# 1AC

## 1AC – USC

### 1AC – Heg Advantage

#### CONTENTION 1: HEG

**Scenario 1---Cyber-terrorism**

**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.

**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 US critical mission operations**

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

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

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

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

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

**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.

**Scenario 2---Drones**

**Grid shutdown makes drones ineffective**

**Robyn 10** Dr. Dorothy, Deputy Under Secretary of Defense for Installations and Environment, 1/27/10, Statement before the Senate Homeland Security and Governmental Affairs Committee, Subcommittee on Federal Financial Management, Government Information, Federal Services and International Security, http://www.acq.osd.mil/ie/download/robyn\_testimony\_27jan10.pdf

A final challenge is grid vulnerability. DoD’s reliance on a fragile commercial grid to deliver electricity to its 500-plus installations places the continuity of critical missions at risk. Most installations lack the ability to manage their demand for and supply of electrical power and are thus vulnerable to intermittent and/or prolonged power disruption due to natural disasters, cyberattacks and sheer overload of the grid. **Because** of **U.S. combat forces’** increasing **reliance on “reachback” support from installations in the U**nited **S**tates, power failures at those installations could adversely affect our power projection and homeland defense mission capability. For example, we operate Predator drones in Afghanistan from a facility in Nevada and analyze battlefield intelligence at data centers here at home. This means that **an energy threat to bases at home can be a threat to operations abroad**.

**Drones prevent Pakistan collapse**

**Nadim 12** Hussain, visiting scholar at the Woodrow Wilson Center, "How Drones Changed the Game in Pakistan", August 8, nationalinterest.org/how-drones-changed-the-game-pakistan-7290

Regardless of what the news agencies in Pakistan claim about the negative effects of drone strikes**, the weapon is proving to be a game changer for the U.S. war on terrorism**. And surprisingly, the Pakistani Army quietly admits to this fact. Just the way Stinger missiles shifted the balance of power in favor of the United States in the 1980s, drones are producing the same results.¶ The critics of unmanned strikes, who claim that drones are contributing to growing radicalization in Pakistan, haven’t looked around enough—or they **would realize that much of the radicalization already was established** by the Taliban in the 1990s. The real tragedy is that it is acceptable for the Taliban to radicalize and kill, but it is considered a breach of sovereignty for the United States, in pursuit of those radicalizing Pakistan’s people, to do the same.¶ **There is so much protest over the drones because the media reports about them are biased**. Although people on ground in war zones contend that the drone strikes have very few civilian casualties and, with time, have become extremely precise, the media presents quite a different story to boost its ratings.¶ Many in Pakistan, especially in the army, understand the positive impact of this weapon. Drones are coming in handy for two reasons: **their precision and psychological effect**. Many analysts of this subject have been concerned only with the military aspect, such as whether or not drones are precise enough and the casualties they incur. But part of what works in favor of the United States is the psychological impact—the fear that drones have instilled in the militants. The fact that the United States might strike day or night, inside the militant compound or outside while traveling in the convoys, **works to deter militants and restrict their operations**. This tilts the balance of power in favor of the United States.¶ Most of the people in the Pakistani Army whom I interviewed on the subject were positive about the drone strikes and their direct correlation with a decrease in terrorist attacks in Pakistan. The majority focused on the psychological impact of the drones and how they **have put militants on the run**, forcing them to sleep under trees at night, though it must be said that army officials showed some concern about cases in which the same psychological impact is experienced by civilians.¶ Locals I talked to are frustrated over the fear that they might get hit by a drone if the militants are hiding in their neighborhood. But this frustration may have a positive impact as it motivates civilians to flush out and close doors to militants who seek refuge in their areas.¶ Surprisingly, there isn’t as much anti-Americanism as one would suspect in areas where the United States is conducting drone strikes**, largely because the locals are fed up with the influx of militants** in their areas **and have suffered because of terrorism**. However, urban centers, which have suffered the least from terrorism, are far more radicalized and anti-American. Hence, we see large anti-drone rallies in the cities of Punjab, where people have little first-hand experience with drones. The anti-American lot in these places will start a rally for any reason at all as long as they get to burn a few American flags.

#### Nuclear war

**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, “Unstable Pakistan Threatens the World,” http://www.arabamericannews.com/news/index.php?mod=article&cat=commentary&article=2183

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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 spines of 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.

#### Scenario 3: Guantanamo

#### Particularly true of Guantanamo

Packard 11 Steve, member of the James Randi educational foundation and contributor to the Bad Science Blog, “20 Classic Atomic Energy Ads”, http://depletedcranium.com/20-classic-atomic-energy-ads

I do think that these small reactors have enormous potential. They can be set up quickly and need relatively little maintenance and labor to keep running for extended periods of time. They can be prefabricated and theoretically mass produced.¶ There are certainly plenty of places that sorely need a reliable, relatively small, economical source of power: The Marshall Islands, Bermuda, Aruba, Barbados, Thull Air Force Base, the remote mining and oil and gas operations in Alaska and northern Canada, South Pole Station, McMurdo Base, the Canary Islands, Guantanamo Bay Naval Station, Fiji, various parts of Africa.

#### That prevents base vulnerability

Snider 11 Annie, reporter for Greenwire writing in the New York Times, “Could Alternative Energy Be Gitmo's Next Legacy?”, June 13, <https://www.nytimes.com/gwire/2011/06/13/13greenwire-could-alternative-energy-be-gitmos-next-legacy-85177.html?pagewanted=all#h[EteIah,2>]

As the Pentagon looks for ways to build a military that runs on less but remains every bit as lethal, Guantanamo Bay Naval Station is gaining a reputation as an ideal test bed. It is a reputation decades in the making and spurred by necessity. Ever since 1964, when Cuban leader Fidel Castro cut off the U.S. base from the country's electric grid and water system amid sparking Cold War tensions, the naval station has had to quench its own substantial thirst for power and water. The high cost of shipping in fuel for inefficient generators that run the base's power grid and desalinization plant had the base's public works staff looking to cut consumption and bring new sources of power online long before defense chiefs were giving the topics the spotlight. Eleven years ago, for instance, staff began drawing up plans for wind turbines that now sit on the base's highest ridge. But there are as many lessons for the military in the bumps Gitmo's staff has hit in its quest for energy security as there are in its successes. When plans for those wind turbines were drawn up in 2001, the base projected that they would provide a quarter of the base's energy and provide major savings by cutting the amount of fuel being shipped in. But that was before the terrorist attacks of Sept. 11, 2001, before the U.S. undertook two wars, and before detention centers were set up on the east side of the base to house those wars' prisoners. By the time the wind farm was finished in 2005, the base was home to more than twice as many personnel and supported a whole new, energy-intensive operation. Today, four 950-kilowatt wind turbines tower over the base's Cold War-era bunkers, but they account for about 2 to 3 percent of the base's overall power generation. And although the turbines are operating as expected, the naval station is actually shipping in more fuel, not less. The story of Guantanamo Bay's wind power speaks to the particular challenges the military faces as it aims to become less reliant on fuel: Missions change quickly, and energy is rarely an important factor when deciding how to tackle them. With energy security now commanding attention at the highest levels of the defense world, the pressure is on Pentagon officials to find solutions that will work for U.S. forces. For them, Guantanamo Bay Naval Station has become a case study in the benefits -- and the challenges -- of trying to reduce energy and water use and switch to alternative sources. Cost of self-sufficiency When Castro cut off Guantanamo in 1964, the Navy spent five months importing potable water by barge while a desalination plant was built at break-neck speed. It was such an astonishing feat that Castro did not believe it could be true. He accused the United States of stealing Cuban water. To prove him wrong, the base's commanding officer, Vice Adm. John Bulkeley, invited reporters to join him at the base's northeast gate, where he cut the pipe connecting the base to the Cuban water system. He held up the pipe, and it was bone dry. Today, the 45-square-mile naval station in southeast Cuba -- the United States' oldest overseas base and the only one located in a country with which the United States has no diplomatic relations -- produces about 1 million gallons of water each day and generates enough power to meet a summertime peak demand of some 22 megawatts. In April, the Navy's top environment and energy official, Assistant Secretary of the Navy Jackalyne Pfannenstiel, visited the base to get a first-hand look at the base's unique energy strategy. "The Navy recognizes that we have a national need to wean ourselves from imported oil products," Pfannenstiel said after touring the base's utilities. "[Guantanamo] could be a model for what can be done." The energy to run Guantanamo Bay Naval Station's desalinization plant and power the military operations, including the nine prisons, comes primarily from a network of 19 diesel generators that run on fuel barged to the island. They consume between 25,000 and 30,000 gallons of fuel each day. It is an extremely expensive arrangement. DOD pays on the order of $80,000 a day for fuel and lube oil, according to Tim Wagoner, the base's resource efficiencies manager. "I used to work at Fort Campbell," Wagoner said, referring to the U.S. Army base in Kentucky. "They consume about twice as much power as we do here, but their bill is about a third of what ours is." If DOD were not footing the costs, the monthly power bill for a two-bedroom house on base would run about $550, according to Navy calculations. But the cost isn't the worst of it. The base's commanding officer said Guantanamo Bay's energy situation also makes it vulnerable to accidents or attacks. "Energy and water -- that's kind of my Achilles' heel here," said Capt. Kirk Hibbert, who took command of the naval station last September. "We certainly cannot go across town and say, 'Hey, can I borrow some of your power?'" No simple calculation The Pentagon spends about $16 billion a year on fuel, and when oil prices spike, they hit DOD's budget to the tune of $130 million a year for every $1 increase per barrel. But alternative energy projects are not always financial no brainers for DOD. While transporting energy can be extremely expensive and at times dangerous, so too can shipping the materials, equipment and people that it takes to build new renewable energy infrastructure. At Guantanamo Bay, the rule of thumb is that everything costs about one-and-a-half times what it costs in the United States since it has to be flown or shipped in to the base. That can make it tough to justify investing in something new when the old one still works. The base has a number of landmarks from its 108-year history, testifying to how slowly things change here. The base's original desalinization plant still stands, rusting but intact, because tearing it down and shipping it off base is prohibitively expensive. Poorly insulated buildings, some dating back to the 1950s or earlier, remain in use today with air conditioners whirring against the piercing tropical sun. The tug of war between long-term and short-term costs, combined with the constant need for backup options, is especially stark at the base's power plant. The base recently got two new, high-efficiency diesel generators, joining the two it had previously received as part of the same Energy Savings Performance Contract that brought the wind turbines in 2005. But when the four were off-line for maintenance on a day with temperatures of nearly 90 degrees Fahrenheit in late April, the base was running on seven 1970s-era generators that had been pulled from a salvage yard in Norfolk, Va., as well as three "old workhorses" as the staff calls them, that were built in 1957. The high-performance generators, which are about 25 percent more efficient, make economic sense, Pfannensteil said, and the base staff are hoping to get a few more. But they are not giving the old ones up yet. Other renewable energy projects have won funds by piggybacking on existing construction projects. For instance, there is a new gym in the works that will include a concentrated solar array that is expected to produce 440,000 kilowatt-hours in a year. "We've got a top-down strategy for renewables for the base with 15 sites identified for different renewable projects," Wagoner said. "At the same time, if we get a big project like our gym renovation project ... then we have the opportunity to say, 'Hey, we can add this much solar power to the building to get it closer to a net-zero building, can we move forward with that?' We've had a lot of success moving things forward that way." Meanwhile, Pentagon purse-holders are beginning to choose renewable energy investments based on more than just financial payback, with items like energy security ranking high. The military recently implemented "a new investment decision-making tool called Energy Return on investment (eROI)," Pfannenstiel said in an email. The tool considers a project's financial and nonfinancial benefits, she wrote, including "energy security capabilities, legislative mandate compliance, political/public affairs enhancements, and linkage to other long-term goals." A central DOD program also recently revised its calculations, considering the ability of a project to produce "game-changing" improvements in energy consumption, costs and security when deciding where to invest its $135 million budget. Alt-energy proving ground With a high cost of conventional fuel and a bounty of sun and wind, DOD officials say Guantanamo Bay makes an ideal laboratory for testing alternative energy and energy efficiency technologies. The base also has a unique amount of autonomy when it comes to trying something new. "The thing about Guantanamo Bay is, you don't have to go through a lot of the bureaucratic red tape -- with corps meetings, with local governments -- that folks may have to do back in the states," said Commanding Officer Hibbert. "Here, you may be able to bring things down here and test and validate here, so we can provide those results back to the states." Turning DOD's 300,000 or so buildings and 2.2 billion square feet of space into an energy test bed is an idea that has both DOD officials and energy technology businesses excited. In 2009, the Pentagon launched a $20 million pilot project and this year is looking to institutionalize it with a $30 million research and development budget. This program makes good, plain sense, the DOD official in charge of the military's bases told Congress earlier this year. "Emerging technologies offer a way to cost effectively reduce DOD's facility energy demand by a dramatic amount ... and provide distributed generation to improve energy security," said Deputy Undersecretary of Defense for Installations and Environment Dorothy Robyn in written testimony. "Absent outside validation, however, these new technologies will not be widely deployed in time for us to meet our energy requirements." Energy technology entrepreneurs like the idea because it gives them an early adopter to prove the technology. It also helps them clear the military's particular hurdles for approval and opens them up to DOD's vast market (Greenwire, March 31).

#### Guantanamo’s key to Caribbean stability and counter-narcotics

Berrigan 8 Frida, research associate at the World Policy Institute, specializing in arms trade, “Guantanamo: The Bigger Picture”, March 17, <http://www.fpif.org/articles/guantanamo_the_bigger_picture>

Navy Commander Jeffery D. Gordon explains that the U.S. presence at Guantanamo serves "a vital role in Caribbean regional security, protection from narco-trafficking and terrorism and safeguards against mass migration attempts in unseaworthy craft." The Navy’s Atlantic fleet is based there and the base is described as being "on the front lines of the battle for regional security."

