obama or Romney, the Reset Is Dead During every U.S. presidential election campaign, there is a debate in Russia over whether the Republican or Democratic candidate would be more beneficial for the Kremlin. Russian analysts and politicians always fail to understand that Americans have shown little interest in foreign policy since the end of the Cold War. Even when foreign policy is mentioned in the campaign, Russia is far down the list as a priority item. The volume of U.S-Russian trade remains small. The recent Exxon-Rosneft deal notwithstanding, U.S. interest in Russia's energy projects has fallen, particularly as the Kremlin has increased its role in this sector. To make matters worse, the United States is determined to establish clean energy and energy independence, while Russia's gas exports are feeling the pinch from stiff competition with the U.S. development of shale gas production. Of course, traditional areas of cooperation remain: the transit of shipments to and from Afghanistan through Russia, Iran's nuclear program and the struggle against international terrorism. But the transit route into Afghanistan cannot, by itself, greatly influence bilateral relations as a whole, and progress on the other two points seems to have reached a plateau beyond which little potential remains for bringing the two countries into closer cooperation. On the positive side, a new visa agreement came into force this week that will facilitate greater contact between both countries' citizens. But it will be years before that significantly influences overall U.S.-Russian relations. A new agreement regarding child adoptions has also been implemented after a few disturbing adoption stories prompted Russia's media, with the help of government propaganda, to spoil the U.S. image in Russia. Meanwhile, both U.S. President Barack Obama and Republican candidate Mitt Romney support the U.S. missile defense program in principle, although the exact form and scope of its deployment differ among the candidates. Even though President Vladimir Putin, during his interview with RT state television last week, expressed guarded optimism over the prospect of reaching an agreement on missile defense with Obama, Russia seems to underestimate the degree to which Americans are fixated on missile defense as a central component of their national security. It is highly unlikely that any U.S. administration — Democratic or Republican — will ever agree to major concessions on missile defense. It even seemed that Kremlin propagandists were happy when in March Romney called Russia the United States' No. 1 foe. They were given another present when Obama, addressing the Democratic National Convention last week, said Romney's comment only proved that he lacked foreign policy experience and was locked in Cold War thinking. For the next two months, however, the two candidates are unlikely to devote much attention to Russia. Russia's internal politics will also be one of the key factors shaping future U.S.-Russian relations. The two-year jail sentence slapped on three members of Pussy Riot for their anti-Putin prayer in Moscow's main cathedral has already become a subject of discussion between Foreign Minister Sergei Lavrov and U.S. Secretary of State Hillary Clinton. Even the most pragmatic "pro-reset" U.S. administration would criticize to one degree or another Russia's poor record on human rights. It appears that Russia is moving increasingly toward confrontation rather than rapprochement with the West. The Kremlin now seems fully committed to spreading the myth that the U.S. State Department is the cause behind most of Russia's domestic problems and is bent on undermining its national security by deploying missile defense installations in Europe and by supporting the opposition. There are other disturbing signals as well. Take, for example, the United Russia bill that would prohibit Russian officials from owning bank accounts and property overseas, with particular attention paid to their holdings in the West. The ideological underpinning of this bill is that assets located in the West are tantamount to betrayal of the motherland. Then there is Russia's opposition to the U.S. Magnitsky Act. The Kremlin interprets this initiative as yet another confirmation of its suspicions that Washington is conspiring against it and that the bill's real U.S. motive is to blackmail Russian officials by threatening to freeze their overseas bank accounts and property. An increase in these anti-Western attitudes does not bode well for U.S.-Russian relations, even if Obama is re-elected in November. Regardless of which candidate wins, the reset is bound to either slowly die a natural death under Obama or be extinguished outright under Romney. As a result, the most we can likely expect from U.S.-Russian relations in the next four years is cooperation on a limited range of mundane issues.

