# 1AC NDT Rd 4

### 1AC – Plan

#### The Executive branch of the United States should acquire electricity from small modular nuclear reactors for military installations in the United States.

### 1AC – Heg Advantage

#### CONTENTION 1: HEG

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

**Reed 12** John, Reports on the frontiers of cyber war and the latest in military technology for Killer Apps at Foreign Policy, "U.S. energy companies victims of potentially destructive cyber intrusions", 10/11, killerapps.foreignpolicy.com/posts/2012/10/11/us\_energy\_companies\_victims\_of\_potentially\_destructive\_cyber\_attacks

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

**Grid attacks take out C and C---causes retaliation and nuclear war**

**Tilford 12** Robert, Graduate US Army Airborne School, Ft. Benning, Georgia, “Cyber attackers could shut down the electric grid for the entire east coast” 2012, <http://www.examiner.com/article/cyber-attackers-could-easily-shut-down-the-electric-grid-for-the-entire-east-coa>

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

#### Grid collapse inevitable---it’s fragile, vulnerable and next blackout will be more severe---wrecks mission effectiveness

Lovins 10 Amory B, Chairman and Chief Scientist of Rocky Mountain Institute, "DOD's Energy Challenge as Strategic Opportunity", Issue 57, 2nd Quarter 2010, www.ndu.edu/press/lib/images/jfq-57/lovins.pdf

The Resilience Capability¶ Resilience “combines efficient energy use with more diverse, dispersed, renewable supply—turning the loss of critical missions from energy supply failures (by accident or malice) from inevitable to near-impossible.”37¶ This capability is vital because the: [a]lmost complete dependence of military installations on a fragile and vulnerable commercial power grid and other critical national infrastructure places critical military and Homeland defense missions at an unacceptably high risk of extended disruption. . . . [Backup generators and their fuel supplies at military installations are generally sized] for only shortterm commercial outages and seldom properly prioritized to critical loads because those are often not wired separately from non-essential loads. DOD’s approach to providing power to installations is based on assumptions that commercial power is highly reliable, subject to infrequent and short term outages, and backups can meet demands. [These assumptions are] . . . no longer valid and DOD must take a more rigorous risk-based approach to assuring adequate power to its critical missions. 38¶ The 2008 DSB Task Force found that the confluence of many risks to electric supply— grid overloads, natural disasters, sabotage or terrorism via physical or cyberattacks on the electric grid, and many kinds of interruptions to generating plants—hazards electricity dependent hydrocarbon delivery, the national economy, social stability, and DOD’s mission continuity.¶ The U.S. electric grid was named by the National Academy of Engineering as the top engineering achievement of the 20th century. It is very capital-intensive, complex, technologically unforgiving, usually reliable, but inherently brittle. It is responsible for ~98–99 percent of U.S. power failures, and occasionally blacking out large areas within seconds—because the grid requires exact synchrony across subcontinental areas and relies on components taking years to build in just a few factories or one (often abroad), and can be interrupted by a lightning bolt, rifle bullet, malicious computer program, untrimmed branch, or errant squirrel. Grid vulnerabilities are serious, inherent, and not amenable to quick fixes; current Federal investments in the “smart grid” do not even require simple mitigations. Indeed, the policy reflex to add more and bigger power plants and power lines after each regional blackout may make the next blackout more likely and severe, much as suppressing forest fires can accumulate fuel loadings that turn the next unsuppressed fire into an uncontrollable conflagration.¶ Power-system vulnerabilities are even worse in-theater, where infrastructure and the capacity to repair it are often marginal: “attacks on the grid are one of the most common and effective tactics of insurgents in Iraq, and are increasingly seen in Afghanistan.” 39 Thus electric, not oil, vulnerabilities now hazard national and theater energy security. Simple exploitation of domestic electric vulnerabilities could take down DOD’s basic operating ability and the whole economy, while oil supply is only a gathering storm.

**Plan solves grid collapse---SMRs make bases resilient and deters attack**

**Andres and Breetz 11** Richard B, 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 L, doctoral candidate in the Department of Political Science at The Massachusetts Institute of Technology, February, "Small Nuclear Reactors for Military Installations: Capabilities, Costs, and Technological Implications", www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf

Small Reactors and Energy Security¶ 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.10 The department has made efforts to do so by promoting efficiency programs that lower power consumption on bases and by constructing renewable power generation facilities on selected bases. Unfortunately, these programs will not come close to reaching the goal of islanding 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 wrecks mission effectiveness and US hegemony**

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

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

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

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

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

**Hegemony prevents extinction**

**Barnett 11** (Thomas P.M., Former Senior Strategic Researcher and Professor in the Warfare Analysis & Research Department, Center for Naval Warfare Studies, U.S. Naval War College American military geostrategist and Chief Analyst at Wikistrat., worked as the Assistant for Strategic Futures in the Office of Force Transformation in the Department of Defense, “The New Rules: Leadership Fatigue Puts U.S., and Globalization, at Crossroads,” March 7 <http://www.worldpoliticsreview.com/articles/8099/the-new-rules-leadership-fatigue-puts-u-s-and-globalization-at-crossroads>)

Events in Libya are a further reminder for Americans that we **stand at a crossroads in our continuing evolution as the world's sole full-service superpower**. Unfortunately, we are increasingly seeking change without cost, and shirking from risk because we are tired of the responsibility. We don't know who we are anymore, and our president is a big part of that problem. Instead of leading us, he explains to us. Barack Obama would have us believe that he is practicing strategic patience. But many experts and ordinary citizens alike have concluded that he is actually beset by strategic incoherence -- in effect, a man overmatched by the job. It is worth first examining the larger picture: We live in a time of arguably **the greatest structural change in the global order yet endured**, with this historical moment's most amazing feature being its relative and absolute **lack of mass violence**. That is something to consider when Americans contemplate military intervention in Libya, because if we do take the step to prevent larger-scale killing by engaging in some killing of our own, we will not be adding to some fantastically imagined global death count stemming from the ongoing "megalomania" and "evil" of American "empire." We'll be engaging in the same sort of system-administering activity that has marked our stunningly successful stewardship of global order since World War II. Let me be more blunt: As the **guardian of globalization**, the U.S. military has been the **greatest force for peace the world has ever known**. Had America been removed from the global dynamics that governed the 20th century, the **mass murder never would have ended**. Indeed, it's entirely conceivable **there would now be no identifiable human civilization left, once nuclear weapons entered the killing equation.**  But the world did not keep sliding down that **path of perpetual war**. Instead, America stepped up and changed everything by **ushering in our now-perpetual great-power peace**. We introduced the **international liberal trade order known as globalization** and played loyal Leviathan over its spread. What resulted was the collapse of empires, **an explosion of democracy**, the **persistent spread of human rights**, the liberation of women, **the doubling of life expectancy**, a roughly **10-fold increase in adjusted global GDP** and a **profound and persistent reduction in** battle deaths from **state-based conflicts.** That is what American "hubris" actually delivered. Please remember that the next time some TV pundit sells you the image of "unbridled" American military power as the cause of global disorder instead of its cure. With self-deprecation bordering on self-loathing, we now imagine a post-American world that is anything but. Just watch who scatters and who steps up as the Facebook revolutions erupt across the Arab world. While we might imagine ourselves the status quo power, we remain the world's most vigorously revisionist force. As for the sheer "evil" that is our military-industrial complex, again, let's examine what the world looked like before that establishment reared its ugly head. The last great period of global structural change was the first half of the 20th century, a period that saw a death toll of about 100 million across two world wars. That comes to an average of 2 million deaths a year in a world of approximately 2 billion souls. Today, with far more comprehensive worldwide reporting, researchers report an average of less than 100,000 battle deaths annually in a world fast approaching 7 billion people. Though admittedly crude, these calculations suggest a 90 percent absolute drop and a 99 percent relative drop in deaths due to war. We are clearly headed for a world order characterized by multipolarity, something the American-birthed system was designed to both encourage and accommodate. But given how things turned out the last time we collectively faced such a fluid structure, we would do well to keep U.S. power, in all of its forms, deeply embedded in the geometry to come. To continue the historical survey, after salvaging Western Europe from its half-century of civil war, the U.S. emerged as the progenitor of a new, far more just form of globalization -- one based on actual free trade rather than colonialism. America then successfully replicated globalization further in East Asia over the second half of the 20th century, setting the stage for the Pacific Century now unfolding.

### 1AC – Radar Advantage

#### CONTENTION 2: RADAR

#### Space radar is infeasible due to power limitations --- nuclear’s key

McCall 6 Chair, USAF Scientific Advisory Board, “Spacecraft Bus Technoligies,” http://www.au.af.mil/au/awc/awcgate/vistas/stechch3.pdf

All current spacecraft are either power limited or restricted in some measure by inadequate electrical power. Power limitations impose restrictions on the communications and propulsion subsystems and currently make large space-based radars and space-based weapons **relatively** unfeasible. A revolutionary change in capabilities will result from power technologies capable of providing large amounts of power onboard satellites. Large amounts of power will be enabling on spacecraft in the same sense that large amounts of random access memory have been enabling in personal computers. If power is not an issue, then previously hard applications become easy and new applications become possible. Evolutionary development of solar-array-based power technologies will see improvements to tens of kilowatts on satellites over the next decades. However, all solar collection systems in Earth orbit are limited by the solar constant of 1.4 kiloWatts per square meter. Large powers from solar collectors require large collection areas. For substantially larger powers (> 100 kW), several different types of technologies will have to be explored. Powers of this level will make large space-based radars, space-based directed energy weapons, and the use of high-performance electrically driven maneuvering technologies possible. **A natural technology to enable high power is nuclear power in space**; however, this technology has to date been considered unacceptable due to political and environmental limitations. Thus it is desirable to develop other technologies that may provide large power levels in space. In addition to continued development of safe **nuclear** systems, two other sources of continuous power in space that should be explored are the concepts of electrodynamic power-generating tethers and power beaming from one location to another (e.g., from space to space). The development of these and other technologies for high continuous power **will have a revolutionary effect** and the Air Force should invest in these areas as well as continuing to invest in solar collection technologies. Over the years, there have been several programs in nuclear powered spacecraft. NASA has been using Radioisotope Thermoelectric Generators (RTGs) for the interplanetary missions that generate a few tens of watts of power. Russia has flown nuclear reactors in space and BMDO has a joint program with the Russians (TOPAZ), under which the Defense department bought three of the reactors to do laboratory experiments. DoE had a program (SP 100) to use nuclear power in space and the Air Force had a nuclear propulsion program; these programs have been canceled. Nuclear power, however, remains one of the attractive alternatives in generating large amounts of power in space. To build a reactor for space applications has many challenging technical aspects including development of high-temperature lightweight materials, active cooling technologies, extremely radiation-hard and high-temperature electronics, and fail-safe system architectures. Setting the emotional issues of nuclear power aside, this technology offers a viable alternative for large amount of power in space. The Air Force should continue efforts towards making a safe nuclear reactor in space a viable option. Existing joint programs with Russia offer a low cost alternative and should be pursued. To build a reactor for space applications has many challenging technical aspects including development of high-temperature lightweight materials, active cooling technologies, extremely radiation-hard and high-temperature electronics, and fail-safe system architectures. Setting the emotional issues of nuclear power aside, this technology offers a viable alternative for large amount of power in space. The Air Force should continue efforts towards making a safe nuclear reactor in space a viable option. Existing joint programs with Russia offer a low cost alternative and should be pursued.

#### SMR development solves---allows the Air Force to deploy space radar

Maybury 12 Dr. Mark T, Chief Scientist, United States Air Force, 1/31/12, “Energy Horizons: United States Air Force Energy S&T Vision 2011-2026,” <http://www.fas.org/irp/doddir/usaf/energy.pdf>

There are other breakthrough space energy generation component technologies with the potential of achieving up to 70% efficiency. Examples include quantum dots and dilute nitrides in solar cells. But there are also entirely new technologies such as tethers to attempt to harvest energy from the geomagnetic field, and energy harvesting from system heat waste. These ideas, as well as new developments in nuclear energy, including small modular reactors, can potentially fuel local facilities. ¶ Recently, there has been progress in developing large systems for energy generation, including very large deployable panels as developed by the Air Force Research Lab (AFRL), DARPA, and industry. For example, we are currently limited to 27 kW arrays for satellite power, whereas more power is required for some future space missions by the AF, National Security Space (NSS), and NASA. Employing larger and more efficient arrays will enable missions that require very high power, such as space-based radar or space-based laser missions. An example of a system that is almost ready for a flight demonstration is the AFRL-Boeing 30 kW Integrated Blanket Interconnect System (IBIS). Figure 3.2 shows the technology and implementation concept for such a High Power Solar Array (HPSA). In the long term, increased solar cell efficiencies and revolutionary materials foreshadow the potential of 500 kW on-orbit power generation technologies, which would be transformational for performing missions from spacebased systems. ¶ In addition to improving photovoltaic efficiencies, other potential energy production is possible in the mid- to far-term. In addition to modern designs for autosafing, small modular nuclear reactors for ground operations energy, nuclear energy has been demonstrated on several satellite systems (e.g., Radioisotope Thermoelectric Generators (RTG)). This source provides consistent power regardless of harvestable resources (i.e. solar) at a much higher energy and power density than current technologies. While the implementation of such a technology should be weighed heavily against potential catastrophic outcomes, many investments into small modular reactors can be leveraged for space based systems. As these nuclear power plants decrease in size, their utility on board space based assets increases.

#### It will be deployed---Air Force wants to, they just need the tech

Puiu 12 Tibi Puiu – Studies Mechanical Engineering, Feb 23, 2012 “Air Force plans buildings a solar power station in space and nuclear-powered spacecraft”

http://billionyearplan.blogspot.com/2012/08/air-force-plans-buildings-solar-power.html

Last week, the U.S. Air Force released a report in which it outlines its technological and energy plans for the forthcoming 15 years. Among others, the Air Force means to deploy a space-based solar power station, which would serve energy wirelessly to both Earth and space satellites, as well as a new generation of spacecraft powered by small nuclear reactors.¶ This solar power satellite design features sets of lightweight, inflatable fresnel reflectors to focus the Sun's energy on small arrays of high-efficiency photovoltaic cells. (c) NASA¶ The 72-page long report, titled “Energy Horizons: United States Air Force Energy S&T Vision 2011-2026″, can be read in its entirety for thus curious enough here. It discusses measures the institution plans to meet in order to reach its energy goals, reduce demand and change military culture in sight of rapidly developing missions.¶ “Energy is a center of gravity in war and an assured energy advantage can enable victory,” said Mark Maybury, chief scientist for the United States Air Force. He spearheaded the report.¶ “While energy is already an essential enabler,” Maybury said. “Global competition, environmental objectives and economic imperatives will only increase its importance.”¶ Of great interest, is a solar-based power station, which would harness solar energy and then beam it to Earth using lasers. The technology necessary to effectively transfer energy between space and Earth isn’t available at the moment, however, so my guess is the Air Force has in mind distributing it towards satellites, whether they belong to the Air Force, NASA or other national security agencies. Air Force is currently limited to 27 kilowatt (kW) arrays for satellite power. In the future, it intends to massively increase its space energy array, which would also allow them to build smaller spacecraft, as they wouldn’t need to generate power for themselves. Also, sensors, communications equipment and on-board processing devices generally require a lot of energy, and if you want to have a very powerful satellite, destined for space-based radar or space-based laser missions, you need to provide it somehow. It would all be wireless transmitted from the neighboring space power station.¶ Nuclear-powered spacecraft¶ When nuclear energy is concerned, there are already some satellites powered by Radioisotope Thermoelectric Generators (RTG), which provide steady and reliable power, at a much greater output than other technologies currently in place. However, the Air Force wants to take it up a notch and employ satellites powered by small nuclear reactors. We’ve discussed about nuclear fission power plants, small enough to fit in a briefcase, in one of our past posts – I’m guessing the Air Force is going for something similar. Of course, safety is a major concern, as outlined in the report.

#### Only nuclear power solves

Downey 4 James R, Lt. Col, US Air Force, et al., April 2004, “FLYING REACTORS: THE POLITICAL FEASIBILITY OF NUCLEAR POWER IN SPACE,” http://www.fas.org/nuke/space/downey.pdf

Military space missions generally cannot be scaled up or down in order to move from one power option to another. For example, space based radar sensors require a continuous power source of greater than 100kWe to provide space sensors with the ability to generate sufficient radiant energy to map the earth’s surface, as well as to transmit data with the reliability required under wartime conditions. Therefore, with currently available technologies, space based ground mapping radar will require SNP, and alternatives such as fuel cells or solar energy will not suffice for mission requirements. Nevertheless, DOD’s opponents do contend that missions might be accomplished without space resources altogether. This results in choosing the option of not launching at all rather than risking a military mission with fissile material in orbit.