#### That’s key to solve regional instability and nuclear smuggling

Ward 11 Ambassador (Ret.) Curtis A, Adjunct Professor in the Elliott School of International Affairs at The George Washington University, “Regional Threats: Security Capacity Imperatives in the Caribbean” ndupress, issue 58, http://www.ndu.edu/press/regional-threats.html

More than 6 years after this declaration, the problems of security in the Caribbean have increased considerably, and the threats have become more complex and therefore require far more superior responses. Caribbean states remain "vulnerable and susceptible" to the same risks identified at the 2004 Americas Summit in Monterrey, Mexico. They still lack "technical and financial resources," and the risks associated with the region still exist despite significant efforts by a number of Caribbean countries to improve security infrastructure and security expertise. However, with limited resources and insufficient technical and financial support from the United States and other international partners, such as Canada and the European Union, the security situation in the Caribbean should continue to be a cause of great concern to the United States in the same way it was 6 years ago in Monterrey. The expectations that followed the Monterrey pronouncement have not been met. Except for its support for drug interdiction in the Caribbean, the United States has not kept pace with the security and development imperatives of the region. During this period, there has been little U.S. assistance to prevent the trafficking in illegal arms (automatic weapons and other small arms) to the Caribbean. By failing to staunch its own flow of guns, the United States itself has not matched the level of cooperation it has demanded of Caribbean countries in dealing with illegal drug trafficking through and from the region to the United States. Furthermore, most of the security imperatives imposed on the region are direct results of bilateral pressure from the U.S. Government, including through requirements of legislation such as the Maritime Transportation Security Act to protect the homeland, the international supply chain, and particularly U.S. trade.4 Added to U.S.-imposed requirements are new security standards and best practices developed in international forums to deal with the threat of international terrorism and maritime and aviation security, often at the urging and leadership of the United States in the post-9/11 era. The Security-Development Nexus While Caribbean states remain relatively safe destinations for American visitors, there are significant security problems that threaten the future political stability and fragile economies of these states. Highlighting these problems is not intended to create any form of hysteria or to raise the threat level on Caribbean travel but to ensure that negative trends in the region are arrested before the problems become uncontrollable and irreversible. Preventative action, now rather than later, serves both the national security interests of the United States and the security and economic development interests of the region. Caribbean security problems are not insurmountable, but they are beyond the technical and financial resource capacities of Caribbean countries to fix. Without significant input from the United States and other partner countries, the problems will only get worse and will pose significant threats to the U.S. homeland and the region in the future. The countries of the English-speaking Caribbean, despite their fragile economies, begin with clear advantages over most countries in other regions and subregions, including Central and South America. The Englishspeaking Caribbean countries have strong democratic underpinnings, adhere to the rule of law, and have in place well-defined, though significantly underresourced, institutional mechanisms.5 These distinctions provide a platform for institutional and operational capacity-building and security enhancement. The security problems, while varied from country to country, have some common threads. These include substantial gaps in border management and control capacities— in particular, customs administration and control, port facilities security, and maritime border control. There is significant lack of capacity to prevent contraband from entering the international supply chain and the domestic environment. This capacity gap considerably increases the threat of weapons of mass destruction (WMD) and their precursors entering the international supply chain from or transiting marginally secured port facilities destined for the United States. The wide gaps in the capacities of the island states to patrol and secure their territorial sea and coastlines increase the likelihood of terrorists and international criminals gaining access to U.S. commercial shipping and cruise ship assets.

#### Instability causes global war

Griffith 2k Ivelaw L, professor of political science and dean of the honors college at Florida International University, “U.S. Strategic Interests in Caribbean Security”, JFQ: Joint Force Quarterly, Autumn, Issue 26

The strategic importance of the Caribbean is found in its resources, sea lanes, and security networks. The Caribbean Basin is the source of fuel and nonfuel minerals used in both the defense and civilian sectors. Of particular significance are petroleum and natural gas produced in Barbados, Colombia, Guatemala, Trinidad and Tobago, and Venezuela. Moreover, though several countries and U.S. territories in the area do not have energy resources, they offer invaluable refining and transshipment functions (Aruba, Bahamas, Curacao, Dominican Republic, Jamaica, Puerto Rico, St. Lucia, and U.S. Virgin Islands). Other mineral resources from the Caribbean include bauxite, gold, nickel, copper, cobalt, emeralds, and diamonds. The Caribbean Basin has two of the world's major choke points, the Panama Canal and the Caribbean Sea. The former links the Atlantic and Pacific Oceans and saves 8,000 miles and up to 30 days of steaming time. The canal has military and civilian value. And while it is less important to the United States than it was two decades ago, other countries remain very dependent on it, and many, like Chile, Ecuador, and Japan, are militarily or politically important to Washington. Once ships enter the Atlantic from the canal they must transit Caribbean passages en route to ports of call in the United States, Europe, and Africa. The Florida Strait, Mona Passage, Windward Passage, and Yucatan Channel are the principal lanes. The Caribbean is also our southern flank. Until a decade ago the United States maintained a considerable military presence throughout the Caribbean, mainly in Puerto Rico at the Atlantic threshold, in Panama at the southern rim, and in Cuba at Guantanamo on the northern perimeter. In 1990, for instance, there were 4,743 military and civilian personnel in Puerto Rico, 20,709 in Panama, and 3,401 in Cuba. Much has changed since 1990, requiting strategic redesign and force redeployment. Today Puerto Rico is home to fewer forces, and U.S. Southern Command (SOUTHCOM) relocated from Panama to Miami in September 1997, leaving behind only small components. Guantanamo, long considered to have little strategic value, serves essentially as a political outpost in the last remaining communist bastion in the hemisphere, with about 1,200 military and civilian personnel. During the 1980s the Soviet presence in Cuba included modern docks and repair facilities, reconnaissance aircraft, and satellite and surveillance capabilities. The 28-square mile base located at Lourdres monitored missile tests, intercepted satellite communications, and relayed microwave communications to diplomatic posts in the Western Hemisphere. The facility was reputedly the largest maintained by the Soviet Union abroad. It is still in operation, but not at Cold War levels. Yet fear of foreign encroachment persists. The United States is concerned about increasing Chinese interest and investment in Panama. Although such strategic affairs may not be crucial to Washington, they affect allies as well as regional stability and security and thus bear watching. Geoeconomics The mixture of geography, economics, and national power in the area exercises influence over trade and investment. For example, the Department of Commerce found that for the four-year period prior to 1988 a total of 646 U.S. companies invested over $1.5 billion in Caribbean Basin Initiative (CBI) beneficiary countries. Moreover, from 1986 to 1995 U.S. trade surpluses with the area grew from $297 million to $2.6 billion. In 1995 exports grew by 15 percent, to $8 billion, with the Dominican Republic and Jamaica accounting for 55 percent. That year also saw surpluses with every country except Aruba, Dominican Republic, and Trinidad and Tobago. Last year the U.S. Trade Representative told an InterAmerican Development Bank forum, "Taken as a whole, the Caribbean Basin is a larger market for our goods than ... France, Brazil, or China. Likewise, the United States is the area's natural market, taking 80 percent of its exports and providing nearly $50 billion in foreign direct investment." The United States is the largest trading partner and source of capital flows for Caribbean Community and Common Market countries. CBI nations are a principal market for U.S. exports, totaling $21.1 billion in 1998 (9.1 percent over the previous year). Exports to the Caribbean Basin accounted for 3 percent in 1998 (up 2.8 percent over the previous year). An estimated half of each dollar spent in the area is returned to the United States compared with 10 cents from Asia. Further, this trade supports some 400,000 jobs in this country and many more in the Caribbean. Moreover, the Overseas Private Investment Corporation (OPIC) reported in 2000 that from 1995 to 1999 it assisted in 38 projects in the area involving $3.2 billion in investments, which are expected to generate $1.5 billion in U.S. exports and, in turn, support 4,500 jobs in this country. Moreover, in February 1999, OPIC and Citibank established a $200 million investment facility for Central America and the Caribbean to help meet needs for medium- and long-term capital. Geonarcotics There are four dimensions in the drug phenomenon: production, consumption, trafficking, and money laundering. These activities threaten the security of states around the world. Narcotics operations and capital ventures which they spawn precipitate both conflict and cooperation among state and nonstate actors in the international system. Because of the global dispersion of drug traffic and physical, social, and political features of facilitating countries, power involves securing compliant action. In the drug world, this power is both state and nonstate in origin, and some nonstate sources exercise relatively more power than state entities. Politics revolves around resource allocation through the ability of power brokers to determine who gets what, when, where, and how. Because power in this milieu is not only state in origin, resource allocation is not exclusively a state function. Drug operations generate complex relationships. Some involve nonmilitary pressures such as political and economic sanctions by the United States against countries it considers not proactive enough in combating drug traffic. Yet the problem entails more than the movement of drugs from and through the area; it involves money laundering, organized crime, corruption, arms dealing, and matters of sovereignty. Such activities are reported in the International Narcotics Control Strategy Report issued annually by the Department of State and are reflected in the following vignettes: Operation Dinero, an international money laundering sting conducted out of tiny Anguilla from January 1992 to December 1994, led to the seizure of nine tons of cocaine and $90 million in assets, including expensive paintings, Head of a Beggar by Pablo Picasso among them. Cocaine seizures in only five nations--Bahamas, Belize, the Dominican Republic, Haiti, and Jamaica--totaled 3,300 kilos in 1993. Seizures for those same countries amounted to 6,230 kilos--almost double--during 1999. Between 1993 and 1998, over 9,000 deportees were returned to Jamaica, most for drug-related offenses in Canada, the United Kingdom, and the United States. In November 1998, American owned Cupid Foundations closed its business in Jamaica after 22 years with a loss of 550 jobs. Cupid could no longer afford the fines incurred with the seizure of its merchandise by U.S. Customs because of attempts to smuggle drugs in its clothing. Operation Conquistador, conducted March 10-26, 2000, involving the United States and 24 nations in the region, led to the issuance of 7,300 search warrants, arrest of 2,300 people, and seizure of 12,000 pounds of cocaine, 120 pounds of heroin, 150 pounds of hashish oil, 30 pounds of morphine base, 172 vehicles, 13 boats, and 83 guns. Between November 24, 1999, and June 6, 2000, 12 freighters were seized in Miami on arrival from Haiti with over 6,000 pounds of cocaine hidden in their cargo. Since mid-October 2000 Jamaica has produced a drug-related drama involving high-level police corruption, illegal wire-tapping of government officials, and the attempted assassination of the head of the National Firearms and Drug Intelligence Center. Traditional and Emerging Issues Security in the Caribbean has political, military, economic, and environmental implications and includes internal and external threats. Nonstate actors are as important as state actors. Indeed, many nonstate actors can mobilize more economic and military assets than some countries. Thus the security landscape reveals both traditional and nontraditional concerns. Territorial disputes and geopolitical posturing are core traditional issues. Belize, Colombia, Guatemala, Guyana, Suriname, and Venezuela have serious disagreements, some of which Involve multiple disputes. For example, Guyana faces claims by Venezuela for the western five-eighths of its 214,970 square kilometers of territory and by Suriname for 15,000 to the east. Drugs, political instability, migration, and the environment are major nontraditional issues. There is no uniformity in the importance ascribed to them, but a comparison of the traditional and nontraditional categories reveals a generally higher premium on nontraditional issues. Some states, such as those in the Eastern Caribbean, face no traditional security concerns or overt threats. The foremost nontraditional threat involves drugs. This multifaceted problem has increased in scope and gravity over the last decade and a half and added security effects. Crime, corruption, and arms dealing dramatically impact on national security and governance in political, military, and economic terms. They also infringe on national sovereignty. Two decades ago most Caribbean leaders were reluctant to acknowledge that their countries faced a drug threat Two decades ago most Caribbean leaders were reluctant to acknowledge that their countries faced a drug threat. But the severity of the problem grew until the danger was obvious inside and outside the area. For instance, at a meeting on criminal justice in June 2000, which was attended by officials of Europe, Canada, the Caribbean Basin, and the United States, the attorney general of Trinidad and Tobago spoke of "the direct nexus between illegal drugs and crimes of violence, sex crimes, domestic violence, maltreatment of children by parents, and other evils," and remarked that "aside from the very visible decimation of our societies caused by drug addiction and drug-related violence, there is another insidious evil: money laundering." Engagement Challenges Leaders in the Caribbean and the United States share a common assessment of the principal security concerns in the area: drugs, border disputes, poverty, corruption, natural disasters, illegal migration, insurgencies, and the environment. Consistent with this view, SOUTHCOM is focused on counterdrug operations, peacekeeping, humanitarian assistance, and disaster relief. One basic challenge in redesigning policy or strategy is determining which instruments and modalities should be changed. Except for Cuba, engagement does not warrant revamping existing practices. Some things work well and should be retained; others do not and should be modified. This discussion addresses both types. Robert Pastor, who served on the National Security Council staff during the Carter administration, noted that Caribbean nations are too small and poor to directly challenge the United States. What really moved Washington was the threat of powerful adversaries from other parts of the world forging relationships in the area that facilitated the harassment of or attack on the United States or its neighbors. "When the threat diminishes," he remarked, "so does U.S. interest. That accounts for the apparent cycle between preoccupation at moments of intense geopolitical rivalry and neglect at times of geopolitical calm." Today's relative geopolitical calm justifies the concern of scholars and statesmen about the likelihood of a new phase of benign neglect or even worse. Hence it is important to highlight the challenge of staying engaged in both symbolic and substantive terms. Some years ago, the prime minister of St. Vincent and the Grenadines declared: "We have to behave like Grenada or Fiji to get attention, and when we stop misbehaving we are left to languish in blissful obsecurity." Engagement demands flexibility and adaptability. For some missions, political expediency may require that nonmilitary personnel take the lead, or perhaps coastguardsmen as opposed to soldiers or marines. And flexibility and adaptability may be compromised by pushing the economy of force envelope too far. Also, engagement programs must not mistake silence for satisfaction. In addition, engagement requires the first team. U.S. leaders must not relegate decisionmaking to uninformed interns, junior staffers, or freshman bureaucrats. Colombia, Cuba, Haiti, and Venezuela are clearly hot spots that should be watched closely; but so must other countries. Guyana bears scrutiny because of resurgent territorial claims, the impact of that dispute on investment and development (especially because U.S. and Canadian investors are involved), the likelihood of political instability, and the influence of drug trafficking. Another concern is violent crime in Jamaica, some of which affects foreign tourists and investors. In addition, Jamaican organized crime poses transnational dangers to law enforcement and economic interests. Drug trafficking and economic deprivation could also lead to renewed political instability. The Dominican Republic faces issues of drug traffic, transnational crime, illegal migration, and political instability as that nation strives to translate rapid economic growth into less deprivation. The economy grew by 6.5 percent in 2000, 8.3 percent in 1999, and 7.3 percent in 1998, yet many Dominicans do not benefit from this wealth as some 20 percent of the country's 8.5 million people live in poverty. Puerto Rico also warrants attention. Although a domestic question for the United States, Vieques detracts from U.S. conflict resolution credibility. While Vieques is allegedly indispensable for Navy training, this issue highlights a troubling aspect of relations between the mainland and the island. Programs must operate on several tracks encompassing broad interagency activities. Multifaceted engagement is especially vital in counternarcotics efforts. Countermeasures must be multi-level--regional and international as well as national--because drug operations are transnational. Moreover, the measures must be implemented on a multiagency level to grapple with jurisdictional, legal, social, and economic issues precipitated by the drug problem. In addition to government agencies, a range of corporations, nongovernmental organizations, and international bodies such as the Organization of American States and the U.N. International Drug Control Program must play critical roles. Multilateral security measures do not preclude bilateralism. Indeed, such measures may be more politically expedient because they can be designed and executed faster. There may be budget incentives to act quickly. Moreover, in light of resource difficulties, a premium should be put on regulatory and operational aspects of interagency work to guard against turf and prestige battles. Whether it is an issue of drugs, territorial disputes, migrant flows, or the environment, engagement should be pursued on the basis of mutual interest. This is not always achievable. Sometimes even leaders of comparatively wealthy states, though partners, are unwilling to agree to collective efforts because of concern about their impact. Domestic factors such as political change and public opinion often make it difficult to honor or renew pledges. But despite such complications, leaders must not let the possibility of conflict undermine cooperation. There are high stakes for the United States in the Caribbean. The stakes are also high for the Caribbean countries. New defense and foreign policy initiatives may encourage effective engagement and investment of the resources to match the national interest in an area that represents a global crossroads and an essential element for regional stability.