## No Change Extn

#### Ground game makes high Dem *turnout* inevitable—*polls* irrelevant—answers whole 1nr

Molly Ball, The Atlantic, 10/24/12, Obama's Edge: The Ground Game That Could Put Him Over the Top, www.theatlantic.com/politics/archive/2012/10/obamas-edge-the-ground-game-that-could-put-him-over-the-top/264031/

Forget the polls, the debates, the last-minute ads and volleys of insults. This is how the Obama campaign plans to win the election. Four years ago, Barack Obama built the largest grassroots organization in the history of American politics. After the election, he never stopped building, and the current operation, six years in the making, makes 2008 look like "amateur ball," in the words of Obama's national field director Jeremy Bird. Republicans insist they, too, have come a long way in the last four years. But despite the GOP's spin to the contrary, there's little reason to believe Mitt Romney commands anything comparable to Obama's ground operation. And this time, Obama may actually need it. Though he trounced John McCain organizationally four years ago, the irony was that Obama didn't really need his sophisticated field organization. Riding a wave of voter enthusiasm and Bush fatigue, and crushing McCain with fundraising and TV ad spending, Obama almost certainly would have won the 2008 election anyway. The political operative's rule of thumb is that organization can increase your share of the vote by two percentage points; Obama won the national popular vote by seven points. One academic study looked at Obama's edge in field offices and concluded they probably put a couple of extra states in his column, but he would have won without them. This year is different. The polls are so close that a lively partisan meta-fight has broken out over which side actually has the upper hand going into the final stretch, with Romney claiming momentum is on his side, while Obama clings to slim leads in enough swing states to take the Electoral College. In an election that's tied in the polls going down to the wire, Obama's ground game could be crucial. In the closing days of the race, "we have two jobs," Obama campaign manager Jim Messina said Tuesday. "One, to persuade the undecideds, and two, to turn our voters out." The former is the job of the president and his TV and other media ads. As for the latter, "That's the grassroots operation we've been building for the last 18 months." The Field-Office Gap While Obama's office in Sterling is one of more than 800 across the country -- concentrated, of course, in the swing states -- Romney commands less than half that number, about 300 locations. In the swing states, the gap is stark. Here's the numerical comparison in what are generally considered the top three swing states -- Ohio, Florida and Virginia: But the difference isn't just quantitative, it's qualitative. I visited Obama and Romney field offices in three swing states -- Ohio, Colorado and Virginia -- dropping in unannounced at random times to see what I could see. There were some consistent, and telling, differences. Obama's office suite in Sterling was in an office park next to a dentist's office. The front window was plastered with Obama-Biden signs, the door was propped open, and the stink bugs that plague Virginia in the fall crawled over stacks of literature -- fliers for Senate candidate Tim Kaine, Obama bumper stickers -- piled on a table near the front reception desk. In rooms in front and back, volunteers made calls on cell phones, while in the interior, field staffers hunched over computers. One wall was covered with a sheet of paper where people had scrawled responses to the prompt, "I Support the President Because...", while another wall held a precinct-by-precinct list of neighborhood team leaders' email addresses. Only about a mile down the road was the Republican office, a cavernous, unfinished space on the back side of a strip mall next to a Sleepy's mattress outlet. On one side of the room, under a Gadsden flag ("Don't tread on me") and a poster of Sarah Palin on a horse, two long tables of land-line telephones were arrayed. Most of the signs, literature, and buttons on display were for the local Republican congressman, Frank Wolf. A volunteer in a Wolf for Congress T-shirt was directing traffic, sort of -- no one really seemed to be in charge and there were no paid staff present, though there were several elderly volunteers wandering in and out. The man in the T-shirt allowed me to survey the room but not walk around, and was unable to refer me to anyone from the Romney campaign or coordinated party effort. These basic characteristics were repeated in all the offices I visited: The Obama offices were devoted almost entirely to the president's reelection; the Republican offices were devoted almost entirely to local candidates, with little presence for Romney. In Greenwood Village, Colorado, I walked in past a handwritten sign reading "WE ARE OUT OF ROMNEY YARD SIGNS," then had a nice chat with a staffer for Rep. Mike Coffman. In Canton, Ohio, the small GOP storefront was dominated by "Win With Jim!" signs for Rep. Jim Renacci. Obama's nearest offices in both places were all Obama. In Canton, a clutch of yard signs for Sen. Sherrod Brown leaned against a wall, but table after table was filled with Obama lit -- Veterans for Obama, Women for Obama, Latinos for Obama, and so on. The Obama campaign uses cell phones exclusively, while the Republicans use Internet-based land line phones programmed to make voter calls. Every Obama office has an "I Support the President Because..." wall, covered with earnest paeans to Obamacare and the like. In a technical sense, the Romney campaign actually does not have a ground game at all. It has handed over that responsibility to the Republican National Committee, which leads a coordinated effort intended to boost candidates from the top of the ticket on down. The RNC says this is an advantage: The presidential campaign and the local campaigns aren't duplicating efforts, and the RNC was able to start building its ground operation to take on Obama in March, before Romney had secured the GOP nomination. "The Romney campaign doesn't do the ground game," Rick Wiley, the RNC's political director, told me. "They have essentially ceded that responsibility to the RNC. They understand this is our role." The disadvantage of this is that the RNC is composed of its state Republican Parties, which vary dramatically in quality. States like Florida and Virginia have strong Republican operations, while those in Iowa and Nevada haven't recovered from attempted takeovers by Ron Paul partisans, and the Ohio GOP still bears the scars of a protracted leadership fight earlier in the year.