[SNP = space nuclear power]

#### Space radar is the key internal link to maintaining nuclear primacy

Li & Nie 9 – Li Bin, director of Arms Control Program at the Institute of International Studies, Tsinghua University; and Nie Hongyi, officer in the People’s Liberation Army with an MA from China’s National Defense University and a Ph.D. in International Studies from Tsinghua University, 5/22/9, “An Investigation of China – U.S. Strategic Stability,” <http://www.ucsusa.org/assets/documents/nwgs/Li-and-Nie-translation-final-5-22-09.pdf>

The mobility of China’s nuclear weapons raises the survivability of Chinese nuclear weapons and thereby sustains China-U.S. strategic stability. If the United States cannot accept a condition of strategic stability between China and the United States, then a simple increase in the number of nuclear weapons targeting China (for example, moving nuclear subs) cannot achieve that objective, but requires an increase in the ability to sense, discriminate and track mobile targets. The visible light and the infrared sensors on U.S. satellites can partially serve this objective. But in clouds and rain the light seen by infrared and visible light sensors have no way to penetrate the cloud layer to see targets on the ground. For this reason the United States hopes to develop an all-weather capability to observe the ground. The specified plan is to develop a satellite-based radar system utilizing the Doppler reflection to follow moving targets on the ground. According to this plan the United States will begin to deploy a space-based radar network in 2008. If the U.S. space-based radar can effectively realize the functions of this idea then they will be able to detect, recognize and track the large body of Chinese strategic mobile missiles. This will greatly discount the effort of China to mobilize its strategic weapons, and a new strategic imbalance will appear between China and the United States. Analysis makes it clear that if China selects an appropriate countermeasure to space-based radar it would be difficult to track Chinese mobile missiles in all weather, making it unable to realistically lower China’s nuclear retaliatory capability. The problem is that the ability of space-based radar to track mobile objects on the ground is a product of adjustments in the movement that are sensitive to the environment (such as terrain), the path followed by mobile objects on the ground and other factors. Consequently, once the United States deploys a space-based radar system, it will not be easy for China to know if its mobile missiles are being tracked; it will also not be easy for the United States to know if the Chinese mobile missiles they’re tracking already escaped tracking. This increases difficulties for decision-makers on both sides.

#### It enables effective reconnaissance to ensure primacy over mobile targets

Li 7 Bin, director of Arms Control Program at the Institute of International Studies, Tsinghua University, “Tracking Chinese Strategic Mobile Missiles,” Science and Global Security, Vol. 15, p. 1-30

Long-range weapons can be divided into two categories: nuclear and nonnuclear. ICBMs and SLBMs are two main long-range nuclear weapons. The United States has deployed ICBMs and SLBMs for several decades and these weapons, in principle, are able to attack mobile targets if the targets are located, although the costs may be high. The question is whether or not conventional weapons are able to attack mobile targets from long distances. As conventional weapons have a much smaller lethal radius, they must be very precise to hit the target.¶ To attack mobile or re-locatable targets, real-time intelligence systems are also required as an adjunct to weapons in order to locate and track mobile targets.¶ For many years, the United States has employed satellite-based optical and infrared sensors that observe ground targets with a resolution of sub-meters. The optical and infrared observation capabilities from space have been applied in recent warfare and proved to be strategically important. However, the detection of optical and infrared signals is not always possible. Darkness precludes the use of optical signals and heavy clouds can shield both optical and infrared signals. To ensure persistent monitoring all-weather systems are needed. One idea is to detect the targets on the ground by satellite based radar. Radar can penetrate clouds and rain, and space radar is an ideal alternative. The main question is whether space radar can provide persistent tracking. This study uses the DF-31 as the example and assumes that it can move on standard roads at 20 km/h (5.6 m/s), the limit set by the Chinese government for transportation vehicles on level IV roads in uneven areas. 36 In the ﬁrst mobility mode analyzed in the previous section, the survivability of DF-31 increases when its speed increases. In that analysis the author examined the DF-31 TELs at speeds of 20 km/h and higher to see if a higher speed helps China saturate a U.S. preemptive strike. In the mode analyzed next, higher speeds of DF-31 TELs make them more visible to space radar when the radar monitors moving ground targets. Therefore the author examines a case in which the DF-31 TELs are at low speed (20 km/h). ¶ Research in the United States has explored the roles of using space radar to track Chinese mobile missiles. 37 Space radar detects targets on the ground or in the air by sending radar waves to targets and picking up reﬂected signals. To reach the same level of resolution, the size of the radar antenna needs to be much larger than the size of the telescope that picks up infrared and optical signals as the radar wavelength (e.g., several centimeters for X-band) is much larger than optical and infrared signals (10−4 to 10−5 centimeters). Satellites in space cannot carry large radar antenna to achieve such a high resolution. An alternative is to pick up a reﬂected radar wave at different positions when the satellite is traveling and piece the picture together from coherent signals. Radar working in this mode is called a Synthetic Aperture Radar (SAR). Spacebased SAR is good for taking pictures of nearly stationary targets, for example, mapping the terrain. To highlight moving targets, the Doppler effects of radar waves are utilized. If a beam of a radar wave is projected to a moving target with radial speed (speed in the direction of the radar beam), the frequency of the radar wave reﬂected from the moving target changes slightly. A larger radial speed creates larger frequency shift. Space radar can pick up only the signals from moving targets whose frequency is slightly different from that from stationary targets. This mode of detection is called Ground Moving Target Indicator (GMTI) or Surface Moving Target Indicator (SMTI). When space radar is operated in SMTI mode, all stationary objects in the ﬁeld become dark and only moving targets with appropriate radial speed are bright. Space radar in SMTI mode is the primary available tool to monitor mobile targets and therefore is the main candidate for tracking Chinese strategic mobile missiles. This analysis will focus mainly on space radar in SMTI mode.

#### Nuke primacy prevents nuclear war over Taiwan

Lieber and Press 7 - Keir A. Lieber, Assistant Professor of Political Science at the University of Notre Dame, and Daryl G. Press, Associate Professor of Political Science at the University of Pennsylvania, Winter 2007, “U.S. Nuclear Primacy and the Future of the Chinese Deterrent,” China Security, Issue No. 5, online: http://www.wsichina.org/cs5\_5.pdf

Ironically, one of the clearest explanations for how the United States may use nuclear primacy in a crisis or war with China appears in an earlier article by Blair. His recent article with Chen labels our suggestion that the United States might use nuclear threats “the zenith of provocation” and “unthinkable.”23 However, in the autumn 2005 issue of China Security, Blair describes exactly the crisis dynamics we envision leading to U.S. nuclear threats and perhaps even a preemptive nuclear attack. He notes that if China were to alert its strategic nuclear forces during a war with the United States over Taiwan, “the United States would likely act to beat China to the punch.” He continues, “Given constant U.S. surveillance of Chinese nuclear launch sites, any major Chinese preparations to fire peremptorily would be detected and countered by a rapid U.S. preemptive strike against the sites by U.S. conventional or nuclear forces… The United States could easily detect and react inside of the lengthy launch cycle time of Chinese forces.”24¶ Blair’s words mirror our argument and suggest the two ways that nuclear primacy may benefit the United States. First, if the Chinese were to threaten nuclear escalation in the context of a Taiwan war, the U.S. could strike first and likely destroy the Chinese force on the ground – “beat China to the punch,” as Blair puts it. Second, China’s knowledge of its vulnerability to nuclear preemption might prevent China from alerting its nuclear force – or even attacking Taiwan – in the first place.

War over Taiwan is inevitable---U.S. conventional superiority ensures China will escalate

Zhang 8 - Baohui Zhang, Associate Professor of Political Science, Lingnan University, Hong Kong, March 2008, “The Taiwan Strait and the Future of China's No-First-Use Nuclear Policy,” Comparative Strategy, Vol. 27, No. 2, p. 164-182

For the above reasons the no-first-use principle remained unchallenged until the 1990s, when a series of new issues began to force some in China to rethink its nuclear principles. These include the ascendance of the Taiwan issue as the central security challenge for China (and, as a result, the increased likelihood of American military intervention in the Taiwan Strait), and the revolution in military affairs (RMA) that has given the United States vast conventional advantage over China. ¶ According to John Wilson Lewis and Xue Litai, during the 1990s Taiwan's tendency to move toward de jure independence led to an increasingly pessimistic view inside China that the Taiwan issue could not be peacefully resolved. More and more Chinese analysts believed that, due to the internal political dynamics of a democratic Taiwan and the rise of Taiwanese identity among its people, peaceful reunification between Taiwan and the mainland has become increasingly hopeless.13 In fact, Jiang Zemin made the famous remark that “a war across the Taiwan Strait is unavoidable.”14 As a result, Taiwan has become the number-one security issue for China, and preparing for a war to prevent Taiwan's independence has become an obsession of the Chinese leadership and military.¶ The problem for China is that it also increasingly believes that American military intervention can be expected in the event of war in the Taiwan Strait. Inside the Chinese military, due to “America's proclaimed geostrategic interests and recent military actions the prevailing opinion was that U.S. forces would undoubtedly intervene.”15 This scenario presents an extremely daunting challenge: how to defeat the world's most powerful military. This task is particularly daunting since the Chinese military recognizes that the revolution in military affairs has given the United States vast advantages over China. According to military observers, the 1991 Gulf War and the 1999 NATO war against Serbia demonstrated the revolutionary change in warfare through the use of precision-guided weapons linked to information technologies in areas such as intelligence, command and control, and weapon guidance. The Chinese military was keenly aware of the new trend and organized systematic studies of how the American military conducted its operations in this new kind of war.16¶ In fact, the Chinese military was awed by the American dominance in conventional warfare. As observed by General Wang Baocun, a prominent strategist at the PLA Academy of Military Sciences, the U.S. revolution in military affairs has resulted in a new kind of gap with other countries. Previously, the gap was merely generational. This time, there is a “time gap” in that the U.S. military and others are fighting as if they were from different historical periods. According to Wang, “The time gap in military technologies allows the superior side to possess an absolute advantage while leaving the other side in a position of absolute disadvantage. … The time gap makes it impossible for developing countries to overcome their military disadvantage in confrontations with the United States.” Wang thus reaches a gloomy conclusion: “The military time gap results in serious threats to the national and military security of developing countries. In fact, they are almost in a defenseless situation.”17¶ Major General Xu Hezhen, who is the Commandant of PLA Army Command Academy in Shijiazhuang, suggests that the RMA allows the U.S. to conduct “no-contact combat” against other militaries through beyond visual range sensor technologies and precision-strike weapons. This revolution in combat “creates a battlefield situation where 'I can see you and hit you but you can't see me and hit back. The situation leaves the weaker side in a position of perpetual disadvantage until it loses the will of resistance.”18¶ The RMA thus presents a serious problem for China's military planners: how to defeat a technologically far superior enemy such as the United States. In fact, China is no longer confident it can defeat such an enemy due to the vast gap with the United States in conventional military technologies. As Lewis and Xue observe, “As senior PLA planners dissected the American strategy from the Gulf War of 1991 to the lightening war against Iraq in 2003, it was to become painfully evident that no war with the United States could be won or even brought to a reasonable draw.”19¶ This bleak assessment by Chinese officers of the U.S. conventional dominance in the Taiwan Strait is echoed by American analysis. In a research project for the U.S. Department of Defense, the Rand Corporation analyzed how China may choose to conduct a war against the American military. According to Rand, in the coming decades the U.S. will possess “even greater military advantages over Chinese forces than it currently enjoys.”20 Therefore, if the China intends to fight the U.S. through conventional military modernization, “this option, taken alone, potentially condemns the PLA to evolving relative obsolescence.”21¶ How to prevent a disastrous defeat in the Taiwan Strait led some in China to question the separation of conventional and nuclear doctrines in Chinese military thinking. While the no-first-use policy can prevent a nuclear attack against China, it cannot deter a large-scale conventional war by a technologically superior enemy. Some believe that the policy can no longer protect China's core national interests, such as preventing de jure independence of Taiwan. According to Alastair Iain Johnston, who was the first Western analyst to notice this trend in the 1990s, some Chinese strategists began to argue that China should develop a nuclear doctrine “suitable for economically and technologically weak states.”22

#### Taiwan escalates and goes nuclear---no defense

William Lowther 3-16, Taipei Times, citing a report by the Center for Strategic and International Studies, 3/16/13, “Taiwan could spark nuclear war: report,” <http://www.taipeitimes.com/News/taiwan/archives/2013/03/16/2003557211>

Taiwan is the most likely potential crisis that could trigger a nuclear war between China and the US, a new academic report concludes.¶ “Taiwan remains the single most plausible and dangerous source of tension and conflict between the US and China,” says the 42-page report by the Washington-based Center for Strategic and International Studies (CSIS).¶ Prepared by the CSIS’ Project on Nuclear Issues and resulting from a year-long study, the report emphasizes that Beijing continues to be set on a policy to prevent Taiwan’s independence, while at the same time the US maintains the capability to come to Taiwan’s defense.¶ “Although tensions across the Taiwan Strait have subsided since both Taipei and Beijing embraced a policy of engagement in 2008, the situation remains combustible, complicated by rapidly diverging cross-strait military capabilities and persistent political disagreements,” the report says.¶ In a footnote, it quotes senior fellow at the US Council on Foreign Relations Richard Betts describing Taiwan as “the main potential flashpoint for the US in East Asia.”¶ The report also quotes Betts as saying that neither Beijing nor Washington can fully control developments that might ignite a Taiwan crisis.¶ “This is a classic recipe for surprise, miscalculation and uncontrolled escalation,” Betts wrote in a separate study of his own.¶ The CSIS study says: “For the foreseeable future Taiwan is the contingency in which nuclear weapons would most likely become a major factor, because the fate of the island is intertwined both with the legitimacy of the Chinese Communist Party and the reliability of US defense commitments in the Asia-Pacific region.”¶ Titled Nuclear Weapons and US-China Relations, the study says disputes in the East and South China seas appear unlikely to lead to major conflict between China and the US, but they do “provide kindling” for potential conflict between the two nations because the disputes implicate a number of important regional interests, including the interests of treaty allies of the US.¶ The danger posed by flashpoints such as Taiwan, the Korean Peninsula and maritime demarcation disputes is magnified by the potential for mistakes, the study says.¶ “Although Beijing and Washington have agreed to a range of crisis management mechanisms, such as the Military Maritime Consultative Agreement and the establishment of a direct hotline between the Pentagon and the Ministry of Defense, the bases for miscommunication and misunderstanding remain and draw on deep historical reservoirs of suspicion,” the report says.¶ For example, it says, it is unclear whether either side understands what kinds of actions would result in a military or even nuclear response by the other party.¶ To make things worse, “neither side seems to believe the other’s declared policies and intentions, suggesting that escalation management, already a very uncertain endeavor, could be especially difficult in any conflict,” it says.¶ Although conflict “mercifully” seems unlikely at this point, the report concludes that “it cannot be ruled out and may become increasingly likely if we are unwise or unlucky.”¶ The report says: “With both sides possessing and looking set to retain formidable nuclear weapons arsenals, such a conflict would be tremendously dangerous and quite possibly devastating.”

#### Space radar solves Pakistan loose nukes, Mediterranean oil safety and bioterror

Sersun 3 Douglas K, Major of USAF, Air Command and Staff College, "Eyes of the Nation: Does the United States Need Space Radar?", April, dtlweb.au.af.mil///exlibris/dtl/d3\_1/apache\_media/L2V4bGlicmlzL2R0bC9kM18xL2FwYWNoZV9tZWRpYS8zNzMzMA==.pdf

Space Radar is specifically designed to operate within a complementary system-of systems (SoS) architecture to address these requirements, wisely benefiting from investment in existing ISR platforms. This horizontal integration is one of the great legacies of the former Undersecretary of the Air Force (USECAF), Mr. Peter B. Teets, who drove the National Security Space community to embrace the concept. Because of the inherent day/night, all-weather, global persistence of Space Radar, Mr. Teets notes that we could use Space Radar “as a tripwire between…Iran and Iraq, or Pakistan and Afghanistan, so that anything that moves across those borders would set off alarms.” 3 With this information, we could then cue more locally persistent and responsive assets to go in for a closer look, dramatically increasing the efficiency of the entire network of sensors, and thus, denying the enemy sanctuary. ¶ U.S. forces require this timely flow of actionable intelligence to maintain full spectrum domain awareness whether engaged against hard target sets, conducting battle damage assessment, monitoring sea commerce routes, or augmenting disaster relief operations. Space Radar is the only sensor that can provide it globally, non-provocatively, in all-weather, day or night. Fully deployed, a Space Radar constellation will allow U.S. forces and coalition/allied partners to understand enemy actions and harness decision superiority to defeat him. ¶ Finally, Space Radar will enable many of the QDR’s transformation goals. We need to think well beyond OEF and OIF, continuing progress to deal with asymmetric, non-traditional threats, from non-state actors, with non-western cultural values, and potential access to WMD. This includes operational integration in interagency scenarios supporting the State Department, the Department of Commerce and justice/law enforcement. Space Radar can be harnessed to monitor nuclear storage facilities and the connecting transportation routes in Pakistan, to keep an eye on the oil infrastructure in the Mediterranean region, or to watch developments in the evolving Iranian nuclear stalemate. Space Radar can play a key role in homeland security matters such as monitoring a metropolitan containment area following an outbreak from a biological weapon during a bad weather period or for catastrophe planning in the event of another huge hurricane and the resultant evacuation. Space Radar is poised to deliver in scenarios well beyond those that resonate with French Maginot Line thinking prior to WWII.