### 1AC – Water Advantage

#### CONTENTION 2: WATER

#### Water shortages coming --- causes instability

AFP 9/10, “World water crisis must be top UN priority: report”, http://www.google.com/hostednews/afp/article/ALeqM5gcIGn59te-BGkDoG1uG6XrAMXO\_A?docId=CNG.96ef5382d53f44338468570447594103.851

WASHINGTON — A rapidly worsening water shortage threatens to destabilize the planet and should be a top priority for the UN Security Council and world leaders, a panel of experts said in a report.¶ The world's diminishing water supply carries serious security, development and social risks, and could adversely affect global health, energy stores and food supplies, said the report titled "The Global Water Crisis: Addressing an Urgent Security Issue," published Monday.¶ The study was released by the InterAction Council (IAC), a group of 40 prominent former government leaders and heads of state, along with the United Nations University's Institute for Water, Environment and Health, and Canada's Walter and Duncan Gordon Foundation.¶ "As some of these nations are already politically unstable, such crises may have regional repercussions that extend well beyond their political boundaries," said Norway's former Prime Minister Gro Harlem Brundtland, a member of the group.¶ The Norwegian leader underscored that the danger is particularly acute in sub-Saharan Africa, western Asia and North Africa, where critical water shortages already exist.¶ She added that water insecurity could wreak havoc "even in politically stable regions."

#### Especially in China, Egypt, and Pakistan --- goes nuclear

NPR 10 (NPR citing Steven Solomon who has written for The New York Times, BusinessWeek, The Economist, Forbes, and Esquire. He has been a regular commentator on NPR’s Marketplace, and has appeared as a featured guest on the late Tim Russert’s CNBC show, NPR’s Talk of the Nation, Bloomberg TV, and on many other news shows. He has addressed the World Affairs Council, Center for Strategic and International Studies (CSIS), and university forums, author of *Water: The Epic Struggle for Wealth, Power, and Civilization and The Confidence Game*, 1/3/10, https://www.npr.org/templates/story/story.php?storyId=122195532)

Just as wars over oil played a major role in 20th-century history, a new book makes a convincing case that many 21st century conflicts will be fought over water. In Water: The Epic Struggle for Wealth, Power and Civilization, journalist Steven Solomon argues that water is surpassing oil as the world's scarcest critical resource. Only 2.5 percent of the planet's water supply is fresh, Solomon writes, much of which is locked away in glaciers. World water use in the past century grew twice as fast as world population. "We've now reached the limit where that trajectory can no longer continue," Solomon tells NPR's Mary Louise Kelly. "Suddenly we're going to have to find a way to use the existing water resources in a far, far more productive manner than we ever did before, because there's simply not enough." One issue, Solomon says, is that water's cost doesn't reflect its true economic value. While a society's transition from oil may be painful, water is irreplaceable. Yet water costs far less per gallon — and even less than that for some. "In some cases, where there are large political subsidies, largely in agriculture, it does not [cost very much]," Solomon says. "In many cases, irrigated agriculture is getting its water for free. And we in the cities are paying a lot, and industries are also paying an awful lot. That's unfair. It's inefficient to the allocation of water to the most productive economic ends." At the same time, Solomon says, there's an increasing feeling in the world that everyone has a basic right to a minimum 13 gallons of water a day for basic human health. He doesn't necessarily have an issue with that. "I think there's plenty of water in the world, even in the poorest and most water-famished country, for that 13 gallons to be given for free to individuals — and let them pay beyond that," he says. Solomon says the world is divided into water haves and have-nots. China, Egypt and Pakistan are just a few countries facing critical water issues in the 21st century. In his book he writes, "Consider what will happen in water-distressed, nuclear-armed, terrorist-besieged, overpopulated, heavily irrigation dependent and already politically unstable Pakistan when its single water lifeline, the Indus river, loses a third of its flow from the disappearance from its glacial water source."

#### Middle East war causes World War 3

The Earl of Stirling 11, hereditary Governor & Lord Lieutenant of Canada, Lord High Admiral of Nova Scotia, & B.Sc. in Pol. Sc. & History; M.A. in European Studies, “General Middle East War Nears - Syrian events more dangerous than even nuclear nightmare in Japan”, http://europebusines.blogspot.com/2011/03/general-middle-east-war-nears-syrian.html

Any Third Lebanon War/General Middle East War is apt to involve WMD on both side quickly as both sides know the stakes and that the Israelis are determined to end, once and for all, any Iranian opposition to a 'Greater Israel' domination of the entire Middle East. It will be a case of 'use your WMD or lose them' to enemy strikes. Any massive WMD usage against Israel will result in the usage of Israeli thermonuclear warheads against Arab and Persian populations centers in large parts of the Middle East, with the resulting spread of radioactive fallout over large parts of the Northern Hemisphere. However, the first use of nukes is apt to be lower yield warheads directed against Iranian underground facilities including both nuclear sites and governmental command and control and leadership bunkers, with some limited strikes also likely early-on in Syrian territory.¶ The Iranians are well prepared to launch a global Advanced Biological Warfare terrorism based strike against not only Israel and American and allied forces in the Middle East but also against the American, Canadian, British, French, German, Italian, etc., homelands. This will utilize DNA recombination based genetically engineered 'super killer viruses' that are designed to spread themselves throughout the world using humans as vectors. There are very few defenses against such warfare, other than total quarantine of the population until all of the different man-made viruses (and there could be dozens or even over a hundred different viruses released at the same time) have 'burned themselves out'. This could kill a third of the world's total population.¶Such a result from an Israeli triggered war would almost certainly cause a Russian-Chinese response that would eventually finish off what is left of Israel and begin a truly global war/WWIII with multiple war theaters around the world. It is highly unlikely that a Third World War, fought with 21st Century weaponry will be anything but the Biblical Armageddon.

#### Water scarcity causes wars in Asia

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

Water stress is set to become Asia’s defining crisis of the twenty-first century, creating obstacles to continued rapid economic growth, stoking interstate tensions over shared resources, exacerbating long time territorial disputes, and imposing further hardships on the poor. Asia is home to many of the world’s great rivers and lakes, but its huge population , pollution and exploding economic and agricultural demand for water make it the most water-scare continent on a per capita basis. Many of Asia’s water sources cross national boundaries, and as less and less water is available, international tensions will rise. The poor management of river basins, environmentally unsustainable irrigation practices, an overuse of groundwater, and the contamination of water sources have all helped aggravate Asian water woes. The over exploitation of subterranean water in the large parts of the Asia has resulted in a rapidly falling groundwater saturation level- known as the water table. In the Gangetic delta, wells have tapped into naturally occurring arsenic deposits, causing millions of people in Bangladesh, and Eastern India including Jharkhand and Bihar to be exposed to high levels of poisonous arsenic in drinking water and staple agricultural products like rice. In some Asian coastal areas, the depletion of groundwater has permitted saline seawater to flow in to replace the freshwater that has been extracted. The Ganga, which is virtually synonymous with Indian civilisation, is dying. Pollution, over-extraction of water, emaciated tributaries and climatic changes are killing the mighty river, on whose fecund plains live one in 12 people of this planet. The Ganga basin makes up almost a third of India's land area and its rich soil is home to millions of people. However, indiscriminate extraction of water with modern tube wells from the river as well as its basin, coupled with the damming of its tributaries for irrigation, have seriously reduced its flow. Climate change has added to the threat. Rivers are the lifeblood of the Bangladesh economy and social life. Its cultural life is also deeply related to rivers. It is extremely unfortunately that its three main rivers, Ganges-Padma, Brahmaputra-Jamuna and Surma-Meghna are dying. As per a survey of the Bangladesh Water Development Board (BWDB), there are three hundred and ten rivers in Bangladesh. Out of these fifty-seven are border rivers, the condition of one hundred and seventy five is miserable, and sixty five are almost dead. Eighty percent of the rivers lack proper depth. The latest study reveals that one hundred and seventeen rivers are either dead or have lost navigability . Such rivers/canals include Brahamaputra, Padma, Mahananda, Gorai, Meghna, Titas, Gomati, Kushiara, Dhaleswari, Bhairab, Sitalksha, Turag etc. As per a report of BWDB, India is controlling the water of 57 rivers along with the Farakka barrage. Because of inadequate facilities for dredging, these rivers have become canals. Additionally, India has withdrawn water of several rivers including Surma, Kushiara and Mahananda. Sluice gates have been constructed on the rivers Senoa, Jamuna, Panga, Pan, Hatoori and Sui (situated near Panchagarh). Apart from the scourge of Farakka barrage, a new dam, named Tipaimukh dam, is under construction in India. Asia will continue to have the world’s largest number of people without basic or adequate access to water. The Asian water sector is plagued by serious problems, including inadequate infrastructure and poor system maintenance, financially strapped utilities, low-cost recovery, growing pollution, watershed degradation, and unsustainable groundwater extraction. Owing to leaks and system inefficiencies, a sizable portion of the water supply is lost before reaching the consumer. As water distress intensifies and global warming accelerates, local, national, and interstate disputes over water are likely to become endemic in Asia. Water, for its part, could trigger increased conflicts within and between states, and open new political disputes in Asia. Water shortages, likely to be aggravated by fast-rising use and climate change, pose a potential threat to political stability, economic modernization, public health, food security, and internal cohesion in a number of Asian states. A study of Asia’s biggest rivers-the Indus, the Brahmaputra, the Yangtze, the Yellow, and the Ganges-by different experts has found that the “ upstream snow and ice reserves of these basins-important in sustaining seasonal water availability- are likely to be affected substantially by climate change,” although the extent of impact will vary from basin to basin.