#### Locks up Ohio—that’s key

Ed Pilikington, The Guardian, 10/24/12, Obama concentrates on Ohio ground campaign as key to winning re-election, www.guardian.co.uk/world/2012/oct/24/obama-ohio-ground-campaign-reelection?newsfeed=true

Barack Obama's re-election team is making an all-out push to reach undecided voters in Ohio in the hope that the president's superior ground operation will give him the edge in the vital swing state despite tightening polls. Obama for America, the re-election operation masterminded in Chicago, is waging the most intensive ground operation in US electoral history in Ohio. It has blanketed the state with 125 field offices and is sending out an army of volunteers, backed by the latest digital technology, to hunt down the 3% of voters who have yet to make up their minds. The Obama campaign has built its ground game on the back of his first run on the presidency in 2008, providing an almost unbroken presence in Ohio in stark contrast to the relatively new operation that Mitt Romney has created from scratch over the past six months. Democratic organizers hope that such long-term commitment to the state will give them an advantage as the election enters the final stage devoted to getting out the vote. The latest opinion poll from Quinnipiac University and CBS News shows Obama hanging on to a five-point lead in Ohio by 50% to 45%. But that has come down following his poor performance in the first presidential debate from a commanding advantage of 10 points just a month ago, and any further slide would see the state enter a statistical tie. To prevent any additional drift, the campaign is piling resources into Ohio. Among the big names parachuted into the state in recent days were the double act of Bill Clinton and Bruce Springsteen. Another double act – that of Obama and Joe Biden – took the stage in Dayton on Tuesday. At a local level, the final stretch of the campaign is being buoyed up by celebrities of a slightly more modest hew. Volunteers in the college town of Bowling Green in north-west Ohio were treated to a visit by Crystal Bowersox, an American Idol finalist best known for her white dreadlocks and her penchant for appearing barefoot. She may not be in the same league as the Boss, but Bowersox was able to fire up the volunteers. "You guys know what's at stake, otherwise you wouldn't be here," she said to a gathering of about 30 volunteers, mainly women, about to go out canvassing. "Being a woman is not a pre-existing condition, and we reserve the right to choose. Taking away the right to contraception is a terrible threat to women trying to sustain themselves financially." Talking to the Guardian, Bowersox said she was informed by her own personal experience. Born in nearby Oak Harbor in Ohio, she was dependent on government subsidy for healthcare when she was struggling as a musician – and she gives thanks to welfare and Medicaid in the cover notes to her first album, Farmer's Daughter. "I'm a different tax bracket now, and I've seen both sides of the fence. But I'm still grateful for the help I got when I was dirt poor," she said. The Obama canvassing operation in Bowling Green, as in other key constituencies across the country, is powered by a sophisticated set of digital tools developed for this election cycle called Dashboard. This takes the Democratic party's database, Vote Builder, which contains personal data on millions of individuals, and connects it to volunteers knocking on doors. By so doing, it allows for an increasingly fine-tuned targeting of core voters. Committed conservatives and Romney supporters can be discounted as it is not worth spending time trying to persuade them. Instead, Dashboard directs canvassers to the doors of firm Democrats who can be encouraged to vote early, which is an advantage to the campaign because it means that more effort can be focused on election day on getting wavering voters to the polls. The Obama for America re-election campaign is claiming that it has built up a substantial lead in early voting so far. Jeremy Bird, the national field director, put out a memo this weekend in which he said: "President Obama is winning early vote among primary election voters in the key battleground of Ohio." The contention appears to be born out by a slew of polls that has Obama ahead among those who have already cast their vote. One by SurveyUSA, for instance, put Obama ahead by 19 points among early voters. Joe McNamara, Democratic president of Toledo city council just to the north of Bowling Green, says the concentration on early voting could win Obama the state. "Get people to the polls now and you can concentrate your forces on those who haven't decided yet." McNamara says the Obama ground game is more organised than any election he has ever seen. "They are all about the data – where to knock, what the responses were, who has voted early, who needs a ride to the polls. Having good data can be the difference between winning and losing."