#### Pakistan loose nukes cause global nuclear conflict

Pitt 9 William, a New York Times and internationally bestselling author of two books: "War on Iraq: What Team Bush Doesn't Want You to Know" and "The Greatest Sedition Is Silence”, 5/8/09, “Unstable Pakistan Threatens the World,” http://www.arabamericannews.com/news/index.php?mod=article&cat=commentary&article=2183

But a suicide bomber in Pakistan rammed a car packed with explosives into a jeep filled with troops today, killing five and wounding as many as 21, including several children who were waiting for a ride to school. Residents of the region where the attack took place are fleeing in terror as gunfire rings out around them, and government forces have been unable to quell the violence. Two regional government officials were beheaded by militants in retaliation for the killing of other militants by government forces. As familiar as this sounds, it did not take place where we have come to expect such terrible events. This, unfortunately, is a whole new ballgame. It is part of another conflict that is brewing, one which puts what is happening in Iraq and Afghanistan in deep shade, and which represents a grave and growing threat to us all. Pakistan is now trembling on the edge of violent chaos, and is doing so with nuclear weapons in its hip pocket, right in the middle of one of the most dangerous neighborhoods in the world.The situation in brief: Pakistan for years has been a nation in turmoil, run by a shaky government supported by a corrupted system, dominated by a blatantly criminal security service, and threatened by a large fundamentalist Islamic population with deep ties to the Taliban in Afghanistan. All this is piled atop an ongoing standoff with neighboring India that has been the center of political gravity in the region for more than half a century. The fact that Pakistan, and India, and Russia, and China all possess nuclear weapons and share the same space means any ongoing or escalating violence over there has the real potential to crack open the very gates of Hell itself. Recently, the Taliban made a military push into the northwest Pakistani region around the Swat Valley. According to a recent Reuters report: The (Pakistani) army deployed troops in Swat in October 2007 and used artillery and gunship helicopters to reassert control. But insecurity mounted after a civilian government came to power last year and tried to reach a negotiated settlement. A peace accord fell apart in May 2008. After that, hundreds — including soldiers, militants and civilians — died in battles. Militants unleashed a reign of terror, killing and beheading politicians, singers, soldiers and opponents. They banned female education and destroyed nearly 200 girls' schools. About 1,200 people were killed since late 2007 and 250,000 to 500,000 fled, leaving the militants in virtual control. Pakistan offered on February 16 to introduce Islamic law in the Swat valley and neighboring areas in a bid to take the steam out of the insurgency. The militants announced an indefinite cease-fire after the army said it was halting operations in the region. President Asif Ali Zardari signed a regulation imposing sharia in the area last month. But the Taliban refused to give up their guns and pushed into Buner and another district adjacent to Swat, intent on spreading their rule. The United States, already embroiled in a war against Taliban forces in Afghanistan, must now face the possibility that Pakistan could collapse under the mounting threat of Taliban forces there. Military and diplomatic advisers to President Obama, uncertain how best to proceed, now face one of the great nightmare scenarios of our time. "Recent militant gains in Pakistan," reported The New York Times on Monday, "have so alarmed the White House that the national security adviser, Gen. James L. Jones, described the situation as 'one of the very most serious problems we face.'" "Security was deteriorating rapidly," reported The Washington Post on Monday, "particularly in the mountains along the Afghan border that harbor al-Qaeda and the Taliban, intelligence chiefs reported, and there were signs that those groups were working with indigenous extremists in Pakistan's populous Punjabi heartland. The Pakistani government was mired in political bickering. The army, still fixated on its historical adversary India, remained ill-equipped and unwilling to throw its full weight into the counterinsurgency fight. But despite the threat the intelligence conveyed, Obama has only limited options for dealing with it. Anti-American feeling in Pakistan is high, and a U.S. combat presence is prohibited. The United States is fighting Pakistan-based extremists by proxy, through an army over which it has little control, in alliance with a government in which it has little confidence." It is believed Pakistan is currently in possession of between 60 and 100 nuclear weapons. Because Pakistan's stability is threatened by the wide swath of its population that shares ethnic, cultural and religious connections to the fundamentalist Islamic populace of Afghanistan, fears over what could happen to those nuclear weapons if the Pakistani government collapses are very real. "As the insurgency of the Taliban and Al Qaeda spreads in Pakistan," reported the Times last week, "senior American officials say they are increasingly concerned about new vulnerabilities for Pakistan's nuclear arsenal, including the potential for militants to snatch a weapon in transport or to insert sympathizers into laboratories or fuel-production facilities. In public, the administration has only hinted at those concerns, repeating the formulation that the Bush administration used: that it has faith in the Pakistani Army. But that cooperation, according to officials who would not speak for attribution because of the sensitivity surrounding the exchanges between Washington and Islamabad, has been sharply limited when the subject has turned to the vulnerabilities in the Pakistani nuclear infrastructure." "The prospect of turmoil in Pakistan sends shivers up the spinesof those U.S. officials charged with keeping tabs on foreign nuclear weapons," reported Time Magazine last month. "Pakistan is thought to possess about 100 — the U.S. isn't sure of the total, and may not know where all of them are. Still, if Pakistan collapses, the U.S. military is primed to enter the country and secure as many of those weapons as it can, according to U.S. officials. Pakistani officials insist their personnel safeguards are stringent, but a sleeper cell could cause big trouble, U.S. officials say." In other words, a shaky Pakistan spells trouble for everyone, especially if America loses the footrace to secure those weapons in the event of the worst-case scenario. If Pakistani militants ever succeed in toppling the government, several very dangerous events could happen at once. Nuclear-armed India could be galvanized into military action of some kind, as could nuclear-armed China or nuclear-armed Russia. If the Pakistani government does fall, and all those Pakistani nukes are not immediately accounted for and secured, the specter (or reality) of loose nukes falling into the hands of terrorist organizations could place the entire world on a collision course with unimaginable disaster. We have all been paying a great deal of attention to Iraq and Afghanistan, and rightly so. The developing situation in Pakistan, however, needs to be placed immediately on the front burner. The Obama administration appears to be gravely serious about addressing the situation. So should we all.

#### Bioterror causes extinction

Ochs 2 Richard, Past president of the Aberdeen Proving Ground Superfund Citizens Coalition, Member of the Depleted Uranium Task force of the Military Toxics Project, and M of the Chemical Weapons Working Group, June 9, 2002, “Biological Weapons Must Be Abolished Immediately,” <http://www.freefromterror.net/other_articles/abolish.html>

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

#### Independently, radar solves debris

Marques 5 Marta Marti-Marques, Technical University of Valencia, Spain, "SPACE-BASED RADAR SYSTEM FOR GEOSTATIONARY DEBRIS DETECTION AND TRACKING AT MEO", 2005, www.iafastro.net/iac/archive/browse/IAC-05/B6/1/1965/

Since the first known satellite fragmentation occurred just four years after Sputnik 1 was successfully put into orbit around our planet, it is believed that a total of 173 satellites have broken up, making the scientific community aware of the potential risks that space debris poses. In order to decrease the threat of operational spacecraft colliding with non-functional objects and to assess current and future population of space debris, cost-effective measurement techniques and devices capable of supplying us with the data required to conduct collision avoidance manoeuvres should be developed.¶ Our research aims to design a space-based detection and tracking radar system, which would provide much more accurate measurements of debris size and orbital parameters from densely populated GEO (Geostationary Earth Orbit). The orbiting device should be placed at MEO (Medium Earth Orbit), so that it allows full tracking of the geostationary arc in order to search GEO for non-functional spacecraft as well as for debris fragments and thereby update the current database of catalogued on-orbit debris population.¶ The detection and tracking radar system operating at Ka-band would supply us with valuable information for the characterisation of the near-Earth debris environment and the validation of space debris models. A directive large antenna would be required to generate short wavelengths and achieve high frequencies, as well as to provide a narrow beamwidth (high gain) capable of searching for non-operational spacecraft and debris clouds. Recent advances on microstrip patch antennas nevertheless prove that the building of such high performance radar would be cost-effective using planar technology.¶ Debris data would be collected by means of an electronically steerable phased array antenna, which could have its beam electronically steered in angle by changing the phase of the current at each radiating element, so that the region of constructive interference could be swept from side to side and look for targets. Despite the fact that attenuation of electromagnetic signals when propagating through the atmosphere or in adverse weather conditions can seriously degrade radar performance at high microwave frequencies, our in situ radar system does not have to face this challenge as it is a space-based device. Now then, on-board signal and data processing should be conducted before transmission by radio link to an Earth-based receiving station.¶ As it is not technically feasible to provide accurate enough ground-based measurements of targets located 36,000 km above the Earth surface, a MEO space-based radar would be the perfect solution due to the potential decrease of the distance between the observer and the object. The database built up from ground-based optical and radar facilities by means of traditional measurement techniques would be definitely improved if we update it with the accurate data our space-based radar will acquire. Functional spacecraft could use this database for advance warning of collisions with debris in order to manoeuvre out of the collision path.¶ In the final analysis, we believe that the proposed orbiting radar system would make a significant contribution to achieve a better understanding of the threats posed by the debris environment so that its impact on future space missions is minimised. For this reason, international cooperation is needed to evolve both technically and economically feasible alternatives to debris threats so that future space activities develop in a debris-free orbital environment. In this paper our space-based radar system will be described in detail and its operating parameters will be calculated to prove the feasibility of this new proposal and demonstrate its effectiveness in preserving the orbital environment for future generations.

#### Debris will knock out satellites and cause extinction

Dunstan 9 James, JD, Space and Technology Lawyer – Garvey Schubert Barer, and Berin Szoka, Senior Feelow – Progress and Freedom Foundation, Director – Space Frontier Foundation, and Member of the Commerical Space Transportation Advisory Committee – Federal Aviation Administration, “Beware Of Space Junk: Global Warming Isn’t the Only Major Environmental Problem”, http://techliberation.com/2009/1t2/18/beware-of-space-junk-global-warming-isnt-the-only-major-environmental-problem/

As world leaders meet in Copenhagen to consider drastic carbon emission restrictions that could require large-scale de-industrialization, experts gathered last week just outside Washington, D.C. to discuss another environmental problem: Space junk.[1] Unlike with climate change, there’s no difference of scientific opinion about this problem—orbital debris counts increased 13% in 2009 alone, with the catalog of tracked objects swelling to 20,000, and estimates of over 300,000 objects in total; most too small to see and all racing around the Earth at over 17,500 miles per hour. Those are speeding bullets, some the size of school buses, and all capable of knocking out a satellite or manned vehicle. At stake are much more than the $200 billion a year satellite and launch industries and jobs that depend on them. Satellites connect the remotest locations in the world; guide us down unfamiliar roads; allow Internet users to view their homes from space; discourage war by making it impossible to hide armies on another country’s borders; are utterly indispensable to American troops in the field; and play a critical role in monitoring climate change and other environmental problems. Orbital debris could block all these benefits for centuries, and prevent us from developing clean energy sources like space solar power satellites, exploring our Solar System and some day making humanity a multi-planetary civilization capable of surviving true climatic catastrophes. The engineering wizards who have fueled the Information Revolution through the use of satellites as communications and information-gathering tools also overlooked the pollution they were causing. They operated under the “Big Sky” theory: Space is so vast, you don’t have to worry about cleaning up after yourself. They were wrong. Just last February, two satellites collided for the first time, creating over 1,500 new pieces of junk. Many experts believe we are nearing the “tipping point” where these collisions will cascade, making many orbits unusable. But the problem can be solved. Thus far, governments have simply tried to mandate “mitigation” of debris-creation. But just as some warn about “runaway warming,” we know that mitigation alone will not solve the debris problem. The answer lies in “remediation”: removing just five large objects per year could prevent a chain reaction. If governments attempt to clean up this mess themselves, the cost could run into the trillions—rivaling even some proposed climate change solutions.

### 1AC – Solvency

#### CONTENTION 3: SOLVENCY

#### Plan’s solves SMRs in the military -- doesn’t pick winners

Andres and Breetz 11 Richard B, 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 L, doctoral candidate in the Department of Political Science at The Massachusetts Institute of Technology, February, "Small Nuclear Reactors for Military Installations: Capabilities, Costs, and Technological Implications", www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf

DOD as First Mover¶ 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¶ 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.

#### Military is best at advancing SMRs

Cohen 12 Armond, Executive Director for the Clean Air Task Force, "DoD: A Model for Energy Innovation?", May 21, energy.nationaljournal.com/2012/05/powering-our-military-whats-th.php

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.¶ In any case, the challenge for military-led energy innovation is to further define and delineate avenues for improved clean-energy performance that are linked to the national strategic mission. History shows that when such linkages are strong, DoD’s innovation capabilities are second to none.

#### SMRs solve nuclear downsides

Ringle 10 John, Professor Emeritus of Nuclear Engineering at Oregon State University, "Reintroduction of reactors in US a major win", November 13, robertmayer.wordpress.com/2010/11/21/reintroduction-of-reactors-in-us-a-major-win/

Small nuclear reactors will probably be the mechanism that ushers in nuclear power’s renaissance in the U.S.¶ Nuclear plants currently supply about 20 percent of the nation’s electricity and more than 70 percent of our carbon-free energy. But large nuclear plants cost $8 billion to $10 billion and utilities are having second thoughts about how to finance these plants.¶ A small modular reactor (SMR) has several advantages over the conventional 1,000-megawatt plant:¶ 1. It ranges in size from 25 to 140 megawatts, hence only costs about a tenth as much as a large plant.¶ 2. It uses a cookie-cutter standardized design to reduce construction costs and can be built in a factory and shipped to the site by truck, railroad or barge.¶ 3. The major parts can be built in U.S. factories, unlike some parts for the larger reactors that must be fabricated overseas.¶ 4. Because of the factory-line production, the SMR could be built in three years with one-third of the workforce of a large plant.¶ 5. More than one SMR could be clustered together to form a larger power plant complex. This provides versatility in operation, particularly in connection with large wind farms. With the variability of wind, one or more SMRs could be run or shut down to provide a constant base load supply of electricity.¶ 6. A cluster of SMRs should be very reliable. One unit could be taken out of service for maintenance or repair without affecting the operation of the other units. And since they are all of a common design, replacement parts could satisfy all units. France has already proved the reliability of standardized plants.¶ At least half a dozen companies are developing SMRs, including NuScale in Oregon. NuScale is American-owned and its 45-megawatt design has some unique features. It is inherently safe. It could be located partially or totally below ground, and with its natural convection cooling system, it does not rely on an elaborate system of pumps and valves to provide safety. There is no scenario in which a loss-of-coolant accident could occur.