#### Nuclear war

Campbell et al 8(Kurt M, Assistant Secretary of State for East Asian and Pacific Affairs, Dr. Campbell served in several capacities in government, including as Deputy Assistant Secretary of Defense for Asia and the Pacific, Director on theNational Security Council Staff, previously the Chief Executive Officer and co-founder of the Center for a New American Security (CNAS), served as Director of the Aspen Strategy Group and the Chairman of the Editorial Board of the Washington Quarterly, and was the founder and Principal of StratAsia, a strategic advisory company focused on Asia, rior to co-founding CNAS, he served as Senior Vice President, Director of the International Security Program, and the Henry A. Kissinger Chair in National Security Policy at the Center for Strategic and International Studies, doctorate in International Relation Theory from Oxford, former associate professor of public policy and international relations at the John F. Kennedy School of Government and Assistant Director of the Center for Science and International Affairs at Harvard University, member of Council on Foreign Relations and  International Institute for Strategic Studies, “The Power of Balance: America in iAsia” June 2008, <http://www.cnas.org/files/documents/publications/CampbellPatelSingh_iAsia_June08.pdf>)

Asian *investment* is also at record levels. Asian countries lead the world with unprecedented infra­structure projects. With over $3 trillion in foreign currency reserves, Asian nations and businesses are starting to shape global economic activity. Indian firms are purchasing industrial giants such as Arcelor Steel, as well as iconic brands of its once-colonial ruler, such as Jaguar and Range Rover. China’s Lenovo bought IBM’s personal computer We call the transformations across the Asia-Pacific the emergence of “iAsia” to reflect the adoption by countries across Asia of fundamentally new stra­tegic approaches to their neighbors and the world. Asian nations are pursuing their interests with real power in a period of both tremendous potential and great uncertainty. iAsia is: *Integrating:* iAsia includes increasing economic interdependence and a flowering of multinational forums to deal with trade, cultural exchange, and, to some degree, security. *Innovating:* iAsia boasts the world’s most successful manufacturing and technology sectors and could start taking the lead in everything from finance to nanotech to green tech. *Investing:* Asian nations are developing infrastruc­ture and human capital at unprecedented rates. But the continent remains plagued by: Insecurity: Great-power rivalry is alive in Asia. Massive military investments along with historic suspicions and contemporary territorial and other conflicts make war in Asia plausible. Instability: From environmental degradation to violent extremism to trafficking in drugs, people, and weapons, Asian nations have much to worry about. *Inequality:* Within nations and between them, inequality in Asia is more stark than anywhere else in the world. Impoverished minorities in countries like India and China, and the gap in governance and capacity within countries, whether as back­ward as Burma or as advanced as Singapore, present unique challenges. A traditional approach to Asia will not suffice if the United States is to both protect American interests and help iAsia realize its potential and avoid pitfalls. business and the Chinese government, along with other Asian financial players, injected billions in capital to help steady U.S. investment banks such as Merrill Lynch as the American subprime mortgage collapse unfolded. Chinese investment funds regional industrialization, which in turn creates new markets for global products. Asia now accounts for over 40 percent of global consumption of steel 4 and China is consuming almost half of world’s available concrete. 5 Natural resources from soy to copper to oil are being used by China and India at astonishing rates, driving up commodity prices and setting off alarm bells in Washington and other Western capitals. Yet Asia is not a theater at peace. On average, between 15 and 50 people die every day from causes tied to conflict, and suspicions rooted in rivalry and nationalism run deep. The continent harbors every traditional and non-traditional challenge of our age: it is a cauldron of religious and ethnic tension; a source of terror and extrem­ism; an accelerating driver of the insatiable global appetite for energy; the place where the most people will suffer the adverse effects of global climate change; the primary source of nuclear proliferation; and the most likely theater on Earth for a major conventional confrontation and even a nuclear conflict. Coexisting with the optimism of iAsia are the ingredients for internal strife, non-traditional threats like terrorism, and traditional interstate conflict, which are all magnified by the risk of miscalculation or poor decision-making.

#### SMRs solve desalination---solves water wars and mission effectiveness

Pfeffer and Macon 2 Robert A, physical scientist at the Army Nuclear and Chemical Agency in Springfield, Virginia, working on nuclear weapons effects, a graduate of Trinity University and has a master's degree in physics from The Johns Hopkins University and William A, project manager at the Nuclear Regulatory Commission, formerly the acting Army Reactor Program Manager at the Army Nuclear and Chemical Agency, "Nuclear Power: An Option for the Army's Future", Jan 16 2002 is last date modified, [www.almc.army.mil/alog/issues/SepOct01/MS684.htm](http://www.almc.army.mil/alog/issues/SepOct01/MS684.htm)

The idea of using nuclear power to produce synthetic fuels, originally proposed in 1963, remains feasible today and is gaining significant attention because of recent advances in fuel cell technology, hydrogen liquefaction, and storage. At the same time, nuclear power has become a significant part of the energy supply in more than 20 countries—providing energy security, reducing air pollution, and cutting greenhouse gas emissions. The performance of the world's nuclear power plants has improved steadily and is at an all-time high. Assuming that nuclear power experiences further technological development and increased public acceptance as a safe and efficient energy source, its use will continue to grow. Nuclear power possibly could provide district heating, industrial process heating, desalination of seawater, and marine transportation.¶ Demand for cost-effective chemical fuels such as hydrogen and methanol is expected to grow rapidly. Fuel cell technology, which produces electricity from low-temperature oxidation of hydrogen and yields water as a byproduct, is receiving increasing attention. Cheap and abundant hydrogen eventually will replace carbon-based fuels in the transportation sector and eliminate oil's grip on our society. But hydrogen must be produced, since terrestrial supplies are extremely limited. Using nuclear power to produce hydrogen offers the potential for a limitless chemical fuel supply with near-zero greenhouse gas emissions. As the commercial transportation sector increasingly moves toward hydrogen fuel cells and other advanced engine concepts to replace the gasoline internal combustion engine, DOD eventually will adopt this technology for its tactical vehicles.¶ The demand for desalination of seawater also is likely to grow as inadequate freshwater supplies become an urgent global concern. Potable water in the 21st century will be what oil was in the 20th century—a limited natural resource subject to intense international competition. In many areas of the world, rain is not always dependable and ground water supplies are limited, exhausted, or contaminated. Such areas are likely to experience conflict among water-needy peoples, possibly prompting the deployment of U.S. ground forces for humanitarian relief, peacekeeping, or armed intervention. A mobile desalination plant using waste heat from a nuclear reactor could help prevent conflicts or provide emergency supplies of freshwater to indigenous populations, and to U.S. deployed forces if necessary.¶ Promising Technology for Tomorrow¶ Compact reactor concepts based on high-temperature, gas-cooled reactors are attracting attention worldwide and could someday fulfill the role once envisioned for the energy depot. One proposed design is the pebble bed modular reactor (PBMR) being developed by Eskom in South Africa. Westinghouse, BNFL Instruments Ltd., and Exelon Corporation currently are supporting this project to develop commercial applications.¶ A similar design is the remote site-modular helium reactor (RS-MHR) being developed by General Atomics. If proven feasible, this technology could be used to replace retiring power plants, expand the Navy's nuclear fleet, and provide mobile electric power for military or disaster relief operations. Ideally, modular nuclear power plants could be operated by a small staff of technicians and monitored by a central home office through a satellite uplink.¶ The technology of both the PBMR and the RS-MHR features small, modular, helium-cooled reactors powered by ceramic-coated fuel particles that are inherently safe and cannot melt under any scenario. This results in simpler plant design and lower capital costs than existing light water reactors. The PBMR, coupled with a direct-cycle gas turbine generator, would have a thermal efficiency of about 42 to 45 percent and would produce about 110 megawatts of electricity (MWe). The smaller RS-MHR would produce about 10 to 25 MWe, which is sufficient for powering remote communities and military bases. Multiple modules can be installed on existing sites and refueling can be performed on line, since the fuel pebbles recycle through the reactor continuously until they are expended. Both designs also feature coolant exit temperatures high enough to support the thermochemical water-splitting cycles needed to produce hydrogen.¶ For military applications, RS-MHR equipment could be transported inland by truck or railroad, or single modules could be built on barges and deployed as needed to coastal regions. The Army's nuclear reactor on the barge Sturgis, which provided electric power to the Panama Canal from 1968 to 1976, demonstrated the feasibility of this concept. In fact, the military previously used several power barges (oil-fired, 30-MWe power plants) during World War II and in Korea and Okinawa as emergency sources of electric power.¶ Research teams around the world also are examining other reactor concepts based on liquid-metal-cooled reactor systems with conventional sodium or lead-alloy coolants and advanced water-cooled systems. The Department of Energy (DOE) is supporting research and development of innovative concepts that are based on ultra-long-life reactors with cartridge cores. These reactors would not require refueling, and they could be deployed in the field, removed at the end of their service life, and replaced by a new system. The proposed international reactor innovative and secure (IRIS) design, funded by DOE's Nuclear Energy Research Initiative, would have a straight burn core lasting 8 years and may be available by 2010. Based on increasing costs of fossil fuels, a growing consensus that greenhouse gas emissions must be reduced, and a growing demand for energy, there is little doubt that we will continue to see significant advances in nuclear energy research and development.¶ Nuclear power is expected to grow in the 21st century, with potential benefits applicable to the military. Small, modular nuclear power reactors in mobile or portable configurations, coupled with hydrogen production and desalination systems, could be used to produce fuel and potable water for combat forces deployed in remote areas and reduce our logistics requirements. Assuming the inevitability of hydrogen fuel replacing fossil fuels, a clearly defined objective that was missing in 1966 now exists.¶ The partnership between DOD and the former AEC to develop Army nuclear reactors contributed to the technology of both military and small commercial power plants. This historical relationship should be renewed based on recent technological advances and projected logistics requirements. DOD logistics planners should reconsider military applications of nuclear power and support ongoing DOE research and development initiatives to develop advanced reactors such as RS-MHR, IRIS, and others. For the Army to fight and win on tomorrow's distant battlefields, nuclear power will have to play a significant role.