#### Policy issues irrelevant to undecideds

Michelle Cottle, Daily Beast, 9/23/12, Undecided Voters Are a Menace, www.thedailybeast.com/articles/2012/09/23/undecided-voters-are-a-menace.html

Ask the political scientists, pollsters, and other professional analyzers of the electorate who parse these sorts of things. They will tell you—as they have told me repeatedly over the years—that undecideds or swing voters or whatever you want to call them tend to be low-information folks who cast their ballots based on whichever candidate gives them the last-minute warm-and-fuzzies. (Did you see that guy’s smile in the last debate? Sign me up!) Way back during the 2000 Bush-Gore smackdown, I dug around in the data, interviewed undecideds, and called up a passel of experts. My findings were perhaps best (and certainly most entertainingly) summed up by Michael Haselswerdt, then the head of Canisius College’s political science department, who told me: “When it comes to politics, undecided voters don’t know anything. And they’re not going to pay attention long enough to learn anything.” Twelve years on, the situation has not changed much. As The New York Times noted recently, “Swing voters often form their opinions about candidates based on emotional intangibles and a few events, like the debates.” As for these oh-so-thoughtful folks’ carefully weighing their options, the Times observed, “Of likely swing voters, white non-college voters are ‘particularly low-information voters who don’t pay attention to the daily political back-and-forth, so their opinions are driven by their economic situation,’” said Jefrey Pollock, the president of Global Strategy Group, a polling firm for Priorities USA Action, a pro-Obama super PAC. Or as NBC’s First Read put it last week after postconvention analyses of undecideds in the battleground states of Florida, Ohio, and Virginia: “These are voters who simply aren’t paying attention.” Ya think? Another enduring and annoying characteristic of undecideds: many of them aren’t really undecided at all. (The Times put the number of self-styled independents who reliably vote for one party or the other at around half.) Why would people pretend to be something they’re not? Oh, I don’t know, maybe because political types blather on and on about how “thoughtful” it makes them.

#### New information won’t impact swing voters

Chris Cillizza, WaPo, 10/9/12, Who are the “undecided” voters? And what the heck are they waiting for?, www.washingtonpost.com/blogs/the-fix/wp/2012/10/09/who-are-the-undecided-voters-and-what-are-the-heck-are-they-waiting-for/

Even if you agree with Ayres, however, it’s tough to know what message works to persuade broad swaths of them. Because so many of these undecideds are low information voters, crafting a message that works is next to impossible. They could just as well make up their mind based on the last person’s ad they saw on TV or what their girlfriend’s brother told them as any specific message being directed their way by the microtargeting arms of the two campaigns.

## Ground Game—AT: Plan Overwhelms

#### Demographics compensate for any loses from the plan

Nate Cohn, New Republic Election Expert, Part-Time Georgetown Coach -- his articles go through a TNR editing process and are available for all on his blog, he has been profiled on New York Magazine and MSNBC, 10/1/12, Obama’s College Voter Trump Card, [www.tnr.com/blog/electionate/107974/obamas-college-voter-trump-card](http://www.tnr.com/blog/electionate/107974/obamas-college-voter-trump-card)

Even if turnout among these voters is down 18 percent—and that’s beneath 2004, by the way—the total number of young, disproportionately non-white, and Obama-friendly voters actually increases from 23.5 to 25.7 million.

Even in this relatively low-turnout scenario, 6.5 million new 18-22 year olds will enter the electorate and they can go a long way toward helping Obama compensate for declining turnout among ’08 voters or an increase in conservative turnout. If they vote 63-37 for Obama, the president would net-1.7 million voters.

If non-white or young voters turned out at ’08-levels in 2012, demographics would actually ensure that Obama does even better than he did four years ago. These same demographic trends give Democrats a bit of breathing room to withstand modest declines in enthusiasm among young voters without actually falling far behind where they stood four years ago.