#### DOE funding SMRs now---more to come

Holly 12 Derrill, ECT Staff Writer, "DOE Advances Small Nuclear Reactors", 12/6, [www.ect.coop/power-supply/power-plants/doe-funds-small-nuclear-reactors-project/50667](http://www.ect.coop/power-supply/power-plants/doe-funds-small-nuclear-reactors-project/50667)

The Department of Energy has agreed to help fund a small modular nuclear reactor design backed by a consortium that includes several generation and transmission electric cooperatives.¶ After reviewing several proposals, DOE selected a project led by Bechtel Corp., Babcock & Wilcox and the Tennessee Valley Authority. The mPower Consortium was formed in in 2010 to support the Generation mPower small modular nuclear reactor design. The consortium includes investor-owned FirstEnergy, TVA, and 13 G&Ts.¶ The lead companies have proposed deployment of up to five 180 megawatt Babcock & Wilcox mPower reactors at TVA’s abandoned Clinch River Breeder Reactor site in Oak Ridge, Tenn.¶ “DOE will match future engineering and design development, design certification and licensing activities up to a cap of $452 million,” said Sandra Byrd, vice president of member and public relations for Little Rock-based Arkansas Electric Cooperative Corp. “Although the mPower design is already far along, it still requires more testing and the design certification documents have to be developed and submitted to the Nuclear Regulatory Commission for approval.”¶ Plans call for the consortium to submit documentation to NRC by December 2013. An early site permit and a construction and operating license application will also be developed for submission over the next year.¶ “This will be the first time that a small nuclear design has been submitted to NRC for review and approval,” said Byrd, adding that commercial operation could begin between 2020 and 2022. Successful deployment of the technology is expected to lead to development of nuclear power plants roughly one-third the size of existing facilities, and DOE plans to issue additional funding opportunities.¶ “More is obviously better. Different designs may lend themselves to different utility operating situations,” said Byrd. Co-ops supported proposals from three of the four companies that sought consideration under the initial DOE cost-sharing grant.¶ Arkansas Electric Cooperative Corp. is among mPower Consortium backers also supporting the NexStart SMR Alliance led by Westinghouse and investor-owned Ameren Missouri. Springfield, Mo.-based Associated Electric Cooperative is also supporting the group.

# 2AC

## Radar

### AT: Space DA (Heg/NW)

#### Radar’s not perceived as offensive---no link

Gulden 10 Erin R, Major USAF, "The Benevolent Hegemon", Air University, April, dtlweb.au.af.mil///exlibris/dtl/d3\_1/apache\_media/L2V4bGlicmlzL2R0bC9kM18xL2FwYWNoZV9tZWRpYS80MjkyNA==.pdf

Passive protection technologies, however, are those technologies that cannot be perceived as having any offensive or threatening characteristics. Several examples include jam-resistant communication and global positioning signals; automatic shutters for optical platforms; as well as, nuclear and space environment equipment hardening. The United States already employs many of these technologies today. All satellite electromagnetic components must be manufactured with advanced solar radiation protection coatings, ensuring adequate protection against the harsh space-operating environment. For example, each new Global Positioning System satellite has increased the anti-jamming protection and the newer military communication satellites have much more robust encryption than the original systems did. We must launch our next generation systems with relevant passive protection devices automatically incorporated. ¶ No matter what the specific technical solution, success requires consistent and adequate funding. Focusing our dedicated space control resources on passive defensive technologies and improved situational awareness is critical. Although the specific space control budget activities are not a major percentage of the Defense Department budget, this overall acquisition focus on passive protection requires funding from more than the space control budget line itself. Potential solutions may require funding adjustments within the programs themselves, and not only from a centralized space protection program element. Determining how the funding responsibilities are distributed falls on the acquisition community and ultimately is the responsibility of the individual programs. ¶ Recently, the overall space budget has received a lot of attention from Congress. With many major space acquisition programs being over budget and potentially reaching the point of a Nunn-McCurdy breach, Congress has taken major steps to warn the US space acquisition community that it must make the tough decisions and clean up their acquisition efforts. Specifically, Congress targeted the Space Radar and the Transformational Satellite Communications programs to set the example. 38 While these may not be space protection programs specifically, they are an indication that the seemingly unlimited resources in space are no longer available.

#### **No space war**

Klein 12 – CDR John J. Klein, USN (BS, Georgia Institute of Technology; MS, Naval Postgraduate School; MA, Naval War College), is assistant air officer (“miniboss”) aboard the USS John C. Stennis (CVN 74). He has served as maintenance officer, Sea Control Squadron 24 (VS‑24); test and evaluation project officer, Naval Force Aircraft Test Squadron (VX-20); naval flight officer under instruction, US Naval Test Pilot School; tactical development and evaluation officer (VS-24); and maintenance branch officer, Sea Control Squadron 28 (VS‑28). Commander Klein is the author of several journal articles and the book Space Warfare: Strategy, Principles and Policy (London: Routledge, 2006). March 6th, 2012, Astropolitics: The International Journal of Space Politics & Policy, "The Influence of Technology on Space Strategy," [www.tandfonline.com/doi/pdf/10.1080/14777622.2012.651700](http://www.tandfonline.com/doi/pdf/10.1080/14777622.2012.651700)

Fourth, advanced space-based technology and weapons systems can have a stabilizing effect on the international community. As was the case with nuclear weapons during the Cold War, if a weapons system poses a large enough threat to two or more adversaries, its potential use can cause state leaders to avoid direct confrontation. This is not to suggest that future space-based weapons will eliminate tensions among competing states, nations, or groups, but **weapons can provide a stabilizing influence at times.**

## Solvency

### AT: Gas Crowd-Out

#### SMR key to help nuclear beat-out natural gas

Lamonica 12—Tech Review Writer. 20 years of experience covering technology and business (8/9/12, Martin, A Glut of Natural Gas Leaves Nuclear Power Stalled, [www.technologyreview.com/news/428737/a-glut-of-natural-gas-leaves-nuclear-power/](http://www.technologyreview.com/news/428737/a-glut-of-natural-gas-leaves-nuclear-power/))

The nuclear renaissance is in danger of petering out before it has even begun, but not for the reasons most people once thought. Forget safety concerns, or the problem of where to store nuclear waste—the issue is simply cheap, abundant natural gas.¶ General Electric CEO Jeffrey Immelt caused a stir last month when he told the Financial Times that it's "hard to justify nuclear" in light of low natural gas prices. Since GE sells all manner of power generation equipment, including components for nuclear plants, Immelt's comments hold a lot of weight.¶ Cheap natural gas has become the fuel of choice with electric utilities, making building expensive new nuclear plants an increasingly tough sell. The United States is awash in natural gas largely thanks to horizontal drilling and hydraulic fracturing, or "fracking" technology, which allows drillers to extract gas from shale deposits once considered too difficult to reach. In 2008, gas prices were approaching $13 per million BTUs; prices have now dropped to around $3. ¶ When gas prices were climbing, there were about 30 nuclear plant projects in various stages of planning in the United States. Now the Nuclear Energy Institute estimates that, at most, five plants will be built by 2020, and those will only be built thanks to favorable financing terms and the ability to pay for construction from consumers' current utility bills. Two reactors now under construction in Georgia, for example, moved ahead with the aid of an $8.33 billion loan guarantee from the U.S. Department of Energy. ¶ What happens after those planned projects is hard to predict. "The question is whether we'll see any new nuclear," says Revis James, the director of generation research and development at the Electric Power Research Institute. "The prospects are not good."¶ Outside the United States, it's a different story. Unconventional sources of natural gas also threaten the expansion of nuclear, although the potential impact is less clear-cut. Around the world, there are 70 plants now under construction, but shale gas also looms as a key factor in planning for the future. Prices for natural gas are already higher in Asia and Europe, and shale gas resources are not as fully developed as they are the United States.¶ Some countries are also blocking the development of new natural gas resources. France, for instance, which has a strong commitment to nuclear, has banned fracking in shale gas exploration because of concerns over the environmental impact.¶ Fast-growing China, meanwhile, needs all the energy sources available and is building nuclear power plants as fast as possible.¶ Even in United States, of course, super cheap natural gas will not last forever. With supply exceeding demand, some drillers are said to be losing money on natural gas, which could push prices back up. Prices will also be pushed upward by utilities, as they come to rely on more natural gas for power generation, says James.¶ Ali Azad, the chief business development officer at energy company Babcock & Wilcox, thinks the answer is making nuclear power smaller, cheaper, and faster. His is one of a handful of companies developing small modular reactors that can be built in three years, rather than 10 or more, for a fraction of the cost of gigawatt-size reactors. Although this technology is not yet commercially proven, the company has a customer in the Tennessee Valley Authority, which expects to have its first unit online in 2021 (see "A Preassembled Nuclear Reactor").¶ "When we arrive, we will have a level cost of energy on the grid, which competes favorably with a brand-new combined-cycle natural gas plants when gas prices are between $6 to $8," said Azad. He sees strong demand in power-hungry China and places such as Saudia Arabia, where power is needed for desalination.¶ Even if natural gas remains cheaper, utilities don't want to find themselves with an overreliance on gas, which has been volatile on price in the past, so nuclear power will still contribute to the energy mix. "[Utilities] still continue [with nuclear] but with a lower level of enthusiasm—it's a hedging strategy," says Hans-Holger Rogner from the Planning and Economics Studies section of the International Atomic Energy Agency. "They don't want to pull all their eggs in one basket because of the new kid on the block called shale gas."

## T

### 2AC T – Financial Incentive

#### We meet – plan is a financial incentive, not R+D – acquiring is T

US Code 3 Legal Information Institute, “41 USC § 131 – Acquisition”, November 24, <http://www.law.cornell.edu/uscode/text/41/131?quicktabs_8=1#quicktabs-8>

In division B, the term “acquisition”—¶ (1) means the process of acquiring, with appropriated amounts, by contract for purchase or lease, property or services (including construction) that support the missions and goals of an executive agency, from the point at which the requirements of the executive agency are established in consultation with the chief acquisition officer of the executive agency; and¶ (2) includes—¶ (A) the process of acquiring property or services that are already in existence, or that must be created, developed, demonstrated, and evaluated;¶ (B) the description of requirements to satisfy agency needs;¶ (C) solicitation and selection of sources;¶ (D) award of contracts;¶ (E) contract performance;¶ (F) contract financing;¶ (G) management and measurement of contract performance through final delivery and payment; and¶ (H) technical and management functions directly related to the process of fulfilling agency requirements by contract.

#### C/I – Financial incentives induce behaviors---that includes plan

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.

## CP

### 2AC Procurement PIC

#### Perm do the CP – the aff just says acquire which means the CP is an example of the plan

Schwartz 10 Moshe Schwartz, Specialist in Defense Acquisition April 23, 2010, Defense Acquisitions: How DOD Acquires Weapon Systems and Recent Efforts to Reform the Process, http://www.fas.org/sgp/crs/natsec/RL34026.pdf

The Department of Defense (DOD) purchases goods and services from contractors to support military operations. Any **purchase of a good or service by DOD is defined as** a **procurement**. **In contrast**, the term defense **acquisition is a broader term that applies to more than just the purchase**, or procurement, of an item or service; the acquisition process encompasses the design, engineering, construction, testing, deployment, sustainment, and disposal of weapons or related items purchased from a contractor.1 DOD’s acquisition system is highly complex (see Appendix A), and does not always produce systems that meet anticipated cost or performance expectations.

#### Procurement alone fails

GAO 9 “Defense Infrastructure: DOD Needs to Take Actions to Address Challenges in Meeting Federal

Renewable Energy Goals”, December, <http://www.gao.gov/assets/300/299755.html>

According to DOD officials, entering into alternative financing approaches to develop renewable energy projects offers three main advantages to DOD. First, certain alternative financing approaches may be more cost-effective than DOD-funded and DOD-owned development of larger renewable energy projects. According to DOD officials, entering into alternative financing approaches to develop renewable energy projects may increase the likelihood of developing these projects on DOD land. This is because private developers have more options than DOD when it comes to obtaining project financing. For instance, developers can sell either the project's energy or renewable energy certificates to a third party, such as the local utility. However, DOD officials stated that DOD cannot make these types of sales. In addition, according to DOD officials, in some cases, private developers are able to accept renewable energy incentives, such as tax credits, that DOD cannot claim. The second advantage, according to DOD officials, is that the government can realize significant benefits when renewable energy projects are owned by private developers because the contractor may provide operation and maintenance of the equipment. For example, officials at an Air Force installation we visited explained that their maintenance staff does not have anyone with the expertise to operate and maintain the installation's renewable projects, and because contractors perform these functions, the installation does not need to hire additional staff to perform these tasks. Finally, although the services use up-front appropriated funding to develop smaller renewable energy projects, DOD officials explained that up-front appropriated funding may be a poor fit for developing the larger, higher-cost renewable projects that a key official says are necessary to achieve the renewable energy goals. According to GAO analysis of DOD project data, the services primarily use two types of up-front appropriated funding for smaller renewable projects: the Energy Conservation Investment Program, funded with a military construction account, and the operations and maintenance accounts. Because the total amount of annual Energy Conservation Investment Program funding is divided among the services, officials explained that they are limited in the amount of resources they can commit to a high- cost project from that account. According to DOD, OSD generally grants Energy Conservation Investment Program funding for potential renewable projects based on analysis of the project's life-cycle costs; the less an installation's energy costs, the less likely it may be to receive funding from that account. Because many DOD installations pay low rates for utility-delivered electricity, their proposals for Energy Conservation Investment Program funds to develop renewable projects are often not selected, increasing the challenge DOD faces in funding projects that meet the criteria for funding. According to DOD officials, operations and maintenance funding may also be difficult to use for the development of the large, higher-cost renewable projects that the services plan to develop to meet DOD's renewable energy goals. For instance, according to an Army official, the service considered building a 35-megawatt concentrated solar thermal plant. If completed, this project would be one of the largest on DOD land. According to this official, the Army estimated that the project would require an estimated $1.8 billion in appropriated funding. Because annual allocations of operations and maintenance funding are typically limited to $750,000 per project,[Footnote 43] these funds may not be sufficient to fund such large, costly projects. Although DOD has developed many small renewable energy projects with upfront appropriated funding, it has relied on alternative financing approaches for its relatively few large renewable energy projects. For example, GAO analysis of DOD data indicates that while the majority--74 percent--of renewable energy projects are funded using up-front appropriations, these projects only generate 13 percent of renewable energy produced on DOD land. In contrast, while only 18 percent of projects are funded using alternative financing, these projects generate the majority--86 percent--of renewable energy produced on DOD land.

#### Delay---alt financing’s faster

GAO 12 Government Accountability Office, 4/4, “IMPROVED GUIDANCE AND INFORMATION SHARING NEEDED FOR DOD PROJECT-LEVEL OFFICIALS,” RPT-NUMBER: GAO-12-401, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA558518>

Up-front appropriations versus long-term finance charges. Some officials mentioned the length of time it can take to navigate the programming and budgeting process and to obtain appropriations as a drawback to using the up-front appropriated funding approaches for renewable energy projects. Specifically, some officials stated that it can take three to five years from project submission within the service through beginning construction for projects funded through military construction appropriations—including the Energy Conservation Investment Program—because of the length of the budget and appropriations cycle. In contrast, when financing a renewable energy project with an alternative-financing approach, the installation can pay back the costs over time while obtaining the benefit of the project— such as renewable energy production—almost immediately after the project is constructed. However, several officials noted that paying for the project using an alternative-financing approach often leads to a costlier project in the long term when compared to the same project paid for using up-front appropriated funding because of the cost of private financing. We have previously reported that alternative financing approaches may be more expensive over time than full, up-front appropriations since the federal government’s cost of capital is lower than that of the private sector. 14

#### Power purchasing key to effective SMR operation

GAO, April 2012, RENEWABLE ENERGY PROJECT FINANCING: Improved Guidance and Information Sharing Needed for DOD Project-Level Officials, http://gao.gov/assets/590/589883.pdf

Operation and maintenance of equipment. According to several officials, the operation and maintenance of equipment is a benefit of most alternatively financed projects and a drawback of projects funded with up-front appropriations. Projects financed with an alternative-financing approach generally involve the contractor operating and maintaining the equipment during the contract period, whereas the government typically is responsible for the operation and maintenance of equipment purchased with appropriated funds. Officials cited this as a significant benefit of alternatively financed projects—and a drawback of projects funded with up-front appropriations—because, according to the officials, installations often do not have personnel on-staff with the knowledge, skills, or expertise to operate and maintain the equipment needed to generate renewable energy. Officials noted, however, that for projects financed with Energy Savings Performance Contracts or Utility Energy Service Contracts, the contract period could be a relatively short period of time. According to these officials, after the contract period ends, the installation assumes ownership—and therefore the operation and maintenance—of the equipment, which can be a drawback of these two approaches.