#### Only SMR’s solve

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

Seventy percent of the planet is covered with water, but only 2.5% of that is fresh water. Nearly 70% of this fresh water is frozen in the icecaps of Antarctica and Greenland. Most of the rest is in the form of soil moisture or in deep inaccessible aquifers or comes in the form of heavy rains and floods that are difficult to contain and exploit. Consequently, only less than 0.008% (about 70 000 km3) of the world’s water is readily accessible for direct human use, and even that is very unevenly distributed. Recent statistics show that currently 2.3 billion people live in water-stressed areas and among them 1.7 billion live in water-scarce areas, where the water availability per person is less than 1000 m3/year. In fact, the situation is expected to worsen further since, by 2025, the number of people suffering from water stress or scarcity could swell to 3.5 billion, out of which 2.4 billion would live in water-scarce regions. Water scarcity is a global issue. Every year new countries are affected by growing water problems.¶ It is for this reason that the Millennium Declaration by UN General Assembly in 2000 set up a target¶ to halve, by the year 2015, the world population, which is unable to reach, or to afford, safe drinking¶ water. Vision 21: shared vision for Hygiene, Water Supply and Sanitation, has a target to provide¶ water, sanitation and hygiene for all by 2025.¶ Better water conservation, water management, pollution control and water reclamation are all part of the integrated solution to projected water stresses. So too are new sources of fresh water, including the desalination of seawater.¶ Desalination technologies have been well established since the mid-20th century and widely deployed in the Middle East and North Africa. The contracted capacity of desalination plants has increased steadily since 1965 and is now about 36 million m3/day worldwide, as shown in Figure 1. This capacity could cater to world’s population roughly 6 litres a day per capita of fresh potable water. If this capacity were available to 1.5 billion in the world without direct access to drinking water, it would provide approximately 20 litres/day/capita.¶ Large scale commercially available desalination processes can generally be classified into two categories: (a) distillation processes that require mainly heat plus some electricity for ancillary equipment, and (b) membrane processes that require only electricity. In the first category (distillation) there are two major processes: multi-stage flash (MSF) and multi-effect distillation (MED). In both processes, seawater is heated; the steam that evaporates is condensed and collected as freshwater; and the residual brine is discharged.¶ In the second category (membranes) is the reverse osmosis process (RO), in which pure water passes from the high-pressure seawater side of a semi-permeable membrane to the low-pressure freshwater side. The pressure differential must be high enough to overcome the natural tendency for water to move from the low concentration freshwater side of a membrane to the high concentration seawater side in order to balance osmotic pressures.¶ The energy for the desalination plants is generally supplied in the form of either steam or electricity. Conventional fossil fuel-powered plants have normally been utilized as the primary sources but their intensive use raises increasing environmental concerns, specifically in relation to greenhouse gas emissions (Section 1.3.3). The depleting sources and the future price uncertainty of the fossil fuels and their better use for other vital industrial applications are also the factors to be considered.¶ 1.3. THE ROLE OF NUCLEAR POWER IN DESALINATION¶ The world energy requirements are presently met from oil, coal, gas, hydro, nuclear and renewable energies in that order as shown in Table 1.¶ It is now universally recognized that there will be an increase in the world’s requirement for electricity over the next few decades. The present trend towards meeting this demand includes the building of fossil fuel plants, particularly combined cycle gas fired plants.¶ However, the spiralling increase in greenhouse gas (GHG) emissions has resulted in setting the emission targets in international meetings held at Toronto, Rio de Janeiro and Kyoto. The IAEA predicts that the GHG emissions would be 36-50% higher by 2010 compared to 1990 levels. Many analysts, therefore, feel that the only viable alternative to fossil fuels is nuclear energy to reduce the rate of increase of GHG, particularly, carbon dioxide.¶ Yet another incentive for nuclear power is to maintain diversity of supply. A national strategy limited to one particular form of energy (fossil fuels) will be vulnerable to increased fuel costs and pressures from exporting countries.¶ Nuclear power is a proven technology, which has provided more than 16% of world electricity supply in over 30 countries. More than ten thousand reactor-years of operating experience have been accumulated over the past 5 decades.¶ There are many reasons which favour a possible revival of the nuclear power production in the years to come. It is thus expected that this revival would also lead to an increased role of nuclear energy in non-electrical energy services, which, at the moment, are almost entirely dominated by fossil energy sources. Among various utilization of nuclear energy for non-electrical products, using it for the production of freshwater from seawater (nuclear desalination) has been drawing broad interest in the IAEA Member States as a result of acute water shortage issues in many arid and semi-arid zones worldwide. With technical co-ordination or support of the IAEA, several demonstration programs of nuclear desalination are also in progress in several Member States to confirm its technical and economical viability under country-specific conditions¶ The desalination of seawater using nuclear energy is a feasible option to meet the growing demand for potable water. Over 175 reactor-years of operating experience on nuclear desalination have already been accumulated worldwide.¶ 1.3.1. Nuclear desalination¶ In the IAEA terminology, nuclear desalination is defined to be the production of potable water from seawater in a facility in which a nuclear reactor is used as the source of energy for the desalination process. Electrical and/or thermal energy may be used in the desalination process on the same site. The facility may be dedicated solely to the production of potable water, or may be used for the generation of electricity and production of potable water, in which case only a portion of the total energy output of the reactor is used for water production.¶ The design approaches for a nuclear desalination plant are essentially derived from those of the nuclear reactor alone, with some additional aspects to be considered in the design of a desalination plant and its integration with the nuclear system.¶ All nuclear reactor types can provide the energy required by the various desalination processes. In this regard, it has been shown that Small and Medium Reactors (SMRs) offer the largest potential as coupling options to nuclear desalination systems in developing countries. The development of innovative reactor concepts and fuel cycles with enhanced safety features as well as their attractive economics are expected to improve the public acceptance and further the prospects of nuclear desalination.¶ The coupling with nuclear system is not difficult technically but needs some consideration in (a)¶ avoiding cross-contamination by radioactivity, (b) providing backup heat or power sources in case the¶ nuclear system is not in operation (e.g. for refuelling and maintenance), (c) incorporation of certain¶ design features, minimising the impact of the thermal desalination systems’ coupling to the nuclear¶ reactors (Section 1.6).¶ 1.3.2. Why nuclear desalination?¶ The International Atomic Energy Agency is a specialized organization of the UN system that seeks to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. The institutional basis for the IAEA’s involvement in nuclear desalination is in its Statute and Medium Term Strategy.¶ Article II of the IAEA Statute provides that:¶ “ The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world”.¶ This refers implicitly to nuclear desalination as an option for the use of nuclear technologies.¶ The same applies to the Article III of the Statute, which authorizes the IAEA:¶ “ To encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world….”; (Article III, A.1); and¶ “To foster the exchange of scientific and technical information on peaceful uses of atomic energy.” (Article III, A.3).¶ In addition, Objective A.3 of the Agency’s Medium Term Strategy requires the Agency:¶ “ To support and facilitate the development of new and emerging applications of nuclear technologies by co-generation and heat applications, including seawater desalination”.¶ Request of assessing feasibility of using nuclear energy for seawater desalination was first made by the five North African countries to the IAEA in 1989 and the General Conference adopted its resolution to resume the study. These countries are located in semi-arid zones and already suffer from water shortages.¶ In recent years, interests have been also been indicated by Member States in South and South East Asia for the feasibility, as well as the demonstration, of nuclear desalination projects. The issue has since then been repeatedly stressed at the General Conference (Committee on the Whole) and supported by many Member States including most members of Group-77. The support stems not only from their expectation of its possible contribution to the freshwater issue but has also been motivated by a variety of reasons that include: the economic competitiveness of nuclear desalination in areas lacking cheap hydropower or fossil fuel resources, energy supply diversification, conservation of fossil fuel resources and spin-off effects of nuclear technology for industrial development.¶ Looking to the future, there are several reasons for focusing now on expanding nuclear power’s contribution to desalination. Apart from the expanding demand for freshwater and the increasing concern about GHG emissions and pollution from fossil fuels, there is a renewed and growing emphasis on small and medium sized nuclear reactors, and this is particularly important for desalination because the countries most in need of new sources of freshwater often have limited industrial infrastructures and relatively weaker electricity grids. The size of the grid limits the possibilities for integrating a co-generating nuclear power plant into the grid to supply the electricity market, in addition to meeting the energy requirements of a desalination plant. The largest power unit that can be integrated into an electricity grid must not exceed about 10-20 % of the total grid capacity. Of course, smaller nuclear reactors would be more appropriate for remote areas that are not suitable for connections to the grid.¶ For nuclear desalination to be attractive in any given country, two conditions have to be satisfied simultaneously: a lack of water and the ability to use nuclear energy for desalination. In most regions, only one of the two is present. Both are present for example in China, the Republic of Korea, India and Pakistan. These regions already account for almost half the world’s population, and thus represent a potential long term market for nuclear desalination. The market will expand further to the extent that regions with high projected water needs, such as the Middle East and North Africa, increase their nuclear expertise and capabilities.¶ 1.3.3. Environmental impact of desalination by fossil fuelled energy sources¶ Desalination is an energy intensive process. A future desalination strategy based only on the use of fossil fuelled systems is not sustainable: Fossil fuel reserves are finite and must be conserved for more important uses such as transport, petrochemical industry etc. Besides, the demands for desalted water would continue increasing as population grows and standards of living improve. Conservation measures such as the modernisation of water networks to minimise leakages, the recycling of used water etc. will certainly reduce the future water demands slightly but they would not be able to halt the dissemination of desalination plants and consequently of the fossil fuelled based systems for the production of needed electricity and heat.¶ The following paragraphs illustrate the damaging consequences of such a policy by taking the example of the Mediterranean region.¶ Following the recent “Blue Plan” [2], the total available natural water resources (1), based on the statistics from 1990 to 1998, in the principle countries of the Mediterranean region, are as shown in Table 2.¶ The projected demands (3) for the year 2025 [31] are also included in Table 1.¶ It is obvious that available natural water resources would rather decrease in 2025 because of increased pollution, over exploitation and other human activities. However, to keep matters simple, it would be supposed that they would remain at the same level as in 1998.¶ It can be observed that, in 2025, the total projected water deficit (balance) in the Mediterranean region would of the order of 294 km3/per year.¶ Not all this required capacity would be met by desalination plants. Current contribution of desalination is of the order of 1 to 2 %. If it is supposed that in 2025, this contribution would be about 2.5 %, then the total required desalting capacity would be 7.3 km3/year (20.1 million m3/day).¶ According to the EC ExternE study2, the total emissions of GHG per MW(e).h of electricity produced by representative fossil fuelled power plants in France, are as presented in Table 3.¶ The specific heat and electricity consumptions of three main desalination plants are given in Table 4, [3].¶ The data presented in the above Tables allows to calculate the approximate3 total GHG emissions produced by the fossil fuelled plants and the three desalination plants.¶ Results for a total desalting capacity of 20.1 million m3/day are presented in Table 5.¶ It can thus be concluded that for a desalting capacity of 20.1 million m3/day in the Mediterranean region alone, required in 2025, one would produce, depending upon the energy source and the desalination process used,¶ 13 to 264 million tonnes/year of CO2.¶ 1350 to 1 310 000 tonnes/year of SOx.¶ 21 100 to 540 000 tonnes/year of NOx.¶ 1190 to 40 000 tonnes/year of particles.¶ The potential levels of GHG and particle emissions on the world scale could then be more than double these figures.¶ These could naturally be avoided through the use of nuclear energy.

### 1AC – Plan

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

### 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 12/6 Derrill, ECT Staff Writer, "DOE Advances Small Nuclear Reactors", 2012, [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

## Heg

### Inevitable

#### Declining hegemony doesn’t solve—perception of US leadership inevitable---it’s only a question of effectiveness

Boot 3 Max, Olin senior fellow at the Council on Foreign Relations, “American imperialism? No need to run away from label” 5/5, http://www.usatoday.com/news/opinion/editorials/2003-05-05-boot\_x.htm

The record of nation-building during the past decade is clear: The United States failed in Somalia and Haiti, where it pulled out troops prematurely. Bosnia, Kosovo and Afghanistan show more promise because U.S. troops remain stationed there. Afghanistan would be making even more progress if the United States and its allies had made a bigger commitment to secure the countryside, not just Kabul. If we want Iraq to avoid becoming a Somalia on steroids, we'd better get used to U.S. troops being deployed there for years, possibly decades, to come. If that raises hackles about American imperialism, so be it. We're going to be called an empire whatever we do. We might as well be a successful empire.

### 2AC Sustainability

#### Err towards sustainability – declinists rise the bar too high and cherry-pick evidence.

Wohlforth 7 (William Wohlforth, Daniel Webster Professor of Government in the Dartmouth College Department of Government, Unipolar Stability: The Rules of Power Analysis, [A Tilted Balance](http://www.harvardir.org/symposia/72/), Vol . 29 (1) - Spring 2007, http://hir.harvard.edu/index.php?page=article&id=1611)

The larger problem with conflating power-as-resources with power-as-influence is that it leads to a constant shifting of the goalposts. The better the United States becomes at acquiring resources, the greater the array of global problems it is expected to be able to resolve, and the greater the apparent gap between its material capabilities and the ends it can achieve. The result is an endless raising of the bar for what it takes to be a unipolar power. Samuel Huntington defined a unipolar state as one able “effectively to resolve all important international issues alone, and no combination of other states would have the power to prevent it from doing so.” This is an extraordinary standard that essentially conflates unipolarity with universal empire. Great European powers did not lose great power status when they failed to have their way, in, for example, the Balkans in the nineteenth century. In turn, the United States did not cease to be a superpower when it failed to overthrow Fidel Castro in the 1960s. The fact that Washington cannot prevent Hugo Chavez from thumbing his nose at US power is interesting and perhaps even important, but it does not have bearing on the polarity of the international system. Defining power as the ability to solve whatever global problem is currently in the headlines virtually guarantees highly volatile prognostications about polarity. This sort of headline chasing led to talk of “empire” in 2002 and 2003, just as it feeds today’s multipolar mania. Assessing active attempts by the United States to employ its power capabilities may well be the most misleading way to think about power. This approach inevitably leads to a selection bias against evidence of the indirect, “structural” effects of US power that are not dependent upon active management. Many effects that can be attributed to the unipolar distribution of power are developments that never occur: counter-balancing coalitions, Cold War-scale arms races, hegemonic rivalry for dominance, security dilemmas among Asian powers, and decisions by Japan and others to nuclearize. Clearly, assessing unipolarity’s potential effects involves weighing such non-events against the more salient examples in which active attempts to use power resources are stymied. But the selection bias goes much further. Not only are non-events downplayed in comparison to salient events that appear to demonstrate the powerlessness of the United States, but patterns of events that do go its way are often missed. Consider, for example, how often Washington’s failure to have its way in the United Nations is cited as compared to its experience in the IMF. And, even in the United Nations, a focus on highly contested issues, such as the attempt at a second resolution authorizing the invasion of Iraq, fails to note how the institution’s entire agenda has shifted to address concerns, such as terrorism, that are particularly important to the United States.

### AT: Monteiro

#### Monteiro’s wrong

Busby 12 Josh, Assistant professor of public affairs at the Lyndon B. Johnson School of Public Affairs, “Josh Busby on Unipolarity and International Relations,” January 6th, http://www.strausscenter.org/strauss-news/josh-busby-on-unipolarity-and-international-relations.html

Strauss Scholar, Joshua Busby, wrote a three-part piece on the blog The Duck of Minerva, responding to two articles published by University of Chicago scholars Nuno Monteiro, and Sebastian Rosato and John Schuessler. The articles, and Busby’s response, focus on international relations, unipolarity and the realist approach to foreign policy. Busby’s first post critiques Nuno Monteiro’s article, “Unrest Assured: Why Unipolarity Is Not Peaceful” published in International Security. Monteiro argued that unipolarity has been less peaceful than other time periods. Busby disagrees with this argument, citing the contemporary era may create a “presentist bias” due to the overemphasis of our own lived experience and the omnipresence of the news media. Finally Busby addressed Moneiro’s argument that unipolarity drives conflict. Busby argues that domestic-level factors in both the United States and potential adversaries, rather than U.S. power alone, help explain recent conflicts.

### AT: Grid Resilient

#### Grid’s vulnerable and threats are growing---insiders vote aff

Merica 12 Dan, CNN, "DoD official: Vulnerability of U.S. electrical grid is a dire concern", July 27, security.blogs.cnn.com/2012/07/27/dod-official-vulnerability-of-u-s-electrical-grid-is-a-dire-concern/

Speaking candidly at the Aspen Security Forum, one defense department official expressed great concern about the possibility of a terrorist attack on the U.S. electric grid that would cause a “long term, large scale outage.”¶ Paul Stockton, assistant secretary for Homeland Defense and Americas’ Security Affairs at the Department of Defense, said such an attack would affect critical defense infrastructure at home and abroad – a thought that Stockton said was keeping him up at night.¶ “The DOD depends on infrastructure in order to be able to operate abroad. And to make those operations function, we depend on the electric grid,” Stockton said.¶ The concern, Stockton continued, was that America’s adversaries would avoid attacking “the pointy end of the spear,” meaning combat troops, and would instead look for homeland, possibly non-military, targets.¶ “Our adversaries, state and non-state, are not stupid. They are clever and adaptive,” Stockton said. “There is a risk that they will adopt a profoundly asymmetric strategy, reach around and attack us here at home, the critical infrastructure that is not owned by the Department of Defense.”¶ But Stockton’s concerns were not solely limited to terrorist attacks. Other concerning scenarios, said the assistant secretary, include geomagnetic disturbances, earthquakes and other natural disasters that could take down the grid.¶ According to Stockton, a recurrence of a massive earthquake, like the New Madrid earthquake of 1812, “would cause a power outage for weeks to months across a multi-state area, rolling blackouts in the East Coast…”

## Water

### AT: Desalination Bad – Conservation

#### Desalination and conservation don’t tradeoff

Kasower 10 Steve, Strategic Economic Applications Company, "Desalination: Not all Bad and Not all Good", 2010, www.pcl.org/projects/2010symposium/proceedings/Kasower-Handout.pdf

Desalination can play a feasible and beneficial role in an agency’s portfolio of water supplies. The actual facilities can be designed to eliminated negative environmental impacts and can even provide environmental benefits. They can rely on alternative “green power” sources and function “off-grid.” Intakes can avoid open ocean controversies as well on a case-by-case basis. Community concerns over drinking recycled water can be calmed. Even open ocean intakes may be able to function with minimal biological impacts if agencies focused on appropriate research and collaboration with scientific experts and regulators. ¶ Water policy strategies could include aggressive conservation, non-potable recycling, and transparent planning processes to more effectively propose and even successfully implement desalination projects. They would have to have credibility within their communities, exhaust alternatives during planning, and allow 21st Century considerations to replace to more rigid “traditions” that make up the preponderance of water policy and planning activities.