With this in mind, it’s no surprise that Obama opened his campaign at Ohio State University, or that Michelle Obama is holding rallies on college campuses across the battleground states. Today’s college students didn’t vote four years ago, and even an underwhelming turnout from America's most diverse age group could help the Obama campaign make up for losses among voters who have abandoned their cause since 2008.

## Hurricane Sandy—Helps Obama

#### Ensures Obama wins

Jason Koebler, US News and World Report, 10/25/12, Experts: Team Obama Should Root for Hurricane Sandy to Interrupt Election, www.usnews.com/news/articles/2012/10/25/experts-team-obama-should-root-for-hurricane-sandy-to-interrupt-election

"Obama has been effective at getting voters to vote early, so anything affecting turnout on Election Day is likely to be bad news for Romney," he says. Voting during a storm is also easier for urban voters—a group that overwhelmingly supports Obama—who often have a shorter distance to travel to polling sites than rural voters. "It would certainly set up a benefit to the president if a natural disaster did interrupt voting."

## Hurricane Sandy 1AR

#### Overwhelms the plan in key swing states

Bob King, Politico, 10/26/12, Election in Sandy's shadow, dyn.politico.com/printstory.cfm?uuid=938E15A3-DAB9-4528-8471-303B15DEC7CC

Could Hurricane Sandy be our October surprise? The possibility of a killer cyclone from the tropics delivering a gut punch to the U.S. East Coast just before Election Day, threatening tens of millions of voters with soggy devastation and a possible burst of snow, was probably not a factor in any candidate’s game plan. But it’s suddenly all too real. The pre-Halloween hurricane is already affecting the presidential race, prompting both Mitt Romney and Vice President Joe Biden to cancel scheduled appearances this weekend in Virginia Beach. It’s unknown whether it will do the same to a planned campaign stop Monday by President Barack Obama with former President Bill Clinton in Prince William County, Va. Beyond that, Sandy has scrawled a giant, blustery question mark on a crucial stretch of the political calendar. The National Hurricane Center’s latest forecast projects Sandy will be either at or near hurricane strength by the time it hooks into the mid-Atlantic coast late Monday or early Tuesday morning. It swept through the Bahamas early Friday after killing 40 people across the Caribbean. The center of the sprawling storm’s projected path targets Delaware and Maryland, but that projection comes with huge amounts of uncertainty. The territory that could feel the brunt of 57 mph or greater winds — equivalent to at least a strong tropical storm — stretches from North Carolina to Massachusetts, and includes chunks of battleground states North Carolina, Virginia and Pennsylvania. Some states, such as Virginia and Maryland, have already issued emergency declarations. “This is a very dangerous scenario,” the National Weather Service’s Philadelphia-area office warned in a briefing Friday morning. The agency said likely impacts include major flash and river flooding, along with storm tides of as much as 5 feet in the Chesapeake Bay and 10 feet in Delaware Bay, worsened by the effects of Sunday’s full moon. Forecasters advised that some areas will be exposed to strong winds from the slow-crawling storm for up to two days straight. Beyond that, Sandy could merge with an eastward-moving winter storm and cold air flowing from Canada to form what the media is calling a “Frankenstorm,” which could drop as much as 2 feet of snow on West Virginia, with lighter dustings in parts of Ohio and Pennsylvania Not even the experts are confident how this all will play out. “Sandy is a loose, unpredictable cannon,” said MIT climate researcher Kerry Emanuel, author of the 2005 book “Divine Wind: The History and Science of Hurricanes.” For one thing, he noted that late October hurricanes usually affect the Caribbean, not the U.S. East Coast. “The only thing we’re confident in is that it’s a large and dangerous storm and could have widespread effects,” National Hurricane Center specialist Eric Blake said Friday evening. And that makes Sandy one last wildcard in a razor-thin presidential race that has already taken plenty of strange loops. Here are some ways the storm could affect the outcome — with plenty of potential down side for either Obama or Romney. 1) Early voting: Voting is under way in some states in Sandy’s potential path — including North Carolina, where state election officials are preparing for the worst. “Those counties that are already prone to flooding are already making plans for if they need to relocate resources like voting equipment,” said Veronica Degraffenreid, a liaison at the North Carolina State Board of Elections. She said board Executive Director Gary Bartlett also has emergency powers to suspend early voting in some locations if he deems it necessary. “We would take steps to ensure the safety of voters and election officials,” she said. That wouldn’t be great news for Democrats, who have been pushing as many of their supporters as possible to vote early in states that allow it. That would be doubly true in Ohio, another early-voting state — and an all but indispensable state for both Obama’s and Romney’s electoral maps. Maryland Gov. Martin O’Malley’s administration is also monitoring the storm to determine whether changes will be needed to the state’s early voting schedule, The Associated Press reported. Early voting is scheduled to start Saturday in Florida, which isn’t in Sandy’s direct path but is getting a lashing as the storm roars past. 2) Is Election Day at risk? What happens if the damage is severe enough to disrupt Election Day itself — or at least dissuade a sizable number of voters from going to the polls? One historical parallel is the two-week postponement of the New York mayoral primary that was originally scheduled for Sept. 11, 2001. But that wasn’t a national election. The possibility of a delay has already come up in Virginia, where the AP says Gov. Bob McDonnell has pointed out he has the authority to postpone the election in extreme calamities — though that’s highly unlikely. Short of all-out mayhem, emergencies can create shortages of poll workers or ballots, knock out phone systems or electricity, or force the relocation of polling places, according to a 2007 guide from the U.S. Election Assistance Commission. The guide urges election officials to “review existing State law to determine if the Governor has the power to cancel an election or designate alternative methods for distribution of ballots.” Officials are less worried about any delays in Pennsylvania, which harbors memories of widespread flooding from Hurricane Agnes in 1972. “We are confident that the situation of the weather will be handled before the election day, before we have to take steps to consider such an option,” said Matthew Keeler, spokesman for the Pennsylvania Department of State. He added that county boards of election can petition a judge to extend polling hours on Nov. 6 if needed. (Pennsylvania doesn’t have early voting.) Consolation for Obama: Many of the states in Sandy’s path — such as Maryland, New Jersey and New York — are solidly in the blue column anyway. Officials in at least one of the vulnerable states have been through this kind of drill before: The elections office in St. Lucie County, Fla., was flooded by Tropical Storm Fay just a week before its August primaries in 2008, but the election went off without a hitch. 3) The Katrina factor: Any disaster offers a chance for a president to step up and come to the aid of the public, or stumble and be regarded as a goat. In this case, Obama will have little time to recover if he fails to respond properly to Sandy — or if Republicans successfully plant the meme that he failed. The classic example of what not to do, of course, is George W. Bush’s lagging response to 2005’s Hurricane Katrina, which forever shadowed the rest of his presidency and helped Democrats take back Congress a year later.