### AT: RECs DA

#### Obtaining electricity from clean sources solves the link

Silva 12 Loni, 2012 graduate of The George Washington University Law School, staff member of the Public Contract Law Journal, Summer, THE PROBLEMS WITH USING RENEWABLE ENERGY CERTIFICATES TO MEET FEDERAL RENEWABLE ENERGY REQUIREMENTS, 41 Pub. Cont. L.J. 985

The Federal Energy Management Program (FEMP) within the Department of Energy (DOE) is tasked with providing guidance on federal laws and regulations. n16 Through its guidance on EPAct 2005 and EO 13423, FEMP has allowed agencies to meet the renewable energy consumption requirements by purchasing RECs. n17 While allowing agencies to purchase RECs furthers the development of renewable energy resources and promotes energy security overall, the FEMP REC interpretation is problematic from a government contract and policy perspective for several reasons. First, purchasing RECs contradicts the government contracting principle of best value because RECs do not respond to or fulfill an agency's tangible need for energy. n18 As a result, agencies that use RECs must still purchase the [\*988] energy they need in addition to the RECs. n19 Second, the FEMP REC interpretation implicates government contracting principles of transparency and accountability. This is because the policies themselves give no indication that their requirements for renewable energy use can be met by purchasing RECs. n20 Allowing agencies to purchase RECs to comply with the renewable energy requirement is obscure and so the Government is less accountable. n21 Third, the FEMP REC interpretation includes a REC retention requirement. This requirement frustrates the policies' goal of developing on-site renewable energy facilities because it discourages the use of one of the most common alternative financing arrangements used to build these facilities. n22 This Note will examine the problems inherent in FEMP's interpretation allowing use of RECs to meet EPAct 2005 and EO 13423 requirements. This Note will propose that the best way to avoid these problems is to minimize the use of RECs through actual consumption of renewable energy. RECs should be a short-term, stop-gap way to meet the policies' requirements while agencies build the facilities needed to actually consume renewable energy. In order to encourage agencies to actually consume renewable energy, as required by the policies, barriers to developing on-site renewable energy facilities should be removed and development near agency installations should be encouraged. Developing renewable energy facilities within the United States is an important and difficult task, and RECs can and should be used as an aid during the transition period while facilities are developed. However, because of the problems with their use, RECs should be phased out as a means of complying with EPAct 2005 and EO 13423. To understand the problems with the FEMP REC interpretation, Part II of this Note explains the requirements of EPAct 2005 and EO 13423. Part III then provides the reader with a working knowledge of what RECs are and how they work. Part IV addresses the reasons for buying RECs. Part V analyzes why the FEMP REC interpretation is problematic, focusing on government contracting principles of best value, transparency, and accountability, as well as the goals of the policies themselves. Part VI proposes that RECs should be phased out by making changes that will encourage agencies to consume renewable energy from facilities on and near federal property. Finally, Part VII discusses how these changes will allow agencies to achieve the underlying goals of energy independence, security, and sustainability without the problems inherent in RECs. [\*989] II. WHAT ARE EPACT 2005 AND EO 13423 REQUIREMENTS? EPAct 2005 requires that a growing percentage of the electric energy consumed by the Federal Government each year be from renewable energy sources. n23 For fiscal years 2010 through 2012, EPAct 2005 requires that 5% of the total amount of electric energy the Federal Government consumes come from renewable energy. n24 From 2007 to 2009, the requirement was 3%; from 2013 onward, the requirement will be 7.5%. n25 EO 13423, signed on January 24, 2007, strengthened the goals of EPAct 2005 by requiring that at least half of the statutorily required renewable energy consumed by a federal agency each year come from new renewable sources. n26 EO 13423 defines "new renewable sources" as "sources of renewable energy placed into service after January 1, 1999." n27 Both policies emphasize the goal of developing on-site renewable energy facilities. EO 13423 requires that "to the extent feasible, the agency implement[] renewable energy generation projects on agency property for agency use . . . ." n28 EPAct 2005 encourages on-site development by providing a double credit bonus toward an agency's renewable consumption requirements if its renewable electricity is produced on-site at a federal facility, on federal lands, or on Indian lands. n29 There are no specific penalties for noncompliance. However, agencies are required to submit a report to the DOE detailing their progress toward meeting the EPAct 2005 and EO 13423 requirements as part of their regular annual energy data reporting. n30 The secretary of energy must then provide a report to Congress every two years. n31 Agencies are thus motivated to meet the requirements to avoid being reported to Congress as noncompliant. FEMP provides guidance on federal laws and regulations. n32 Under the FEMP guidance, agencies can meet the EPAct 2005 and EO 13423 requirements in three ways. First, agencies can generate renewable energy on-site. n33 Second, agencies can purchase renewable energy. n34 Third, agencies can purchase RECs from an energy supplier or broker. n35 Energy managers, like Joe, have a choice. Joe can build a facility on-site to produce renewable energy for the base to use; he can buy renewable energy for the base to use; or, if he wants to power the base with energy from fossil fuel, he can meet the renewable energy requirements by purchasing RECs.

#### Solves the key internal link to DoD energy leadership—their link differential is meaningless

Laura Horton 11, J.D., Golden Gate University School of Law, Spring 2011, “COMMENT: FUTURE FORCE SUSTAINABILITY: DEPARTMENT OF DEFENSE AND ENERGY EFFICIENCY IN A CHANGING CLIMATE,” Golden Gate University Environmental Law Journal, 4 Golden Gate U. Envtl. L.J. 303, p. lexis

As the world's largest consumer of energy, the military has a long way to go if it intends to achieve energy efficiency goals set by the government and the DOD itself. However, not everyone is convinced that the military will follow through, considering its past environmental record. n153 This skepticism is valid in light of the growing impact climate change has had on the planet and the extent to which the military has contributed to GHG emissions. n154 In addition, mistrust of the DOD's environmental record is warranted, since environmental damage from military activities still exists all over the United States n155 The suspect attitude toward military greening is akin to an attitude held by many concerning corporate "environmentalism" in the form of "greenwashing." n156 The military is claiming to go "green," and is indeed making strides in energy efficiency, while simultaneously increasing oil use by 1.5% annually through 2017. n157 Also, efficiency programs are limited to base installations and are not applied to tactical fleets, where much of the DOD's fuel consumption occurs. n158 Furthermore, little is said in any of the aforementioned reports about the many exemptions the DOD sought from numerous environmental laws over the past eight years. n159 The military is accustomed to approaching environmental protection on its own terms and is giving mixed signals about how [\*322] important energy efficiency will be in the near future. Consequently, there is a question as to how self-imposed standards such as voluntary compliance with federal energy efficiency standards, from which the DOD is otherwise exempt, will play out. n160 One example of the uncertainty of these programs can be found in a recent article in ClimateWire. n161 According to the article, the aforementioned spray foam insulation program has now been halted in the absence of advocacy for such programs. n162 The difficulty of relocating the foam tents and high disposal costs have led to the demise of spray foam use, and supporters are calling for a mandate to move forward with the project. n163 It is unclear whether the DOD will resume the program at all. The need for advocacy is especially important for the public to understand, because of the potential for new energy technology to transform the civilian marketplace as military technology finds its way into the public domain. n164 The military has begun to take the lead in energy efficiency, drive the civilian sector toward sustainable energy use, and push for "policy change to help make the necessary cultural shifts in how its people think about energy use and the decisions they make in all settings." n165 The more seriously the military takes energy efficiency, the faster sustainable technology will reach the public. For that reason, progress on these efforts should be monitored and documented for the public to review. A history of military brush-offs of the importance of environmental protection does not lend itself to a campaign of global stewardship. In order to win the confidence of the public, the military must demonstrate a willingness to follow through with the programs it has set in place to lead alternative-energy development in the United States and the world.

#### No DA---plan’s expansion’s budgeted

GAO 12 Government Accountability Office, 4/4, “IMPROVED GUIDANCE AND INFORMATION SHARING NEEDED FOR DOD PROJECT-LEVEL OFFICIALS,” RPT-NUMBER: GAO-12-401, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA558518>

Moving forward, DOD plans to expand its use of alternative-financing approaches for renewable energy projects. In its Strategic Management Plan for fiscal years 2012 and 2013, DOD established a goal to increase operational and installation energy efficiency to reduce costs and improve energy security, among other benefits.18 One of the key initiatives within this goal is to expand the use of alternative financing for energy efficiency and renewable energy projects by 15 percent, as measured by the dollar value of awarded contracts, by the end of fiscal year 2015. According to DOD’s annual energy management report for fiscal year 2010, DOD awarded $323 million in contracts for energy efficiency and renewable energy projects that were financed with Energy Savings Performance Contracts and Utility Energy Service Contracts. 19 Thus, DOD would need to award nearly $50 million more in contracts, or a total of about $372 million, to meet this goal. An official from the Office of the Deputy Under Secretary of Defense (Installations and Environment) said that the Office of the Secretary of Defense plans to measure progress toward the goal annually based on the military services’ submissions for DOD’s Annual Energy Management Report. At the time of our review, the Office of the Secretary of Defense had not provided information to the military services about the goal, but an official said that the office is establishing a working group to assist the services in initiating and completing projects financed with alternative-financing approaches through improved collaboration and communication among stakeholders and sharing best practices.

### AT: Clean Tech/Warming Impact

#### Plan solves clean tech

Palley 11 Reese, The London School of Economics, 2011, “The Answer: Why Only Inherently Safe, Mini Nuclear Power Plans Can Save Our World”, p. 186-90

The central investigation of this book has been directed at the scale of the nuclear industry. The book has argued that all anthropogenic challenges that put in question continued human existence on Earth are a matter of scale. It was nature’s unanticipated success with her human experiment, the evolutionary choice of brains over brawn, setting in motion the underlying scale problems that opened our Pandora’s box of calamities. The history of man on Earth can best be viewed as a race between population and resources in which, for some millennia, population expansion leads and the Earth’s resources have been straining to catch up. When population bloomed from 100 million brainy humans to a billion, the problems of scale emerged as the price we had to pay for success as a species. The conversion of forests to agriculture, responding to the need to feed a burgeoning population, initiated the emerging problem of scale. The elimination of oxygen-emitting forests was mitigated to a large measure in the beginning of our population growth by the slow rate of change of the deforestation, which allowed an absorbable increase of CO2 in the atmosphere. Natural processes, such as the ability of the oceans to take up CO2, tamped down global warming. But as the scale of the release of warming gases exploded a few hundred years ago, our remaining forests and our seas, our first line of defense against CO2 imbalance, could not cope and the level of CO2 has risen alarmingly each year since 1800. When human population climbed from a billion to six billion and these six billion reveled in the enormous energy content of coal, the scenario for disaster on a global scale came into play. The impact of the loss of forest paled in comparison to the havoc that the use of fossil fuels represented. In a world that was hungry for energy and, not incidentally, living on a Malthusian edge of food supply, coal burst upon us as manna from heaven. Coal was everywhere, easy to mine, and in enormous, almost unending supply It generated the cheap heat needed to run the engines of early industrialization. An unintended Faustian bargain was struck. The immediate cost of coal in the cities, dirt and pollution, were not out of sync with what urban man had lived with for centuries. It was beyond the science and the understanding of the time that burning vast millennial coal deposits would do little more than discommode the proximate few and benefit many. Again it was not the burning, it was the scale of the burning that dumped billions of tons of CO2 into the atmosphere. We are now presented with a horrendous invoice that must be paid if we are to survive in anywhere near the comfort to which we have become accustomed. It has been the intent of this book to argue that the scale of the warming catastrophe must be viewed primarily in terms of the continuing flow of CO2 into the atmosphere. Every possible source of CO2, no matter how small, must be identified and interdicted, since every fourth molecule of the gas will remain with us as a climate moderator for thousands of years. What we find is that all of the sources of energy including so-called green energy are CO2-culpable and that each, in spite of claims to the contrary, adds its tiny mite or enormous mass to the climate changes looming in man’s future. The book argues that the scale of the consumption of fossil fuels is clearly unsustainable and, more to the point, that the feeble attempts to restrict CO2 production are little more than a glossing over of the problem. Capping but not ending production of greenhouse gases only magnifies the unthinkable future costs of bringing the level of CO2 and other greenhouse gases back into balance. Logic dictates that merely limiting greenhouse gases pushes possible solutions farther and farther into the future and does little to mitigate the difficulties that will arise in the near future. Logic dictates that our reasonably comfortable survival depends on the immediate and total cessation of increases to parts per million of CO2 in the air. Logic dictates that if we are to continue to enjoy the level of comfort, wealth, and ease afforded us since the beginning of the twentieth century we must not only halt the increase but commence the actual decrease of warming gases at work in the atmosphere. That conclusion brings the book to the problems and the solutions inherent in nuclear power, the only energy source that can guarantee us a reasonable future that might be resistant to CO2 warming. Here the argument returns once again to the problem of scale of nuclear reactors, especially as the size of these reactors is related to the brief time left to us to get a grip on calamitous climate changes. The beginnings of nuclear energy lay in the demands of war. The battle between good and evil characterized by the Second World War gave hurried birth to a discovery that had the inherent power to both destroy and salvage. The power to destroy required plutonium on an enormous scale, which was projected forward into the postwar development of civilian reactors. The demand for scarce plutonium for the bombs of the cold war defined the type of reactors that were being developed. These were the breeder reactors, which spewed out plutonium measured in tons that had previously been available only in ounces, and would continue to do so when the wartime need was far behind us. What was once precious, rare, and desirable has become dangerous nuclear waste, and the imperfectly perceived scale of the waste problem has seriously inhibited the logical growth and development of nuclear power. By some unthinkable universal coincidence, nuclear power became available to man for war at the same time that it could prove to be the solution to man’s greatest peacetime challenge. But the gigawatt nuclear power plants that emerged from the war had within them the seeds of their own severe limitation. The scale of the risks, real and imagined, grew exponentially as the scale of energy output grew only linearly. These risks, some merely perceived, some dangerously real and some financial, have conspired to restrict the enormous expansion of nuclear power that is needed to quickly replace our present consumption of energy from fossil fuels. The present rate of replacement of fossil with nuclear sources is at a pace that will have little impact on ultimately dealing with the CO2 imbalance. This slow rate of change is compounded of public fears, bureaucratic regulatory mechanisms resistant to novel solutions, and a private capital market that is unable to conjure with the imagined and real risks of the huge gigawatt reactors that dominate the industry. It is a Gordian knot that cannot be unraveled but which can only be cut by a political sword that, alas, still lacks the edge to do the job. By another rare act of cosmic fortuity, there is a parallel existing nuclear technology that, barring political interference, is capable of addressing the scale problems inherent in gigawatt reactors. From the beginning of the nuclear era, researchers such as Weinberg and Wigner and Teller developed small, inherently safe nuclear reactors that did not breed plutonium. This was reason enough for the military, balancing urgent demands on research and development budgets, to consign the concept of “smaller and safer is better” to dusty shelves in our national science attic. This book has argued that small reactors, that produce a tenth of the energy of the giants also generate inordinately less of the risk that inhibits growth of the industry. Construction of small reactors is a fraction of the cost of construction of gigawatt reactors. Thus the number of years that scarce capital is tied up and at risk is substantially reduced. The book argues that a 100 MWe reactor88 is a much bigger hardware bargain than a gigawatt reactor, which, from start to output, can cost $15 billion. It is not only the hardware costs that contribute to the devilish details of risk. The problem is the inability of the market to accurately or even approximately estimate the real cost of the capital that would be tied up for over a decade in a project that, through technological advancements, could be obsolete before it ever joins the grid.

### 2AC Microgrids CP

#### DOD renewable initiatives fail---SMRs key

Andres and Breetz 11 Richard B, 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 L, doctoral candidate in the Department of Political Science at The Massachusetts Institute of Technology, February, "Small Nuclear Reactors for Military Installations: Capabilities, Costs, and Technological Implications", www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf

In recent years, the U.S. Department of Defense (DOD) has become increasingly interested in the potential of small (less than 300 megawatts electric [MWe]) nuclear reactors for military use.1 DOD’s attention to small reactors stems mainly from two critical vulnerabilities it has identified in its infrastructure and operations: the dependence of U.S. military bases on the fragile civilian electrical grid, and the challenge of safely and reliably supplying energy to troops in forward operating locations. DOD has responded to these challenges with an array of initiatives on energy efficiency and renewable and alternative fuels**. Unfortunately, even with massive investment and ingenuity, these initiatives will be insufficient to solve DOD’s** reliance on the **civilian grid or its need for convoys in forward areas.** The purpose of this paper is to explore the prospects for addressing these critical vulnerabilities through small-scale nuclear plants.