### AT: Desal Bad – Top Shelf

#### No offense—fossil fuel desal inevitable, but is unsustainable—nuclear key

Khamis 9 I, IAEA, A global overview on nuclear desalination, Int. J. Nuclear Desalination, Vol. 3, No. 4

As desalination and water reuse expansion in the Middle East and the world continues at a rapid pace, these innovations must be integrated into the next generation of water facilities. The integrated nuclear energy systems would lead to considerably lower power and water costs than the corresponding coal-based systems. When external costs for different energies are internalised in power and water costs, the relative cost differences are considerably increased in favour of the nuclear systems. Financial analysis further confirms these conclusions (Nisan et al., 2007; Wade, 2001). Integrated seawater desalination systems are likely to be deployed intensively in the future in view of the very high demands for water and electrical energy in many regions of the world. A future desalination strategy based uniquely on the utilisation of fossil-fuelled systems is not sustainable because of the high carbon footprint from both power generation and desalination. At the moment, the only solution to reduce the carbon footprint of integrated desalination systems appears to be by utilising nuclear and renewable energies (International Atomic Energy Agency, 2008b).

### AT: Desalination Bad – Coastal Destruction

#### Nuclear desalination avoids environmental/coastal problems

IAEA 10 International Atomic Energy Agency, “Environmental Impact Assessment of Nuclear Desalination”, March, <http://www-pub.iaea.org/MTCD/publications/PDF/te_1642_web.pdf>

Nuclear desalination presents an environmentally sound option for addressing water and energy shortages. It encompasses the benefits that co-location of power and desalination facilities offers, while avoiding some of the issues that still impede such projects, as summarized below. ¶ Marine impacts of nuclear desalination are, generally speaking, a matter of trade-off between intake and discharge impacts on the environment. Compared with other co-location options it does not prove as a solution to the associated adverse environmental impacts due to the intake. It must be remembered that suitable design can solve the problem of adverse marine impacts for any co-location option. On the other hand, when the standard once-through cooling system is applied, as stated earlier, it provides large quantities of seawater necessary for dilution of the rejected brine and it also cools down the warm discharge from the nuclear power plant, which mitigates the largest problems that stand-alone power and desalination facilities have. Yet, large quantities of water for dilution imply large entrainment and impingement effects on the marine ecosystems. Deciding which one is less harmful to the environment is a site specific matter dependant on the intake and outfall locations and techniques. Combined use of indirect and direct intakes is also a mitigating option. ¶ Coastal and atmospheric impacts of nuclear desalination though, can be considered as smaller or even minor, if compared to other co-location options. Especially in the area of mitigating atmospheric impacts from desalination processes, nuclear desalination offers huge opportunities due to the fact that fossil fuel co-located desalination options cannot achieve low levels of atmospheric impact, while renewable energy sources are not the better choice as well. Nuclear power plants, with very low atmospheric impacts, have large heat losses in the power generating process which can be used for seawater desalination with virtually no additional atmospheric impacts. The land use impact by the nuclear desalination facility, from the perspective of production quantity for potable water and energy, is currently the best option available. ¶ In conclusion, nuclear desalination is particularly recommendable as a retrofitting option in existing nuclear power plants. As for building new nuclear desalination plants, for reasons discussed in more detail in the following section, policies addressing energy demands will have to be the main criteria. If then the choice lies with nuclear power while desalination is required to address shortage of good quality water, than a nuclear desalination facility definitely presents environmentally the most benign option for doing so.

## Solvency

### AT: Court Waste Rule

#### Court ruling has no effect---NRC will easily address it

Silverstein 12 Ken, Forbes Energy Central Editor, “Nuclear Waste Issue Searing American Landscape”, 7/11, http://www.forbes.com/sites/kensilverstein/2012/07/11/nuclear-waste-issue-searing-american-landscape/

With those approvals, the nuclear energy industry here had finally prevailed, especially in the aftermath of the Japanese nuclear accident in March 2011. But then came the appeal’s court decision this June, and the environmental petition a couple weeks later. The NRC responded to that recent petition, saying that neither that legal document nor the court ruling would have any immediate effect on waste-related issues because no other licensing requests are pending.¶ A little background: Four Northeastern states and some environmental groups sued the NRC after it had extended onsite storage rights from 30 to 60 years, arguing that any leaks from the spent fuel storage pools or dry cask storage could harm groundwater supplies and potential land use. The D.C. appeals court ruled, saying that the NRC failed to properly examine the environmental consequences of its actions. Now, the winning parties say that the NRC can’t issue any more licenses until it fulfills this legal demand.¶ “This court decision may just change the timeframe and the timing, and accelerate some of that work,” responds Gregory Jaczko, who just resigned at the NRC’s top commissioner and whose comments came in a speech before he left. “Ultimately, I believe this is an issue that the Commission will have little difficulty addressing.”

## T

### 2AC T – Financial Incentive

#### We meet – plan is a direct financial incentive, we meet their for definition – 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.

## Microgrids CP

### 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.

#### Intermittency and land problems

Loudermilk 11 Micah J, Research Associate for the Energy & Environmental Security Policy program with the Institute for National Strategic Studies at National Defense University, 5/31, Small Nuclear Reactors and US Energy Security: Concepts, Capabilities, and Costs, www.ensec.org/index.php?option=com\_content&view=article&id=314:small-nuclear-reactors-and-us-energy-security-concepts-capabilities-and-costs&catid=116:content0411&Itemid=375

When discussing the energy security contributions offered by small nuclear reactors, it is not enough to simply compare them with existing nuclear technology, but also to examine how they measure up against other electricity generation alternatives—renewable energy technologies and fossil fuels. Coal, natural gas, and oil currently account for 45%, 23% and 1% respectively of US electricity generation sources. Hydroelectric power accounts for 7%, and other renewable power sources for 4%. These ratios are critical to remember because idealistic visions of providing for US energy security are not as useful as realistic ones balancing the role played by fossil fuels, nuclear power, and renewable energy sources. Limitations of renewables Renewable energy technologies have made great strides forward during the last decade. In an increasingly carbon emissions and greenhouse gas (GHG) aware global commons, the appeal of solar, wind, and other alternative energy sources is strong, and many countries are moving to increase their renewable electricity generation. However, despite massive expansion on this front, renewable sources struggle to keep pace with increasing demand, to say nothing of decreasing the amount of energy obtained from other sources. The continual problem with solar and wind power is that, lacking efficient energy storage mechanisms, it is difficult to contribute to baseload power demands. Due to the intermittent nature of their energy production, which often does not line up with peak demand usage, electricity grids can only handle a limited amount of renewable energy sources—a situation which Germany is now encountering. Simply put, nuclear power provides virtually carbon-free baseload power generation, and renewable options are unable to replicate this, especially not on the scale required by expanding global energy demands. Small nuclear reactors, however, like renewable sources, can provide enhanced, distributed, and localized power generation. As the US moves towards embracing smart grid technologies, power production at this level becomes a critical piece of the puzzle. Especially since renewable sources, due to sprawl, are of limited utility near crowded population centers, small reactors may in fact prove instrumental to enabling the smart grid to become a reality.

#### 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.

#### 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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#### Incentives-based environmental action in the context of nuclear power is good---key to policy effectiveness

Economist 5 (The Economist, April 21, “Rescuing environmentalism”, http://www.economist.com/node/3888006)

“THE environmental movement's foundational concepts, its method for framing legislative proposals, and its very institutions are outmoded. Today environmentalism is just another special interest.” Those damning words come not from any industry lobby or right-wing think-tank. They are drawn from “The Death of Environmentalism”, an influential essay published recently by two greens with impeccable credentials. They claim that **environmental groups are politically adrift and dreadfully out of touch.**

**They are right**. In America, greens have suffered a string of defeats on high-profile issues. They are losing the battle to prevent oil drilling in Alaska's wild lands, and have failed to spark the public's imagination over global warming. Even the stridently ungreen George Bush has failed to galvanise the environmental movement. The solution, argue many elders of the sect, is to step back from day-to-day politics and policies and “energise” ordinary punters with talk of global-warming calamities and a radical “vision of the future commensurate with the magnitude of the crisis”.

Europe's green groups, while politically stronger, are also starting to lose their way intellectually. Consider, for example, their invocation of the woolly “precautionary principle” to demonise any complex technology (next-generation nuclear plants, say, or genetically modified crops) that they do not like the look of. **A more sensible green analysis of** nuclear power **would weigh its** (very high) economic **costs and** (fairly **low**) **safety risks against the important benefit of generating electricity with no greenhouse-gas emissions.**

Small victories and bigger defeats

The coming into force of the UN's Kyoto protocol on climate change might seem a victory for Europe's greens, but it actually masks a larger failure. The most promising aspect of the treaty—its innovative use of market-based instruments such as carbon-emissions trading—was resisted tooth and nail by Europe's greens. With courageous exceptions, American green groups also remain deeply suspicious of market forces.

**If environmental groups continue to reject pragmatic solutions and instead drift toward Utopian** (or dystopian) **visions of the future,** they will lose **the battle of ideas**. And that would be a pity, for the world would benefit from having a thoughtful green movement. It would also be ironic, because far-reaching advances are already under way in the management of the world's natural resources—changes that add up to a different kind of green revolution. This could yet save the greens (as well as doing the planet a world of good).

“Mandate, regulate, litigate.” That has been the green mantra. And it explains the world's top-down, command-and-control approach to environmental policymaking. Slowly, this is changing. Yesterday's failed hopes, today's heavy costs and tomorrow's demanding ambitions have been driving public policy quietly towards market-based approaches. One example lies in the assignment of property rights over “commons”, such as fisheries, that are abused because they belong at once to everyone and no one. Where tradable fishing quotas have been issued, the result has been a drop in over-fishing. Emissions trading is also taking off. America led the way with its sulphur-dioxide trading scheme, and today the EU is pioneering carbon-dioxide trading with the (albeit still controversial) goal of slowing down climate change.

These, however, are obvious targets. What is really intriguing are efforts to value previously ignored “ecological services”, both basic ones such as water filtration and flood prevention, and luxuries such as preserving wildlife. At the same time, advances in environmental science are making those valuation studies more accurate. Market mechanisms can then be employed to achieve these goals at the lowest cost. Today, countries from Panama to Papua New Guinea are investigating ways to price nature in this way (see article).

Rachel Carson meets Adam Smith

If this new green revolution is to succeed, however, three things must happen. The most important is that prices must be set correctly. The best way to do this is through liquid markets, as in the case of emissions trading. Here, politics merely sets the goal. How that goal is achieved is up to the traders.

A proper price, however, requires proper information. So the second goal must be to provide it. The tendency to regard the environment as a “free good” must be tempered with an understanding of what it does for humanity and how. Thanks to the recent Millennium Ecosystem Assessment and the World Bank's annual “Little Green Data Book” (released this week), that is happening. More work is needed, but thanks to technologies such as satellite observation, computing and the internet, green accounting is getting cheaper and easier.

Which leads naturally to **the third goal, the embrace of cost-benefit analysis**. At this, greens roll their eyes, complaining that it reduces nature to dollars and cents. In one sense, they are right. Some things in nature are irreplaceable—literally priceless**. Even so, it is essential to consider trade-offs when analysing almost all green problems**. The marginal cost of removing the last 5% of a given pollutant is often far higher than removing the first 5% or even 50%: **for public policy to ignore such facts would be inexcusable.**

If governments invest seriously in green data acquisition and co-ordination, they will no longer be flying blind. And **by advocating data-based, analytically rigorous policies rather than pious appeals to “save the planet”, the green movement could overcome** the **scepticism** of the ordinary voter. It might even move from the fringes of politics to the middle ground where most voters reside.

Whether the big environmental groups join or not, the next green revolution is already under way. Rachel Carson, the crusading journalist who inspired greens in the 1950s and 60s, is joining hands with Adam Smith, the hero of free-marketeers. The world may yet leapfrog from the dark ages of clumsy, costly, command-and-control regulations to an enlightened age of **informed, innovative, incentive-based greenery**.