#### Prevents new campaign messages

Michael Barbaro, NYTimes, 10/26/12, Fears of Storm Disrupting Final Days of Campaign, www.nytimes.com/2012/10/27/us/politics/fears-of-hurricane-sandy-disrupting-final-days-of-campaign.html

But some of those plans were in doubt Friday as Hurricane Sandy gathered strength in the Atlantic and headed north. Forecasters said it could slam into the coast somewhere between Virginia and New York early next week, potentially disrupting the campaign in its final 10 days. Sandy is expected to be a strong — perhaps historic — tropical storm that could cause severe coastal flooding, intense wind damage and knock out power to millions of people for days. The candidates may find it harder to push last-minute messages if they are competing with the images of a large, threatening storm. That could have a particularly outsize impact in Virginia, a key battleground state, if the storm hits that far south.

#### Makes the disad’s predictions useless

Brendan Loy, Weather Nerd, 10/25/12, How Hurricane Sandy Could Seriously Disrupt the Election, pjmedia.com/weathernerd/2012/10/25/hurricane-sandy-could-seriously-disrupt-the-election/?singlepage=true

• Evacuations causing massive disruption and controversy. Imagine for a moment that Hurricane Katrina had hit a week before a presidential election, and that Louisiana and Mississippi had been swing states. I actually can’t really imagine it — the disruption would have been unbelievable, the controversy uncontainable, the outcome unpredictable. How on earth do you handle a situation where thousands upon thousands of voters are, through no fault of their own, displaced at the last minute — missing whatever absentee or mail-in ballot deadlines might have existed — and consequently unable to vote? You can’t locally delay the election without creating an unfair and legally questionable situation (more on that in a moment), but it’s also obviously unacceptable to have a whole swaths of voters disenfranchised. I don’t care if those voters are Republicans or Democrats: it’s undemocratic and un-American to have a storm wipe out, or substantially dilute, a whole region’s voice in a national election.