#### Micro-grid fails---unreliable and quality problems

BIESI 11 Brookings Institution Energy Security Initiative, The Hoover Institution Shultz-Stevenson Task Force on Energy Policy, "Assessing the Role of Distributed Power Systems in the U.S. Power Sector", October, media.hoover.org/sites/default/files/documents/Distributed-Energy.pdf

Microgrid¶ Generation technologies are central to discussions around distributed energy systems. However, controls, infrastructure and demand side management are also an integral part of the broader discussion. The term ‘microgrid,’ is used to refer to a smaller version of a main or central electrical grid that much like its larger counterpart, consists of interconnected electrical loads and distributed energy generation resources that are typically controlled by a central control system. A microgrid may operate independently as its own self-contained entity, or may be interconnected with an adjoining central utility grid or neighboring microgrid. ¶ The concept of the microgrid is often associated with a power system in developing countries where the centrally managed grid is weak or inadequate. However, microgrid architectures are deployed in the United States including in various communities such as university campuses, hospitals, industry and military. Fully 74 percent of the global microgrid market dollars were spent in North America in 2010. 40¶ Although not a specific technology in itself, the notion of the microgrid is a system comprised of software, controls and hardware infrastructure including sensors, inverters, switches and converters. The microgrid and its primary components form the platform that is necessary for the integration of distributed generation resources with the local loads consuming the energy. The benefits of such architectures lie in the fact that they can be locally operated and controlled independent of a centrally managed utility. Such architecture enables distributed power systems, whether they operate on a stand-alone basis, or as an integrated component of a larger central grid.¶ 1.4 Functional Risks of DPS Technology Despite the policy support and cost declines in technology, DPS applications are constrained by several fundamental technical and functional factors. These factors give rise to risks associated with power quality, “dipatchability” and reliability. Some of the most important technical risks of widespread DPS deployment and integration are listed below. ¶ Power Quality¶ Some DPS technologies rely on power electronic devices, such as AC-to-DC or DC-to-AC converters. If such devices are not correctly set up, the integration of DPS power can result in a harmonic distortion and in operational difficulties to loads connected to the same distribution systems. 41¶ Reactive Power Coordination¶ With the proper system configuration and network interface, DPS can bring relief to the power system by providing close proximity power support at the distribution level. However, some renewable generation sources such as wind can worsen the reactive coordination problem. Wind generators have asynchronous induction generators designed for variable speed characteristics and, therefore, must rely on the network to which they are connected for reactive power support.42¶ Reliability and Reserve Margin¶ Intermittent power generation such as solar and wind is non-dispatchable. It is thus necessary to maintain sufficient generation reserve margins in order to provide reliable power generation. If there is a high level of distributed generation deployment, reserve margin maintenance can be a problem.

#### Nuclear’s key to desalination---other renewables fail

SD 7 Science Daily, “Could Nuclear Power Be The Answer To Fresh Water?”, November 20, http://www.sciencedaily.com/releases/2007/11/071120082429.htm

A. Raha and colleagues at the Desalination Division of the Bhabha Atomic Research Centre, in Trombay, point out that Low-Temperature Evaporation (LTE) desalination technology utilizing low-quality waste heat in the form of hot water (as low as 50 Celsius) or low-pressure steam from a nuclear power plant has been developed to produce high-purity water directly from seawater. Safety, reliability, viable economics, have already been demonstrated. BARC itself has recently commissioned a 50 tons per day low-temperature desalination plant.¶ Co-editor of the journal\*, B.M. Misra, formerly head of BARC, suggests that solar, wind, and wave power, while seemingly cost effective approaches to desalination, are not viable for the kind of large-scale fresh water production that an increasingly industrial and growing population needs.¶ India already has plans for the rapid expansion of its nuclear power industry. Misra suggests that large-scale desalination plants could readily be incorporated into those plans. "The development of advanced reactors providing heat for hydrogen production and large amount of waste heat will catalyze the large-scale seawater desalination for economic production of fresh water," he says.

#### Prevents billions of deaths

Beller 4 Dr. Denis E, Beller, 2004 - Department of Mechanical Engineering, University of Nevada, Las Vegas, "Atomic Time Machines: Back to the Nuclear Future," 24 J. Land Resources & Envtl. L. 41

Our global neighbors need much more energy to achieve the standards of living of the developed world. One-third of the six billion people on Earth today lack access to electricity.3 Another two billion use just 1000 kilowatt hours (kWh) per year, which is barely enough to keep a single 100-watt light bulb lit.4 In addition, one billion people have no sanitary water,5 which could be provided easily and inexpensively if energy were available to operate desalination and/or purification plants. Energy is needed for development, prosperity, health, and international security. The alternative to development, which is easily sustained with ample energy, is suffering in the form of poverty, disease, and death. This suffering creates instability and the potential for widespread violence, such that national security requires developed nations to help increase energy production in their more populous developing counterparts. The relationship between energy use and human well being is demonstrated by correlating the United Nations’ Human Development Index (HDI) with the annual per capita use of electricity. The UN compiles the HDI for almost every nation annually. It is a composite of average education level, health and well being (average life expectancy), and per capita income or gross domestic product. One such correlation that was done a few years ago showed that electric consumption first increases human well being, then people who are well off increase their electric consumption.6 Figure 1 illustrates this for almost every nation on Earth (the data includes more than 90 percent of the Earth’s population). Note there is a threshold at about 4000 kWh per capita. Below this threshold, human development increases rapidly with increases in available electricity (there are, of course, exceptions to every rule). Above this threshold, use of electricity increases rapidly as people become more healthy, wealthy, and educated. A deeper investigation into the data underlying the HDI reveals the effects of what Dr. Eric Loewen, a delegate to the United Nations 2002 World Summit on Sustainable Development in Johannesburg, South Africa, now calls “energy apartheid.”7 People in the Western world, who have and use large amounts of energy, have a life expectancy of about eighty years, while those on the lower left side of this graph, undeveloped nations where most people have no access to electricity, will die decades earlier. Thus, billions of our global neighbors without sufficient electricity die decades before they should. Those who live in poverty live in the most dangerous of conditions. Without substantial increases in electricity generation, the proportion of the Earth’s population without sufficient electricity will increase in the next fifty years as it grows by 50 percent to near 9 billion people.8 Preventing global conflict will require even more addition of electricity. The product of increased population and increased per capita energy usage by people who today have access to nearly none is a great growth in global electricity usage. Estimates for future increases in energy and electricity use, even with substantial efficiency improvements and conservation efforts, range between doubling and tripling in the next fifty years.9 Even with conservation, “energy star” appliances and homes, mandated fuel economy, massive government purchases of “renewables,” and energy saving and efficiency measures, our use of electrical energy has been growing faster than total energy usage; electricity use in the United States increased 57 percent between 1980 and 2000, while total energy use increased just 27 percent.10

#### Microgrid’s reliance on multiple inputs fails

Amora 10 Ramon, Department of Electrical and Computer Engineering, Mississippi State University, “Controls for microgrids with storage: Review, challenges, and research needs”, Renewable and Sustainable Energy Reviews Volume 14, Issue 7, September 2010, Pages 2009–2018

Microgrids installations and integration in LV distribution systems will increase significantly in future. Consequently, distribution systems will have different characteristics from the current conventional distribution systems. The difference will be more significant with increased number of microgrids. Thus, suitable control strategies must be designed to anticipate this difference [50].¶ Besides to optimize system operation electrically, microgrid controls also aim to optimize production and consumption of heat, gas, and electricity in order to improve overall efficiency [22]. Moreover, controlling a large number of microsources having different characteristics will be very challenging due to the possibility of conflicting requirement and limited communication [6]. In case of decentralized or centralized controllers, control action required with probable lost input parameters will be surely challenging.¶ Transitions from grid-connected to islanded modes of operation are likely to cause large mismatches between generation and loads, causing a severe frequency and voltage control problem. The “plug-and-play” capability may also create serious problem if the connection and disconnection processes involve big number of microsources at the same time [6].

## DA

### 2AC Immigration DA

#### Won’t pass

Altman 3/20 [Alex Altman, Washington correspondent for TIME, “Four Hurdles That Could Block Immigration Reform,” http://swampland.time.com/2013/03/20/four-hurdles-that-could-block-immigration-reform/]

The next few months offer the best chance in a generation for the two parties to solve a problem that has bedeviled Congress like few others. Both sides agree the U.S. immigration system is broken. Both would seem to gain from a deal that clears a pathway out of legal oblivion for the nation’s 11 million illegal immigrants. Support is building for a landmark pact. But while negotiations are progressing in both the House and Senate, an agreement is a long way off. As the talks grow more detailed, obstacles to a deal may begin to emerge:¶ Problem #1: The Gang of Eight¶ The first snag lurks in the Senate, where the so-called Gang of Eight has huddled privately since the election in hopes of hammering out a bill. Members have crafted a set of measures that would create a pathway to citizenship for the nation’s estimated 11 million undocumented immigrants within about 13 years while requiring them to register with federal authorities, pay back taxes and fines, learn English and undergo background checks. The deal, both sides agree, would also beef up border security and determine how the future flow of immigrants will be regulated to match the needs of the economy.¶ The Gang’s closed conclaves have been marked by Vatican-style secrecy, often a sign of progress in a town where silence is rare. The Gang’s members – Republicans Marco Rubio, Lindsey Graham, John McCain and Jeff Flake, and Democrats Chuck Schumer, Dick Durbin, Bob Menendez and Michael Bennet – have, by all accounts, developed a rapport. “You can tell by the tone of their voices,” says an elected Democrat briefed on the progress of the private talks.¶ But the broad themes are the easy part. The full bill will stretch to hundreds of pages, each peppered with detailed provisions that could spike it. Members bring clashing political imperatives and ideologies to the talks. Rubio, for example, is trying to repair the GOP’s tattered image with Hispanic voters without sparking a backlash among the movement conservatives he’d need in a presidential bid. Graham, who faces a probable primary challenge in 2014, has a habit of basking in the bipartisan spotlight before bolting when negotiations intensify. The measure of the Gang of Eight’s success isn’t whether they are aligned at the start of their talks. It’s whether they are all aligned at the end.¶ Problem #2: The Lobbyists¶ A few years ago, an impasse between the leaders of the Chamber of Commerce and the AFL-CIO helped scupper an immigration-reform bill backed by President George W. Bush. At that time, business and labor could not agree on how many visas to grant low skilled workers who make the construction, agriculture and hotel and restaurant industries hum. The Chamber wanted cheap labor, but didn’t want workers to stay; unions were concerned about protecting citizens’ jobs. Soon after, reform collapsed.¶ This time the two groups have nurtured an unlikely alliance. “There has been a sea change,” says a labor source close to the discussions. Nudged by Graham and Schumer, the two lobbies released a set of shared principles, including one stating that Americans should get “first crack” at available jobs and that businesses should have the flexibility to hire to meet the demands of the market. But history could repeat itself again. The two sides call for a new federal agency charged with setting visa levels, but they have yet to agree on who’s eligible or how the new bureau will work. The issue of future flow has been a stubborn sticking point before. And it is as easy to imagine conservatives balking at efforts to create a new government agency as it is to foresee unions drawing a line at a small number of foreign workers.¶ Problem #3: House Republicans¶ Even if Senate negotiators can come up with a package to get 60 votes in the upper chamber, “the question continues to be, how does it get through the House?” says Frank Sharry, an expert on immigration reform. As in the Senate, a bipartisan cluster of eight representatives from across the ideological spectrum have been secretly meeting for months. Congressman Luis Gutierrez, an Illinois Democrat who has long been a leader on immigration reform, is full of praise for the new tack taken by his Republican counterparts. But, he acknowledges, “You still have to put those votes on the board, and that’s going to be a real, real test in the House of Representatives.”¶ For their part, Republicans say the party’s old dogma, which held that illegal immigrants should self-deport and then go to the back of the line, is not viable policy. Even many immigration hard-liners say they want to help shape comprehensive reform. “It’s time for us to belly up to the bar,” says Ted Poe, the Texas Republican who chairs the House immigration reform caucus. But for conservatives, amnesty remains a dirty word. “A bill that’s basically amnesty, that says you’re here and you’re going to be a citizen — those two things are not going to come out of this conservative House,” says Poe. Even citizenship is charged enough that Republican Senator Rand Paul, who gave a speech March 19 backing a path to legalization for undocumented immigrants, avoided using the term. Many House Republicans, including several in the Judiciary Committee through which a bill must pass, have a long history of antipathy to amnesty, and only a grassroots rebellion to fear as next year’s primaries approach.¶ Then there is the reality that even if Republicans were to be widely supportive of amnesty, very few of those new citizens are likely to abandon the Democratic Party anytime soon. “Republicans face a choice: do they ditch their principles and go all out in a failing attempt to outpander Democrats?” asks Rosemary Jenks, director of government relations at NumbersUSA, which advocates for lower immigration levels. “It’s becoming very clear to Republicans in Congress that this is not going to get them the Hispanic vote.”¶ Problem #4: The Democrats¶ Little discussed but also looming is the possibility that Democrats drag their feet on reform. Liberals will balk if the path to citizenship is too long or too onerous, or if enforcement provisions are too rigid. Many conservatives also suspect that Democratic power brokers, despite their daily hammering of Republicans to get moving on immigration reform, would privately prefer to keep the issue as a cudgel than actually pass a law. Barack Obama “wants to make a bill come out of the Senate that is so far out there that it would never pass, so that he can blame us for not being compassionate and use the issue to take back the House in 2014,” says a House Republican. Even some liberals see this as a plausible scenario. “There’s always a lingering doubt in my mind,” admits one House Democrat. Obama knows that putting his fingerprints on the deal is an easy way to kill it; when a draft of his proposal leaked in the press, he called Republican negotiators individually to apologize. But if negotiations in Congress bog down, he may not be so hands off.¶ By all accounts, negotiators are making genuine progress toward a landmark deal that builds on a foundation laid during its last fumbled attempts. But lawmakers still have to thread a bill through a thicket of obstacles in a bitterly divided Congress. Sources close to the negotiations say they expect both chambers to introduce legislation in early April, giving Congress several months to haggle out a pact before members scatter for their summer recess. It sounds like plenty of time, but it’s not. Immigration will have to jockey for attention this spring with gun control, budgets and a potential grand bargain on tax and entitlement reform. Meanwhile, the human cost of the political stalemate is high. Each day, 1,400 undocumented immigrants are deported.

#### Won’t pass---border security

Byron York 3-27, Chief Political Correspondent - The Washington Examiner, “Border security in exchange for immigration reform? Napolitano says no deal.” 3-27-13, http://washingtonexaminer.com/border-security-in-exchange-for-immigration-reform-napolitano-says-no-deal./article/2525505

Republicans working to craft a comprehensive immigration reform bill say there is one rock-bottom requirement for any deal: The border must be secure, and proven to be secure, before any path to citizenship is created for the millions of immigrants currently in the country illegally. That is the one non-negotiable GOP demand. And on Tuesday, Homeland Security Secretary Janet Napolitano flatly rejected it.¶ “Relying on one thing as a so-called trigger is not the way to go,” Napolitano told a breakfast meeting of journalists. Asked about her department’s recent revelation that it will not produce a long-promised method of measuring border security, known as the Border Condition Index, Napolitano said, “We’re confident that the border is as secure as it’s ever been. But there’s no one number that captures that.” Without a way to measure border security, many Republican reform advocates say, there’s no way to go forward with a reform agreement.¶ Napolitano’s comments were one more bit of evidence, if Republicans needed any, that the Obama administration does not intend to make enhanced border security a precondition of immigration reform. “Every position and action the administration takes is consistent with the idea that they have no desire to accomplish immigration security,” said one GOP Senate aide who spoke on condition of anonymity.¶ “One of the challenges in crafting any reform is that the American people do not have confidence in this administration’s willingness to enforce current immigration law,” said Alex Conant, spokesman for Marco Rubio, the Republican senator and Gang of Eight member who has staked considerable political capital on the negotiations. “Senator Rubio and several members of the immigration working group share these concerns, and it’s reflected in the solution they are trying to craft. Our legislation will include real security triggers to make sure out borders are secured.”¶ Added Conant: “Senator Rubio will not support any legislation that does not include real security triggers to make sure our borders are secured.”¶ As for Napolitano, another aide said, “I wonder if she’s freelancing, or carrying a message from the White House.” At Tuesday’s White House briefing, spokesman Jay Carney was asked that very question, and while he spoke at length without saying anything definitive, Carney appeared to suggest that President Obama agrees with Napolitano. From the transcript:¶ QUESTION: Secretary Napolitano said today that triggers are not necessary before comprehensive immigration reform. So what does the White House do to convince those on the other side? Since there are no reliable metrics about border security, what will you do to convince them that the border is secure enough for immigration and a path to citizenship to begin?¶ MR. CARNEY: Well, I think the question is excellent, and I would note that what Secretary Napolitano has said — Secretary Napolitano has said that the Department of Homeland Security measures progress using a number of metrics to make sure we are putting our resources where they will have the most impact. And I think that while there are different ways to look at this issue, the fact is, by a host of measures, there has been great improvement in our border security.¶ Certainly the facts are there when it comes to the resources that have been applied to border security — the doubling of border security agents, as well as the other metrics that you will often hear Secretary Napolitano or others discuss. So we look at a variety of measures.¶ And I think you can look at what this President has committed to and the record on border security since he came into office to evaluate his assertion that border security is a vital element of comprehensive immigration reform. That has been his position, and it continues to be. And I would note — and this is something that has been acknowledged by important members of the Senate, Republican members — the progress that has been made on this very important issue, border security. Much of — the last time comprehensive immigration reform was essentially abandoned, some of the issues — the principal reason for that was because of concerns about border security. And many of the metrics that were put forward then have been met — the goals and the targets that were said to have to be achieved before we could move forward have been met.¶ But this is an ongoing issue. This is an ongoing concern, and it’s an ongoing project of this administration. And it will certainly be an important part of immigration reform.¶ QUESTION: Do you — does the White House oppose commissions or certain triggers before a path to citizenship can begin?¶ MR. CARNEY: What we have said and I’ll say today is that we are not going to judge the bill before it’s been written. And we are working with the senators who are in the Gang of Eight as they make progress, and they’ve made considerable progress, and that is worth noting. Senator Schumer just the other day talked about where they are in that process and the progress that they’ve been making, and we were heartened by that.¶ But as the President said yesterday, we have to keep pushing. We have to make sure that we follow through on this progress, and that that progress leads to a bill that has bipartisan support and that can be signed by this President. And we’re not there yet. Progress is being made. It’s being made in the Senate, which is where the President hoped it would be made. And we are very much monitoring that process and engaging in that process. But it’s not done yet, and I don’t want to prejudge a bill that hasn’t been written.¶ QUESTION: But if I could just press you on it, it does appear as though that Secretary Napolitano did today prejudge. She said the triggers are not necessary. Does the White House agree with that assessment?¶ MR. CARNEY: I think what she was saying — and the assessment we do agree with — is that there are a variety of metrics by which you can measure, and we do measure, progress on border security. And these are metrics that others use to measure border security, including Democrats and Republicans in the Senate and beyond the Senate, beyond the Congress.¶ So we’re working with Congress on this, with the Senate on this. Progress has been made. Border security is one of the key principles that the President has put forward that has to be part of comprehensive immigration reform. He has demonstrated his seriousness on this issue, as has Secretary Napolitano. But it is something that we’re — it’s not a done project. We have to continue working on it.¶ Cut through all the verbiage, and Carney seemed to say precisely what Napolitano said: If Republicans demand that tougher border enforcement be a precondition for comprehensive immigration reform, they can forget about making a deal, now or ever.