#### Prior questions fail and paralyze politics

Owen 2 (David Owen, Reader of Political Theory at the Univ. of Southampton, Millennium Vol 31 No 3 2002 p. 655-7)

Commenting on the ‘philosophical turn’ in IR, Wæver remarks that ‘[a] frenzy for words like “epistemology” and “ontology” often signals this philosophical turn’, although he goes on to comment that these terms are often used loosely.4 However, loosely deployed or not, it is clear that debates concerning ontology and epistemology play a central role in the contemporary IR theory wars. In one respect, this is unsurprising since it is a characteristic feature of the social sciences that periods of disciplinary disorientation involve recourse to reflection on the philosophical commitments of different theoretical approaches, and there is no doubt that such reflection can play a valuable role in making explicit the commitments that characterise (and help individuate) diverse theoretical positions. Yet, such a philosophical turn is not without its dangers and I will briefly mention three before turning to consider a confusion that has, I will suggest, helped to promote the IR theory wars by motivating this philosophical turn. The first danger with the philosophical turn is that it has an inbuilt tendency to prioritise issues of ontology and epistemology over explanatory and/or interpretive power as if the latter two were merely a simple function of the former. But while the explanatory and/or interpretive power of a theoretical account is not wholly independent of its ontological and/or epistemological commitments (otherwise criticism of these features would not be a criticism that had any value), it is by no means clear that it is, in contrast, wholly dependent on these philosophical commitments. Thus, for example, one need not be sympathetic to rational choice theory to recognise that it can provide powerful accounts of certain kinds of problems, such as the tragedy of the commons in which dilemmas of collective action are foregrounded. It may, of course, be the case that the advocates of rational choice theory cannot give a good account of why this type of theory is powerful in accounting for this class of problems (i.e., how it is that the relevant actors come to exhibit features in these circumstances that approximate the assumptions of rational choice theory) and, if this is the case, it is a philosophical weakness—but this does not undermine the point that, for a certain class of problems, rational choice theory may provide the best account available to us. In other words, while the critical judgement of theoretical accounts in terms of their ontological and/or epistemological sophistication is one kind of critical judgement, it is not the only or even necessarily the most important kind. The second danger run by the philosophical turn is that because prioritisation of ontology and epistemology promotes theory-construction from philosophical first principles, it cultivates a theory-driven rather than problem-driven approach to IR. Paraphrasing Ian Shapiro, the point can be put like this: since it is the case that there is always a plurality of possible true descriptions of a given action, event or phenomenon, the challenge is to decide which is the most apt in terms of getting a perspicuous grip on the action, event or phenomenon in question given the purposes of the inquiry; yet, from this standpoint, ‘theory-driven work is part of a reductionist program’ in that it ‘dictates always opting for the description that calls for the explanation that flows from the preferred model or theory’.5 The justification offered for this strategy rests on the mistaken belief that it is necessary for social science because general explanations are required to characterise the classes of phenomena studied in similar terms. However, as Shapiro points out, this is to misunderstand the enterprise of science since ‘whether there are general explanations for classes of phenomena is a question for social-scientific inquiry, not to be prejudged before conducting that inquiry’.6 Moreover, this strategy easily slips into the promotion of the pursuit of generality over that of empirical validity. The third danger is that the preceding two combine to encourage the formation of a particular image of disciplinary debate in IR—what might be called (only slightly tongue in cheek) ‘the Highlander view’—namely, an image of warring theoretical approaches with each, despite occasional temporary tactical alliances, dedicated to the strategic achievement of sovereignty over the disciplinary field. It encourages this view because the turn to, and prioritisation of, ontology and epistemology stimulates the idea that there can only be one theoretical approach which gets things right, namely, the theoretical approach that gets its ontology and epistemology right. This image feeds back into IR exacerbating the first and second dangers, and so a potentially vicious circle arises.

#### The squo is structurally improving

Goklany 9**—**Worked with federal and state governments, think tanks, and the private sector for over 35 years. Worked with IPCC before its inception as an author, delegate and reviewer. Negotiated UN Framework Convention on Climate Change. Managed the emissions trading program for the EPA. Julian Simon Fellow at the Property and Environment Research Center, visiting fellow at AEI, winner of the Julian Simon Prize and Award. PhD, MS, electrical engineering, MSU. B.Tech in electrical engineering, Indian Institute of Tech. (Indur, “Have increases in population, affluence and technology worsened human and environmental well-being?” 2009, http://www.ejsd.org/docs/HAVE\_INCREASES\_IN\_POPULATION\_AFFLUENCE\_AND\_TECHNOLOGY\_WORSENED\_HUMAN\_AND\_ENVIRONMENTAL\_WELL-BEING.pdf)

Although global population is no longer growing exponentially, it has quadrupled since 1900. Concurrently, affluence (or GDP per capita) has sextupled, global economic product (a measure of aggregate consumption) has increased 23-fold and carbon dioxide has increased over 15-fold (Maddison 2003; GGDC 2008; World Bank 2008a; Marland et al. 2007).4 But contrary to Neo- Malthusian fears, average **human well-being,** measured by any objective indicator, **has never been higher**. Food supplies, Malthus’ original concern, are up worldwide. Global food supplies per capita increased from 2,254 Cals/day in 1961 to 2,810 in 2003 (FAOSTAT 2008). This helped reduce hunger and malnutrition worldwide. The proportion of the population in the developing world, suffering from chronic hunger declined from 37 percent to 17 percent between 1969–71 and 2001–2003 despite an 87 percent population increase (Goklany 2007a; FAO 2006). The reduction in hunger and malnutrition, along with improvements in basic hygiene, improved access to safer water and sanitation, broad adoption of vaccinations, antibiotics, pasteurization and other public health measures, helped reduce mortality and increase life expectancies. These improvements first became evident in today’s developed countries in the mid- to late-1800s and started to spread in earnest to developing countries from the 1950s. The infant mortality rate in developing countries was 180 per 1,000 live births in the early 1950s; today it is 57. Consequently, global life expectancy, perhaps the single most important measure of human well-being, increased from 31 years in 1900 to 47 years in the early 1950s to 67 years today (Goklany 2007a). Globally, average **annual per capita incomes tripled** since 1950. The proportion of the world’s population outside of high-income OECD countries living in absolute poverty (average consumption of less than $1 per day in 1985 International dollars adjusted for purchasing power parity), fell from 84 percent in 1820 to 40 percent in 1981 to 20 percent in 2007 (Goklany 2007a; WRI 2008; World Bank 2007). Equally important, the world is more literate and better educated. Child labor in low income countries declined from 30 to 18 percent between 1960 and 2003. In most countries, people are freer politically, economically and socially to pursue their goals as they see fit. More people choose their own rulers, and have freedom of expression. They are more likely to live under rule of law, and less likely to be arbitrarily deprived of life, limb and property. Social and professional mobility has never been greater. It is easier to transcend the bonds of caste, place, gender, and other accidents of birth in the lottery of life. People work fewer hours, and have more money and better health to enjoy their leisure time (Goklany 2007a). Figure 3 summarizes the U.S. experience over the 20th century with respect to growth of population, affluence, material, fossil fuel energy and chemical consumption, and life expectancy. It indicates that population has multiplied 3.7-fold; income, 6.9-fold; carbon dioxide emissions, 8.5-fold; material use, 26.5-fold; and organic chemical use, 101-fold. Yet its life expectancy increased from 47 years to 77 years and infant mortality (not shown) declined from over 100 per 1,000 live births to 7 per 1,000. It is also important to note that not only are people living longer, they are healthier. The disability rate for seniors declined 28 percent between 1982 and 2004/2005 and, despite better diagnostic tools, major diseases (e.g., cancer, and heart and respiratory diseases) occur 8–11 years later now than a century ago (Fogel 2003; Manton et al. 2006). If similar figures could be constructed for other countries, most would indicate qualitatively similar trends, especially after 1950, except Sub-Saharan Africa and the erstwhile members of the Soviet Union. In the latter two cases, life expectancy, which had increased following World War II, declined after the late 1980s to the early 2000s, possibly due poor economic performance compounded, especially in Sub-Saharan Africa, by AIDS, resurgence of malaria, and tuberculosis due mainly to poor governance (breakdown of public health services) and other manmade causes (Goklany 2007a, pp.66–69, pp.178–181, and references therein). However, there are signs of a turnaround, perhaps related to increased economic growth since the early 2000s, although this could, of course, be a temporary blip (Goklany 2007a; World Bank 2008a). Notably, in most areas of the world, the healthadjusted life expectancy (HALE), that is, life expectancy adjusted downward for the severity and length of time spent by the average individual in a less-than-healthy condition, is greater now than the unadjusted life expectancy was 30 years ago. HALE for the China and India in 2002, for instance, were 64.1 and 53.5 years, which exceeded their unadjusted life expectancy of 63.2 and 50.7 years in 1970–1975 (WRI 2008). Figure 4, based on cross country data, indicates that contrary to Neo-Malthusian fears, both life expectancy and infant mortality improve with the level of affluence (economic development) and time, a surrogate for technological change (Goklany 2007a). Other indicators of human well-being that improve over time and as affluence rises are: access to safe water and sanitation (see below), literacy, level of education, food supplies per capita, and the prevalence of malnutrition (Goklany 2007a, 2007b).

## DA’s

### 2AC Oil DA

#### Oil prices crashing now

Finfacts 11/5 [Finfacts, information portal service providing both business users and personal financial consumers with breaking news, 2012, “Bord Gáis Irish Energy Index fell 2% in October due to slight dip in oil prices,” http://www.finfacts.ie/irishfinancenews/article\_1025138.shtml]

Oil prices fell slightly in October in line with falls in US equity indices on the back of concerns over the prospects of global economic growth. This resulted in a 2% decrease in the Bord Gáis Irish Energy Index in October. Despite the 4% fall in oil prices for the month, prices still remain at near record highs.¶ As a result, the Bord Gáis Energy Index now stands at 148, an increase of 8% on October 2011.¶ Commenting on the Bord Gáis Energy Index for October, John Heffernan, power trader at Bord Gáis Energy, said: “Despite some positive economic results from the US and UK, in addition to signs that China’s protracted slowdown may have run its course, investor confidence was undermined in October by an IMF report which projected weaker growth for 2012 and 2013. Investor confidence was also affected by the fact that a large number of S&P 500 companies reported sales below expectations for Q3, with many more paring back expectations for Q4. Weaker US equity indices reflected the erosion of investor confidence and this weighed on oil prices.¶ Despite falling Brent crude oil prices over the last two months, the future for oil prices is far from certain. The markets are increasingly concerned about the potential impact that looming tax increases and reduced government spending would have on the US, and in turn the global economy. Questions as to whether China's protracted slowdown has indeed run its course will also have an influence on prices, as will ongoing tensions in the Middle East and potentially the outcome of the US election. ¶ As we enter the winter months, weather will influence future wholesale gas prices. The US-based Weather Services International has forecast that temperatures in the UK will be below average in November. Colder weather coupled with supply issues has the potential to increase wholesale prices as Britain is becoming increasingly dependent on imported gas from Norway and the Middle East to meet its winter gas demand.”¶ The following are the key trends recorded for the month of October:¶ Oil: The oil element of the index was down 4%. In addition to weaker US equity indices and concerns over the prospects for global economic growth, further announcements from OPEC that oil supplies were comfortable, and soundings from the IEA (International Energy Agency) - - the watchdog of the industrialised countries - - that only a serious supply disruption would merit any release of strategic oil stocks, put downward pressure on oil prices.

#### Nuclear doesn’t tradeoff with oil---electricity not liquid fuel

Styles 12 Geoffrey, Managing Director of GSW Strategy Group, LLC, an energy and environmental strategy consulting firm, "How Helpless Are We in the Face of Rising Oil Prices?", February 24, energyoutlook.blogspot.com/2012/02/how-helpless-are-we-in-face-of-rising.html

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

### 2AC Immigration DA

#### Obama’s strategy is to make sure immigration doesn’t pass

Munro 12-31 – Neil Munro, reporter for the Daily Caller, December 31st, 2012, "Obama promises new immigration plan but keeps endgame close to his vest" dailycaller.com/2012/12/31/obama-promises-new-immigration-plan-but-keeps-endgame-close-to-his-vest/?print=1

President Barack Obama promised Dec. 30 to introduce an immigration bill during 2013, but activists on all sides of the debate are trying to understand his strategy.¶ **He may be gunning for a victory in the mid-term elections by introducing** a bill so radical that it will **spark an emotional controversy from whites**, which would then **spur many angry Latino**s to vote Democratic in the 2014 midterm elections, said Robert de Posada, former head of a GOP-affiliated group, The Latino Coalition.¶ **“The word that I’ve heard from many, is [that** he will] submit a very, very liberal plan that most Republicans will not support, that most southern and moderate Democrats will not support**,”** he said.¶ When the bill fails**, “they can announce once again that they tried [and that Latinos] need to rally in the next election**,” said Posada, who helped President George W. Bush win 40 percent of the Latino vote in 2004, during the housing boom.

#### Budget fights outweigh---consumes agenda

Helderman 1/1 Rosalind S, "After a 'fiscal cliff' deal, what next?", 2013, www.washingtonpost.com/politics/after-a-fiscal-cliff-deal-what-next/2012/12/31/b9d9a452-5384-11e2-bf3e-76c0a789346f\_story.html?wprss=rss\_politics

Assuming the deal is approved by the House, it will nevertheless give way to a nearly continuous series of fights that will consume the first part of the year, even as President Obama might hope to shift Congress’s attention to immigration reform and gun control.¶ “It’s become less like a fiscal cliffhanger and more like a journey over the fiscal mountains,” said Rep. Jeff Fortenberry (R-Neb.).¶ The next big deadline is likely to come around the end of February, when the Treasury Department will exhaust the measures now in place to extend the nation’s $16.4 trillion debt ceiling. At that point, the government will not be able to pay its bills unless Congress votes to raise the nation’s legal borrowing limit.¶ Republicans hope to use that moment to force Obama and congressional Democrats to agree to major spending cuts in return for the increase — in what could be a sequel to the contentious face-off over the debt limit in the summer of 2011.¶ Provided Monday’s deal is approved, in early March would come another deadline: the $110 billion cut in spending, half from the Pentagon, delayed as part of this deal.¶ A month or so later — on March 27 — a short-term measure that funds government agencies will lapse. Without a renewal, the government will shut down, setting up another possible showdown.¶ “Round two’s coming,” said Sen. Lindsey O. Graham (R-S.C.). “And we’re going to have one hell of a contest about the direction and the vision of this country.”¶ Many Republicans believe they’ll have more leverage then than they do now because the debate over tax rates on the wealthy will be settled.

#### 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.

#### Winners win

Marshall and Prins 11 (BRYAN W, Miami University and BRANDON C, University of Tennessee & Howard H. Baker, Jr. Center for Public Policy, “Power or Posturing? Policy Availability and Congressional Influence on U.S. Presidential Decisions to Use Force”, Sept, Presidential Studies Quarterly 41, no. 3)

Presidents rely heavily on Congress in converting their political capital into real policy success. Policy success not only shapes the reelection prospects of presidents, but it also builds the president’s reputation for political effectiveness and fuels the prospect for subsequent gains in political capital (Light 1982). Moreover, the president’s legislative success in foreign policy is correlated with success on the domestic front. On this point, some have largely disavowed the two-presidencies distinction while others have even argued that foreign policy has become a mere extension of domestic policy (Fleisher et al. 2000; Oldfield and Wildavsky 1989) Presidents implicitly understand that there exists a linkage between their actions in one policy area and their ability to affect another. The use of force is no exception; in promoting and protecting U.S. interests abroad, presidential decisions are made with an eye toward managing political capital at home (Fordham 2002).