#### Perez nomination pounds the link

NPR 3-27-13, Carrie Johnson, “Obama's Labor Nominee Faces GOP Opposition Over His Role In A Supreme Court Case”, http://www.npr.org/blogs/thetwo-way/2013/03/27/175513560/obamas-labor-nominee-faces-gop-opposition-over-his-role-in-a-supreme-court-case

Thomas Perez, the president's nominee to lead the Department of Labor and a high-profile Latino advocate for civil rights, is scheduled for a Senate confirmation hearing April 18. **But behind-the-scenes wrangling over his nomination, and his controversial role in a Supreme Court case, is already well under way.**¶ House Oversight and Government Reform Committee Chairman Darrell Issa, R-Calif., and the ranking GOP member on the Senate Judiciary Committee, Charles Grassley, are investigating what they call a quid pro quo deal that may have cost the federal Treasury as much as $180 million.¶ The GOP lawmakers are upset by the appearance that the Justice Department used inappropriate reasons to stay out of a whistle-blower lawsuit that claimed the city of St. Paul, Minn., had misused funds it got from the Department of Housing and Urban Development. Under the False Claims Act, the Justice Department can intervene in such cases and support whistle-blowers, which often leads to victories or settlements that return millions of dollars to the U.S. Treasury.¶ Under the GOP theory, the Justice Department declined to throw its weight into that whistle-blower case as part of an improper deal with St. Paul, Minn. What's the other end of the alleged quid pro quo? That would be St. Paul agreeing to withdraw its bid for Supreme Court review in a separate case that put at risk a major legal tool the federal government uses in civil rights and housing discrimination cases.¶ In the case, Magner v. Gallagher, St. Paul asked the Supreme Court to consider the government's use of the so-called disparate impact theory, which allows lawsuits to proceed under the Fair Housing Act if people can prove a practice has a statistically significant negative impact on minorities, rather than specific bad acts involving individual landlords. That theory has been a frequent target of political conservatives and some members of Congress, and its supporters fear if the issue gets to the Supreme Court, it could be invalidated there.¶ Republican lawmakers have demanded more answers from Perez, the assistant attorney general for civil rights, and others in the Justice Department who may have played a role in that decision, which they consider a "dubious bargain."¶ Grassley told reporters earlier this month, "It's hard to believe that the president would nominate somebody at the heart of a congressional investigation and so deeply involved in a controversial decision to make a shady deal with the city of St. Paul, Minn."¶ New documents indicate Perez and other top DOJ officials have spent hours talking to members of Congress behind closed doors this month about that arrangement.¶ Perez told investigators in an eight-hour session on March 22 that the St. Paul case heading to the Supreme Court last year "caught my attention and was a source of concern."¶ In the first explanation of his role in the case, Perez said the dispute headed toward the Supreme Court presented some bad facts, and "because bad facts make bad law, this could have resulted in a decision that undermined our ability...to protect victims of housing and lending discrimination." He told lawmakers he reached out to people in Minnesota and found out they were interested in getting the Justice Department to stay out of a separate whistle-blower case that could cost the state money.¶ Perez said he reached out inside the Justice Department for ethics advice and told lawmakers he learned "there would be no concerns so long as I had permission" from counterparts in the civil unit handling the whistle-blower case and that "there was no prohibition on linking matters."¶ He added that he learned former Vice President Walter Mondale, who played a role in sponsoring the Fair Housing Act in Congress, and who had close ties to the mayor of St. Paul, was going to reach out regarding the Supreme Court case and its effects on civil rights enforcement as well.¶ "I believe then, and I believe now, that the result achieved here was in the best interests of the United States," he said.¶ Justice Department officials have turned over 1,500 pages of documents about the controversy, **but that's unlikely to satisfy Republicans on Capitol Hill.**

#### Gun control pounds

WaPo 3-28, “Obama, pushing gun-control agenda, says ‘shame on us if we’ve forgotten’ Newtown,” http://www.washingtonpost.com/politics/obama-pushing-gun-control-agenda-says-shame-on-us-if-weve-forgotten-newtown/2013/03/28/e2060b54-97be-11e2-b68f-dc5c4b47e519\_story.html

President Obama delivered a **forceful** and emotional **plea** to lawmakers Thursday to pass his **gun-control agenda**, saying “shame on us if we’ve forgotten” the elementary school massacre in Newtown, Conn.¶ Frustrated by the slow pace of progress on Capitol Hill, Obama urged passage of universal background checks and other gun-control measures while flanked by mothers of shooting victims in the East Room of the White House. He also repeatedly invoked the Dec. 14 shooting at Sandy Hook Elementary School as a cause for action.¶ “Less than 100 days ago that happened,” Obama said. “And the entire country was shocked. And the entire country pledged we would do something about it and this time would be different. Shame on us if we’ve forgotten. I haven’t forgotten those kids. Shame on us if we’ve forgotten.”¶ Obama — who spoke alongside Vice President Biden, the administration’s point person on guns — **is attempting to pressure wavering lawmakers** in advance of an expected **Senate vote next month** on his guns agenda. He urged Americans to “raise your voices and make yourselves unmistakably heard” so that lawmakers “don’t get squishy.”¶ “We need everybody to remember how we felt 100 days ago and make sure that what we said at that time wasn’t just a bunch of platitudes, that we meant it,” Obama said.¶ But **the fate of gun legislation** on Capitol Hill **is murky amid GOP opposition and wavering among conservative Democrats.** Sen. Marco Rubio (R-Fla.), widely viewed as a 2016 presidential contender, announced Thursday that he was joining three other Senate GOP conservatives — Ted Cruz (Texas), Mike Lee (Utah) and Rand Paul (Ky.) — in **threatening to filibuster** Democratic gun-control legislation.

#### Infrastructure rules pound

Katie Fahrenbacher 3-15, “Obama starts unveiling his plans for climate change, clean energy,” 3/15/13, http://gigaom.com/2013/03/15/obama-starts-unveiling-his-plans-for-climate-change-clean-energy/

President Obama called for stronger action on climate change and support of clean energy research during his State of the Union speech, and now he’s showing his cards for how he might carry that out. On Friday Obama is expected to propose funneling $2 billion worth of federal leases for oil and gas companies into research and deployment of cleaner vehicles, reports the New York Times. At the same time, Bloomberg reports that Obama could also use a law from the Nixon-era to tell federal agencies that they need to consider climate change impacts before approving infrastructure projects like oil pipelines. ¶ The moves show how Obama is getting creative at a time when Congress isn’t likely to approve budget increases for clean energy support, or other policies like a cap and trade program or carbon tax. The stimulus package, which injected some $90 billion into clean energy projects and incentives, has largely been spent or the funds expired, so clean energy companies and projects are facing a steep drop in federal support in 2013. ¶ Yet, many will note that the moves are piece meal and not as aggressive as Obama originally proposed when he first ran for office. And some of Obama’s concessions to the natural gas and oil industry will likely anger environmentalists and some clean energy advocates. The Washington Post reports that the Obama administration plans to rewrite its proposal to regulate greenhouse emissions using the Environmental Protection Agency, making the proposal weaker and potentially delaying regulations. ¶ The proposal for using $2 billion in federal leases will emerge over the coming weeks. Obama brought up this plan in the State of the Union speech, calling it an Energy Security Trust that will drive new research and technology to shift our cars and trucks off oil for good. Obama said “If a non-partisan coalition of CEOs and retired generals and admirals can get behind this idea, then so can we.” ¶ The use of the infrastructure law is a new idea, and will no doubt prove controversial. A manufacturing association told Bloomberg that the notion had them “freaked out.” The law originally was used to protect water, air and soil from infrastructure projects that could have negative environmental effects.

#### Executive military action shields

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

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

#### SMRs are popular

Nelson and Northey 12 Gabriel and Northey, energy and environment reports for Greenwire, “DOE funding for small reactors languishes as parties clash on debt,” <http://www.eenews.net/public/Greenwire/2012/09/24/3>

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

#### PC’s not key to immigration

Hirsh 2/7 Michael, chief correspondent for National Journal, previously served as the senior editor and national economics correspondent for Newsweek, has appeared many times as a commentator on Fox News, CNN, MSNBC, and National Public Radio, has written for the Associated Press, The New York Times, The Washington Post, Foreign Affairs, Harper’s, and Washington Monthly, and authored two books, "There's No Such Thing as Political Capital", 2013, [www.nationaljournal.com/magazine/there-s-no-such-thing-as-political-capital-20130207](http://www.nationaljournal.com/magazine/there-s-no-such-thing-as-political-capital-20130207)

Meanwhile, the Republican members of the Senate’s so-called Gang of Eight are pushing hard for a new spirit of compromise on immigration reform, a sharp change after an election year in which the GOP standard-bearer declared he would make life so miserable for the 11 million illegal immigrants in the U.S. that they would “self-deport.” But this turnaround has very little to do with Obama’s personal influence—his political mandate, as it were. It has almost entirely to do with just two numbers: 71 and 27. That’s 71 percent for Obama, 27 percent for Mitt Romney, the breakdown of the Hispanic vote in the 2012 presidential election. Obama drove home his advantage by giving a speech on immigration reform on Jan. 29 at a Hispanic-dominated high school in Nevada, a swing state he won by a surprising 8 percentage points in November. But the movement on immigration has mainly come out of the Republican Party’s recent introspection, and the realization by its more thoughtful members, such as Sen. Marco Rubio of Florida and Gov. Bobby Jindal of Louisiana, that without such a shift the party may be facing demographic death in a country where the 2010 census showed, for the first time, that white births have fallen into the minority. It’s got nothing to do with Obama’s political capital or, indeed, Obama at all.

#### Winner’s win

Hirsh 2/7 Michael, chief correspondent for National Journal; citing Ornstein, a political scientist and scholar at the American Enterprise Institute and Bensel, gov’t prof at Cornell, "There's No Such Thing as Political Capital", 2013, [www.nationaljournal.com/magazine/there-s-no-such-thing-as-political-capital-20130207](http://www.nationaljournal.com/magazine/there-s-no-such-thing-as-political-capital-20130207)

But the abrupt emergence of the immigration and gun-control issues illustrates how suddenly shifts in mood can occur and how political interests can align in new ways just as suddenly. Indeed, the pseudo-concept of political capital masks a larger truth about Washington that is kindergarten simple: You just don’t know what you can do until you try. Or as Ornstein himself once wrote years ago, “Winning wins.” In theory, and in practice, depending on Obama’s handling of any particular issue, even in a polarized time, he could still deliver on a lot of his second-term goals, depending on his skill and the breaks. Unforeseen catalysts can appear, like Newtown. Epiphanies can dawn, such as when many Republican Party leaders suddenly woke up in panic to the huge disparity in the Hispanic vote.¶ Some political scientists who study the elusive calculus of how to pass legislation and run successful presidencies say that political capital is, at best, an empty concept, and that almost nothing in the academic literature successfully quantifies or even defines it. “It can refer to a very abstract thing, like a president’s popularity, but there’s no mechanism there. That makes it kind of useless,” says Richard Bensel, a government professor at Cornell University. Even Ornstein concedes that the calculus is far more complex than the term suggests. Winning on one issue often changes the calculation for the next issue; there is never any known amount of capital. “The idea here is, if an issue comes up where the conventional wisdom is that president is not going to get what he wants, and he gets it, then each time that happens, it changes the calculus of the other actors” Ornstein says. “If they think he’s going to win, they may change positions to get on the winning side. It’s a bandwagon effect.”

#### Loss of PC still results in high-skill reform

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

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

### AT: US-India Relations

#### Relations resilient---immigration fights don’t spill over

Shari B. Hochberg 12, Pace University School of Law, Winter 2012, “United States-India Relations: Reconciling the H-1B Visa Hike and Framework for Cooperationon Trade and Investment,” Pace International Law Review, Vol. 24, No. 1, http://digitalcommons.pace.edu/cgi/viewcontent.cgi?article=1324&context=pilr

The United States and India share common interests, from international security to the free flow of commerce. India has joined the United States in becoming a major world power, and over the last decade, the two countries have worked together to strategize capitalizing on each other’s growth. Ties have strengthened between the nations. However, much of that relationship rests on a flawed system of immigration and inconsistent international employment standards.

The United States and India signed the Framework, and only five months later, the United States passed legislation to increase fees on the H-1B visa, most frequently utilized by Indian businesses. Additionally, the state of Ohio made a statement in banning outsourcing within a week after the visa fee hike. The United States is sending mixed messages to India as well as to the rest of the world.

So long as the United States Administration keeps dialogue open and § Marked 09:42 § assuages the fears of the Indian business sector, the fierce debate will remain calm in the short-term. In the long run, however, the United States must overhaul its current immigration law, starting with the H-1B visa program. Eventually, a multilateral trade treaty should be reached, exponentially expanding the global marketplace, while allowing member countries to protect their own domestic interests.

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### AT: Weaponization

#### No link uniqueness for weaponization

RT 12-10 – Russia Today, “Space militarization: Coming to a galaxy near you,” 12/10/12, http://rt.com/politics/space-militarization-us-russia-699/

Judging by recent developments, the idea of formidable space weapons prowling the last frontier is no longer limited to the realm of science fiction.

The US has published tactical guidelines over the past three years on the use of force in outer space, while systems that may be used as orbiting weapons are undergoing rigorous test flights, said Yuri Zaitsev, Academic Advisor with the Russian Academy of Engineering Sciences.

In a security document released in October, the US Department of Defense (DoD) said that its space-related activities are designed to “maintain and enhance the national security advantages afforded by the use of outer space.”

Among its numerous stated objectives, the DoD report said it is US policy to “proactively seek opportunities to cooperate with allies and selected international partners in developing space architectures and in designing, acquiring, and operating military space systems.”

Zaitsev said that America’s push to militarize space may include the use of both nuclear and conventional weapons, which could have dangerous and dramatic implications for future warfare.

"The United States, as well as some other leading powers, is attempting to gain supremacy in [space],” Zaitsev explained. “This will enable their aerospace operations at the very beginning of a war to initiate strikes on strategic facilities throughout the [targeted] country.”

During this year’s UN General Assembly, the US conspicuously refused to support a resolution to halt the militarization of space.

In a vote on a resolution titled ‘Prevention of an Arms Race in Outer Space,’ 169 member-states, including the Russian Federation, voted in favor of the draft resolution stating, “[The] exploration and use of space…shall be for peaceful purposes…carried out for the benefit and in the interest of all countries, irrespective of their degree of economic or scientific development.”

Only the United States and Israel abstained from voting on the document, rendering it effectively toothless.

Washington’s refusal to cede control of space likely stems from its increasing reliance on space-based systems: An estimated 90 percent of the US Military reportedly uses or depends on space-based systems.

The Russian academic referred the shock over China’s successful targeted destruction of an old orbiting weather satellite in 2007.

"The Americans were frightened by the Chinese tests of anti-satellite weapons,” Zaitsev said. “It is quite possible that the US may soon initiate negotiations on anti-satellite systems."

Zaitsev also said that the United States and its allies may attempt to regulate space activity to its advantage.

"The United States and the European Union are working out a draft code of conduct in outer space," he said. "This document may regulate space activity in the interests of the United States and its allies and may discriminate [against] other states, including Russia.”

“Russia and China are unlikely to sign this document, which means military confrontation in outer space will intensify,” Zaitsev warned.

### Microgrids Link to Ptix

#### Links to politics

Sater 11 Daniel, Research Fellow at Global Green USA's Security and Sustainability Office, “Military Energy Security: Current Efforts and Future Solutions”, Global Green, globalgreen.org/docs/publication-185-1.pdf

Widespread development of microgrids will require large capital expenditures by the DOD and Congress. In the current climate of budget cuts, especially with regard to the DOD, any new spending is likely to attract heavy scrutiny. One of the benefits of allowing present trends to continue is that it does not require any new action by the DOD or Congress.¶ Microgrids remain a relatively new development and some base commanders might resist their implementation. Despite their advantages in cybersecurity over the large-scale smart grid, the DOD must make advances in cybersecurity to ensure that microgrids do not make the energy supply for military installations less secure instead of more so.

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### AT: Desal Bad

#### No damage to the ocean and the alt is worse

Schiffler 4 Manuel, economist in the World Bank's Middle East and North Africa Region, Perspectives and challenges for desalination in the 21st century, Desalination 165, 1-9

The environmental footprint of desalination has been reduced through technological progress. However, some significant environmental impacts remain, in particular during the operating phase of the plants. One major impact is the discharge of brine — a concentrated salt solution that may be hot and may contain various chemicals — on coastal or marine eco-systems or, in the case of inland brackish water desalination, on rivers and aquifers. Another major impact is the emission of greenhouse gases in the production of electricity and steam needed to power the desalination plants. Furthermore, abstraction of brackish groundwater for desalination can have significant environ- mental impacts. Other impacts of usually more limited nature include noise, visual disturbance, interference with public access and recreation, possible impacts from seawater intakes, as well as various environmental impacts during the construction phase and potential impacts from accidental spills. There can also be positive environmental impacts from desalination, if desalination reduces the pressure on conventional water resources. In particular, seawater desalination can help to relieve the pressure on overexploited coastal aquifers and thus prevents seawater intrusion, a widespread phenomenon causing quasi-irreversible damage in coastal areas around the world. In some cases, seawater desalination can be an alternative to the use of fossil groundwater further inland or to the construction of large dams and inter-basin transfers that are usually associated with significant social and environmental costs. An internationally agreed environmental assessment methodology for desalination plants does not exist so far and its development would be desirable. In assessing the environmental impact of numerous desalination projects on the marine environment, it is important to assess the cumulative impacts of new and existing plants as well as of discharges from other sources. A strategic environmental assessment is more appropriate for that purpose than a series of isolated, project- related environmental assessments. In many of the focal countries of the present study, the legal basis and institutional capacity for environmental assessments in general is weak and there is no or very little experience with environmental assessments of individual desalination projects, not to speak of strategic environmental assessments. To the author’s best knowledge, no stra- tegic environmental assessment of brine dis- charges into the Arab Gulf (Persian Gulf), which is a shallow, nearly closed water body that receives the highest discharge of brine from desalination processes in the world, has been undertaken to date. While impacts obviously differ depending on the characteristics and sensitivity of the local marine environment, future impacts from brine discharge into the Mediterranean are expected to be relatively limited compared to impacts in the Arab Gulf, but may be more restrictive if European directives are applied in future EuroMed agreements. Mitigation measures include preventive mea- sures, such as the strengthening of environmental institutions and water conservation, and reactive measures, which involve physical changes to a plant or process. The latter include optimized siting in the construction phase, the use of more energy-efficient technologies, design and treatment techniques to reduce damage to the marine environment, including the appropriate design of sea outfalls and the mixing of brine with seawater before discharge, and architectural measures to reduce visual impact especially for tourism purposes.

## T

### We Meet

#### Power contracts are incentives

ICTSD 11 ICTSD Global Platform on Climate Change, Trade and Sustainable Energy, Nov. 2011, Fostering Low Carbon Growth: The Case for a Sustainable Energy Trade Agreement, http://ictsd.org/i/publications/117557/?view=details

b. Production-related incentives help lower the cost of producing sustainable energy. However, unlike investment incentives that are paid based on initial capital costs, production- related incentives are paid per Kilowatt hour (Kwh) of electricity generated. They are superior to investment tax credits in that they are paid on the basis of actual electricity generated, so there is no incentive for investors to artificially inflate investment costs or set up installations simply to claim tax credits. On the other hand, they may be affected by future changes in policy and cutbacks, so the degree of predictability is lower and political risk higher. Production incentives commonly take the form of:

- Preferential power tariffs that pro-vide the producer with an incentive over and above the tariffs paid for conventional energy sources; these preferential power tariffs compensate the producer for higher costs associated with renewable energy generation. These tariffs may take the form of ‘feed-in’ tariffs that are paid to the power producer by an electric utility, as mandated by law, for a specific duration of time.28

- Power Purchase Agreements (PPA) are reliable power purchase contracts with the purchase guaranteed for a certain number of years. This has been cited as perhaps the single most critical requirement of a successful renewable energy project. The vast majority of renewable energy projects have been implemented by independent power producers that are not affiliated with utilities. These producers thus need to have access to the utility’s transmission and distribution grid and to obtain a contract to sell the power either to the utility or to a third party by wheeling through the utility grid. Because renewable energy projects are generally considered risky by financial institutions, a reliable, stable long-term revenue stream is extremely important for obtaining financing at a reasonable cost. Creation of reliable power markets for independent power producers has thus been the cornerstone of essentially every successful renewable energy strategy. Of course, simply ensuring a PPA may not incentivise investors unless the tariff that is reflected (whether ‘feed-in’ or some other form of preferential tariff arrived at through negotiations or bidding) is attractive enough for the producer.

#### Paying for electricity is an incentive

Doris 12 – National Renewable Energy Laboratory (Elizabeth, “Policy Building Blocks: Helping Policymakers Determine Policy Staging for the Development of Distributed PV Markets,” Paper to be presented at the 2012 World Renewable Energy Forum, 5/13-5/17, http://www.nrel.gov/docs/fy12osti/54801.pdf)

3.3 Market Expansion This stage of policy development targets the development of projects and includes both incentives that attempt to distribute the high first costs of distributed technologies and policies that facilitate project installation. The purpose of this category is to increase the installation of individual projects through monetizing the non-economic benefits of distributed generation for the developer. Because the value of those benefits vary in different contexts, these policies can be politically challenging to put in place and technically challenging to design and implement. There is a large body of literature (encompassing the energy field as well as other fields) that discusses the design and implementation of effective market incentives. Specific policy types include: • Incentives. In the context of this framework, incentives are defined as **direct monetary support** for specific project development. Incentives, especially in the current economic environment, can be politically challenging to implement and require detailed design to ensure that they are effectively reaching the intended market at levels that spur development without creating over-subsidization. Because of the complications and expense of these types of policies, they are most used and most cost-effective in environments where the market is prepared for project development. There are three primary types of incentives: • **Investment incentives directly alter the first cost of technologies**. These incentives can take the form of grants, rebates, or tax incentives, depending on the market needs. Grants are typically applied to larger scale projects and are paid in advance of development, and so target development that would not take place without advance investment. Rebates are most commonly based on equipment purchases and can be applied at the time of purchase or through a post-purchase mechanism. Tax incentives can be deductions or credits, can be applied to entire installations, and are applied after purchase, annually. Tax incentives target development that does not need direct capital investment, but instead prioritizes reduction in pay-back period. • **Production incentives provide payment for electricity produced** from the distributed electricity. These are different from net metering because the aim is not to provide the economic value of electricity sold into the grid, but instead, to monetize the indirect benefits of distributed generation and apply that on a production basis to projects. These incentives do not directly remove the challenge of higher first costs, and so are most effective in situations in which those high first costs can be spread over the course of the project lifetime (e.g., where direct priori investment is not a priority). In the last decade, incentives for distributed generation have tended toward the production type, because it assures the public that the investment is resulting in clean energy development (whereas investment incentives have the potential to be invested in projects that do not materialize). • **Feed-in-Tariffs**. This incentive type reduces investment risk by **providing fixed payments for projects** based on the levelized cost of renewable energy generation. This (among other design characteristics) distinguishes feed-in-tariffs from production-based incentives, which are based on monetizing the value of the electricity to the grid or the value to the electricity purchaser. • Removing Siting Restrictions or Ensuring Broad Market Access. Siting restrictions can be stipulated by local ordinances or home owners associations and designate where solar panels can be placed within the jurisdiction. Twenty-four states currently have laws in place that prevent the restriction of solar facilities on residences (12). Like the current state role in encouraging transparency in permitting policies, these typically legislative policies cost nothing to put in place, but implementation and enforcement can be challenging and costly, depending on the interests of the localities. This is an expansion policy (as opposed to a preparation policy) because the effect of siting restrictions is currently unclear, and to date, market development has not been limited by these types of regulations. • Streamlined Permitting. Permitting for solar facilities has traditionally been the jurisdiction of localities, but there are some states that also issue permits. In the past two years, both Colorado (13) and Vermont (14) have issued laws regulating state permits for renewable energy systems. Such permitting falls into the market expansion category as a potential follow-on to the development of transparent permitting. However, because of its limited use to date there is little information on effectiveness, potential intended or unintended impacts, or broad applicability, so it is not currently considered a primary policy for developing markets.

### C/I

#### Financial incentives are a transfer of economic resources or market creation

EIA 1 (Renewable Energy 2000: Issues and Trends, Report prepared by the US Energy Information Administration, “Incentives, Mandates, and Government Programs for Promoting Renewable Energy”, http://tonto.eia.doe.gov/ftproot/renewables/06282000.pdf)

Over the years, incentives and mandates for renewable energy have been used to advance different energy policies, such as ensuring energy security or promoting environmentally benign energy sources. Renewable energy has beneficial attributes, such as low emissions and replenishable energy supply, that are not fully reflected in the market price. Accordingly, governments have used a variety of programs to promote renewable energy resources, technologies, and renewable-based transportation fuels.1 This paper discusses: (1) financial incentives and regulatory mandates used by Federal and State governments and Federal research and develop- ment (R&D),2, 3 and (2) their effectiveness in promoting renewables. A financial incentive is defined in this report as providing one or more of the following benefits: • A transfer of economic resources by the Government to the buyer or seller of a good or service that has the effect of reducing the price paid, or, increasing the price received, respectively; • Reducing the cost of production of the good or service; or, • Creating or expanding a market for producers. The intended effect of a financial incentive is to increase the production or consumption of the good or service over what it otherwise would have been without the incentive. Examples of financial incentives are: tax credits, production payments, trust funds, and low-cost loans. Research and development is included as a support program because its effect is to decrease cost, thus enhancing the commercial viability of the good(s) provided.4 Regulatory mandates include both actions required by legislation and regulatory agencies (Federal or State). Examples of regulatory mandates are: requiring utilities to purchase power from nonutilities and requiring the incorporation of environmental impacts and other social costs in energy planning (full cost pricing). Another example is a requirement for a minimum percentage of generation from renewable energy sources (viz., a “renewable portfolio standard,” or, RPS). Regulatory mandates and financial incentives can produce similar results, but regulatory mandates generally require no expenditures or loss of revenue by the Government.

#### Energy production incentives include military procurement

FITZPATRICK 85 - ACTING ASSISTANT SECRETARY FOR CONSERVATION AND RENEWABLE ENERGY, DEPARTMENT OF ENERGY (Donna, HEARING BEFORE THE SUBCOMMITTEE ON ENERGY CONSERVATION AND POWER OF THE COMMITTEE ON ENERGY AND COMMERCE HOUSE OF REPRESENTATIVES, “RENEWABLE ENERGY INCENTIVES,” 6/20, Congressional Universe (full pdf download))

In addition, various Federal incentives for energy conservation and renewable energy have played a role. These have taken many forms. ¶ At the center of the Government's commitment is the Department of Energy's funding of research and development, which will provide a technology base for the realization of the various energy options and additional support to the innovative capacity of the private sector. ¶ Other Department of Energy activities which serve as incentives for conservation and renewable energy include our activities in support of the Renewable Energy Industry Development Act of 1983, which assists the domestic renewable energy industry in penetrating international markets, the Federal Energy Management Program, which facilitates the adoption of these technologies by Federal agencies, the National Energy Innovation Awards Program, and our Technology Transfer and Information Programs. ¶ In addition to these DOE efforts, a number of other Federal incentives assist the conservation and renewable energy industries. For example, the Public Utility Regulatory Policies Act provides access to the utility markets, while the Military Construction Authorization Act provides a powerful stimulus to incorporation of renewable and conservation technologies into military facilities. Other Federal programs which serve as incentives to the development and deployment of these technologies include the various loan, loan guarantee, grant, and innovative financing programs administered by numerous Federal agencies, and technical and institutional support to government agencies, utilities and professional societies.

### AT: DSIRE

#### DSIRE is unofficial and not a government definition

DSIRE No Date Database of State Incentives for Renewables & Efficiency, <http://www.dsireusa.org/about/>

Disclaimer: The information presented on the DSIRE web site provides an unofficial overview of financial incentives and other policies. It does not constitute professional tax advice or other professional financial guidance, and it should not be used as the only source of information when making purchasing decisions, investment decisions or tax decisions, or when executing other binding agreements. Please refer to the individual contact provided below each summary to verify that a specific financial incentive or other policy applies to your project.

## Ptix

### AT: Labor Shortages KT Nuclear

#### Doesn’t turn energy

Ron Adams 10 The Energy Collective "Nuclear Industry Can Lead a Revival in Skilled Labor and Manufacturing in the United States" Nov 15 http://theenergycollective.com/rodadams/47144/nuclear-industry-can-lead-revival-skilled-labor-and-manufacturing-united-states.

At this point 13 license applications for up to 22 new reactors have been filed with the U.S. Nuclear Regulatory Commission (NRC), and the industry expects four-to-eight new plants to be operating by the end of the decade. Construction activities already have begun at plant sites in Georgia and South Carolina. As a consequence, over the past three years more than 15,000 careers, not just jobs, have been created as the nuclear industry has invested over $4 billion in new nuclear plant development. Plans call for the investment of another $8 billion to be in position to supply the materials needed to begin large-scale construction in 2011-2012. Many of these careers don’t require a college degree, but have earnings potential that equals, and even exceeds, that of college graduates. Teachers can play an instrumental part in creating awareness among their students of these careers.

### Perez Thumper

#### Perez nomination pounds immigration reform

US News 3-21-13, Ron Bonjean, “Tread Carefully, GOP—The Perez Nomination Is a Trap”, http://www.usnews.com/opinion/blogs/ron-bonjean/2013/03/21/perez-nomination-could-be-a-trap-for-the-gop

While the GOP continues to try to thread the needle over amnesty, pathways to citizenship and a guest worker program, the White House made a politically brilliant move which could help keep Republican poll numbers in the gutter. President Obama nominated Thomas E. Perez, who heads the Civil Rights Division at the Justice Department, to be the next Secretary of Labor which has provoked a fight with some Senate Republicans about voting rights, immigration and discrimination.

### 1AR XT – DOD Shields

#### No politician will oppose the plan---helps troops

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

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

#### Plan shields controversy

Appelbaum 12 Binyamin, Defense cuts would hurt scientific R&D, experts say, The New York Times, 1-8, http://hamptonroads.com/2012/01/defense-cuts-would-hurt-scientific-rd-experts-say

Sarewitz, who studies the government's role in promoting innovation, said the Defense Department had been **more successful** than other federal agencies because it is the **main user of the innovations that it finances**. The Pentagon, which spends billions each year on weapons, equipment and technology, has an **unusually direct stake in the outcome** of its research and development projects.¶ "The central thing that distinguishes them from other agencies is that they are the customer," Sarewitz said. "You can't pull the wool over their eyes."¶ Another factor is the Pentagon's relative insulation from politics, which has allowed it to sustain

a long-term research agenda **in controversial areas.** No matter which party is in power, the Pentagon has continued to invest in clean-energy technology, for example, in an effort to find ways to reduce one of its largest budget items, energy costs.