### AT: Food Security Impact

#### Ag labor shortages are exaggerated

Martin 7 (Philip Martin, professor of agricultural and resource economics at the University of California, Davis, 07, Farm Labor Shortages: How Real? What Response? http://www.cis.org/articles/2007/back907.html)

News reports and editorials suggest widespread farm labor shortages. The Los Angeles Times described �a nationwide farm worker shortage threatening to leave fruits and vegetables rotting in fields.�1 The Wall Street Journal in a July 20, 2007, editorial claimed that �farmers nationwide are facing their most serious labor shortage in years.� The editorial asserted that �20 percent of American agricultural products were stranded at the farm gate� in 2006, including a third of North Carolina cucumbers, and predicted that crop losses in California would hit 30 percent in 2007. The Wall Street Journal editorial continued that, since �growers can only afford to pay so much and stay competitive,� some U.S. growers are moving fruit and vegetable production abroad. The New York Times profiled a southern California vegetable grower who rented land in Mexico to produce lettuce and broccoli because, the grower asserted: �I know beyond a shadow of a doubt that if I did that [raise U.S. wages] I would raise my costs and I would not have a legal work force.�2 These reports of farm labor shortages are **not accompanied by data that would buttress the anecdotes**, like lower production of fruits and vegetables or a rise in farm wages as growers scrambled for the fewer workers available. There is a simple reason. Fruit and vegetable production is rising, the average earnings of farm workers are not going up extraordinarily fast, and consumers are not feeling a pinch � the cost of fresh fruits and vegetables has averaged about $1 a day for most households over the past decade.

#### New tech and adaption solve food shortages

Michaels 11 Patrick Michaels is senior fellow in environmental studies at the CATO Institute. " Global Warming and Global Food Security," June 30, CATO, http://www.cato.org/publications/commentary/global-warming-global-food-security

While doing my dissertation I learned a few things about world crops. Serial adoption of new technologies produces a nearly constant increase in yields. Greater fertilizer application, improved response to fertilizer, better tractor technology, better tillage

practices, old-fashioned genetic selection, and new-fashioned genetic engineering all conspire to raise yields, year after year.¶ Weather and climate have something to do with yields, too. Seasonal rainfall can vary a lot from year-to-year. That's "weather." If dry years become dry decades (that's "climate") farmers will switch from corn to grain sorghum, or, where possible, wheat. Breeders and scientists will continue to develop more water-efficient plants and agricultural technologies, such as no-till production.¶ Adaptation even applies to the home garden. The tomato variety "heat wave" sets fruit at higher temperatures than traditional cultivars.¶ However, Gillis claims that "[t]he rapid growth in farm output that defined the late 20th century has slowed" because of global warming.¶ His own figures show this is wrong. The increasing trend in world crop yields from 1960 to 1980 is exactly the same as from 1980 to 2010. And per capita grain production is rising, not falling.

# 1AR

## Water

### AT: Link

#### We need an all of the above strategy

Clark 12 Kevin, Executive Director of the Georgia Environmental Finance Authority, "Water supply, conservation vital", February 2, www.ajc.com/news/news/opinion/water-supply-conservation-vital/nQQy7/

A comprehensive solution that includes providing new water supply and practicing conservation is critical to our state. Georgia’s population is projected to grow by an additional 4.6 million people by 2030.¶ The population increase and the resulting economic development and growth needed to sustain it will place new demands on our water resources. By ensuring adequate supply through new water sources and conservation, we’ll meet Georgia’s water needs.¶ If we have one, but not the other, then we’ll fail to provide Georgia families and businesses with the water resources they need to thrive.

### AT Ocean Damage

#### 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.

### AT: Endocrine Disruption

#### Zero impact

Breithaupt 4 Holger Breithaupt has been the editor for the Science & Society section of EMBO reports since the journal's launch in 2000. He studied biology and computer science at the University of Cologne, Germany and holds a PhD from the University of Dusseldorf in Germany. He is also a graduate of the Science and Environmental Reporting Program at New York University, USA. "A cause without a disease," EMBO Report, January, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1298974/

Endocrine-disrupting chemicals have become a topic of public concern because they could potentially cause cancer and male infertility. But evidence for a human health problem is hard to find.¶ Endocrine disruptors—or 'gender benders' as they are often referred to by the public—have become the focus of environmentalists and public health advocates who decry a slow poisoning of humans and the environment by the chemical and consumer goods industries. The term is a rather broad label for substances that are able to interfere with hormone receptors or hormonal pathways in the cell. Endocrine disruptors have caused serious public concern, because their interaction with the hormone system could potentially wreak havoc with prenatal and early development and affect a wide variety of organs. Theo Colborn, a researcher for the World Wildlife Fund, painted a bleak picture of their effects at a 2001 meeting of the US Department of the Interior: “... these chemicals can undermine the development of the brain, and intelligence and behaviour, and the endocrine, immune and reproductive systems. ... there is now a growing collection of studies revealing that some of these chemicals can affect our children's ability to learn, to socially integrate, to fend off disease and to reproduce” (Colborn, 2001).¶ However, as public fear mounted, the evidence for a creeping epidemic caused by endocrine disruptors in the environment remained elusive.¶ In fact, early observations on wild and laboratory animals showed that some compounds that are able to interact with receptor molecules, in particular with the oestrogen receptor, exert effects on the reproductive system of these animals. These observations were accompanied by reports on the increasing incidence of breast and prostate cancer and declining male fertility, and it was only a matter of time before the press took up the issue and parents became concerned about this slow poisoning of their children. However, as public fear mounted, the evidence for a creeping epidemic caused by endocrine disruptors in the environment remained elusive. Although most scientists now acknowledge that many substances can have an effect on the human endocrine system, more recent analysis has shown that many of the claims about health effects were either exaggerated or based on flawed analysis of observations. As Stephen H. Safe, Professor of Veterinary Physiology and Pharmacology and of Biochemistry and Biophysics at Texas A&M University (College Station, TX, USA) put it: “The hypothesis is okay, but we don't even have a problem.”¶ The scientific chapter of the endocrine disruptor story began in the early 1990s with a 'hypothesis' article in The Lancet in which Richard M. Sharpe from the MRC Reproductive Unit at the University of Edinburgh, UK, and Niels E. Skakkebaek from the Department of Growth and Reproduction at the University of Copenhagen, Denmark, wrote, “exposure to exogenous oestrogens, ... during foetal and neonatal life can lead to an increase in reproductive disorders” (Sharpe & Skakkebaek, 1993). On the basis of a meta-analysis of more than 60 studies published between 1940 and 1990, they suggested that abnormalities in the development of male sex organs and a 50% decline in sperm count could be attributed to exposure to oestrogens in utero. The finding that the prescription of an artificial oestrogen, diethylstilboestrol, for pregnant women from the 1940s to the 1970s had caused an increased rate of cervical cancer among the daughters of these women further supported Sharpe and Skakkebaek's hypothesis, and the fear that men could also be affected did not seem so far-fetched.¶ Observation of wildlife also provided evidence for the effects of endocrine disruptors on reproductive health. Various publications described how chemicals suspected to have endocrine-disrupting effects, including DDT, dioxins, polychlorinated biphenyls (PCBs), which are all banned, and various pesticides and fungicides, caused a wide range of reproductive disorders and deformities of sexual organs among wild animals in polluted areas. Nonylphenol, a degradation product from many detergents, herbicides, spermicides and cosmetics, has been shown to cause imposex in oysters, which is a pseudo-hermaphroditic condition in which females acquire male sex characteristics (Nice et al, 2003). Scientists in the UK found that oestrogenic compounds in human and agricultural wastewater triggered the feminization of male fish in British lakes and rivers. Else-where, US scientists found that female mosquito fish in Florida exposed to pulp-mill effluent developed a gonopodium, an organ normally found only in males. Similarly, male alligators in various contaminated lakes in Florida suffered from phallus deformations and an impaired immune system. Half of male carp caught in the Tama River in Japan were found to produce unusually large amounts of the yolk precursor protein vitellogenin, specific to female fish.¶ In 1996, Colborn, together with science writers Dianne Dumanoski and John Peterson Myers, compiled these observations into the book Our Stolen Future and drew a straight line between the effects observed in wild animals and human health effects, including breast and prostate cancer and decreasing male fertility caused by decreasing sperm counts, cryptorchidism (where one or both testicles fail to descend from the body) and hypospadias (deformation of the phallus). Often compared to Rachel Carson's Silent Spring, Colborn's book had an enormous impact on public opinion and triggered intense media coverage about the suspected epidemic of cancers and male infertility. The media obtained further ammunition when Fred vom Saal and co-workers at the University of Missouri (Columbia, MO, USA) showed that bisphenol A (BPA), a commonly used compound found in many plastics, caused abnormal prostate growth and decreased sperm production in rats at doses far lower than those considered to be safe (Nagel et al, 1997; vom Saal et al, 1998). Patricia Hunt at Case Western Reserve University (Cleveland, OH, USA) observed that BPA caused severe aberrations of the meiotic cell division in mouse oocytes in up to 40% of all cases (Hunt et al, 2003). Although industrial and academic researchers have so far failed to reproduce vom Saal's findings, his work has become the main argument for public health advocates who seek to ban chemicals such as BPA because they can exert their toxic effects at extremely low doses.¶ In fact, a series of studies that closely investigated the original publications claiming an increase in breast and prostate cancer and a decline in male fertility found that this is not so.¶ The political reaction to these reports was swift, particularly in the USA. The US Environmental Protection Agency (EPA) convened two workshops in 1995 to make recommendations for research into the health threat of endocrine disruptors, including their effects on reproductive, neurological and immunological function and carcinogenic activity. In 1996, the US Congress amended the Food Quality Protection Act and the Safe Drinking Water Act to require the testing of food-use pesticides and drinking water contaminants for endocrine activity, which mandated the EPA to screen up to 70,000 chemicals regulated under the Toxic Substances Control Act for endocrine-disruptive effects. In 1999, the EPA launched the Endocrine Disruptor Screening Program (EDSP) and is now developing animal tests and other assays to screen for hormone activity. In Japan, the Ministry of the Environment decided to start risk assessment studies on more than 40 substances suspected to have endocrine-disrupting effects (Iguchi et al, 2002). On 29 October 2003, the European Commission proposed a new regulatory framework for all chemicals manufactured or imported in quantities of more than a tonne per year. Among the chemicals labelled as being of 'very high concern' that require authorization for particular use are substances that could cause reproductive damage or affect fetal development—in other words, endocrine disruptors.¶ The only problem is that nobody actually knows whether the levels of endocrine disruptors in the environment are a threat to public health. “The so-called epidemic of endocrine diseases remains to be established,” said Raphael J. Witorsch, Professor of Physiology at Virginia Commonwealth University in Richmond, VA, USA. A working group, convened by the Royal Society of London, UK, that investigated the health threat of endocrine- disrupting chemicals (EDCs) came to the same conclusion: “whilst high levels of exposure to some EDCs could theoretically increase the risk of such disorders, no direct evidence is available at present” (The Royal Society, 2000). Richard Sharpe, one of the original authors of the endocrine disruptor hypothesis, also acknowledged that “the threat [to human health] is minimal.” In fact, a series of studies that closely investigated the original publications claiming an increase in breast and prostate cancer and a decline in male fertility found that this is not so. “We now know that this is absolutely not true,” Safe said about health advocates who warn that endocrine disruptors could cause a worldwide epidemic of disorders and diseases. According to Witorsch, many of the original epidemiological analyses were flawed and lacked confounding factors.¶ In addition, large-scale studies among elderly women in the USA and the UK showed that the increase in breast and cervical cancer was caused mainly by hormone replacement therapy for post-menopausal women (Brower, 2003) rather than hormonally active compounds in the environment. In fact, many of the chemicals under suspicion bind only weakly to the oestrogen receptor and it is not clear whether they have an estrogenic, anti-estrogenic or anti-androgenic effect. Furthermore, critics maintain that EDCs have to compete with more effectively binding natural oestrogens that are abundant in the diet, in medicines and in contraceptives at much higher concentrations. “In terms of magnitude and extent, all such exposures to so-called endocrine disruptors are dwarfed by the extensive use of oral contraceptives and estrogens for the treatment of menopausal and post-menopausal disorders. Also, the exposure to hormonally active xenobiotics is virtually insignificant when compared with the intake of the phytoestrogens that are present in food and beverages,” commented Robert Nilsson, Professor of Toxicology at Stockholm University, Sweden (Nilsson, 2000). “So we've got all these [phytohormones] out there in the diet,” Safe concluded, but “my scepticism is how could small concentrations [of other chemicals] in the environment be a problem?”

## K

### Death/NW Outweighs

#### Preventing death is the first ethical priority – it’s the only impact you can’t recover from.

Bauman 95 Zygmunt Bauman, University of Leeds Professor Emeritus of Sociology, 1995, Life In Fragments: Essays In Postmodern Morality, p. 66-71

The being‑for is like living towards‑the‑future: a being filled with anticipation, a being aware of the abyss between future foretold and future that will eventually be; it is this gap which, like a magnet, draws the self towards the Other,as it draws life towards the future, making life into an activity of overcoming, transcending, leaving behind. The self stretches towards the Other, as life stretches towards the future; neither can grasp what it stretches toward, but it is in this hopeful and desperate, never conclusive and never abandoned stretching‑toward that the self is ever anew created and life ever anew lived. In the words of M. M. Bakhtin, it is only in this not‑yet accomplished world of anticipation and trial, leaning toward stubbornly an‑other Other, that life can be lived ‑ not in the world of the `events that occurred'; in the latter world, `it is impossible to live, to act responsibly; in it, I am not needed, in principle I am not there at all." Art, the Other, the future: what unites them, what makes them into three words vainly trying to grasp the same mystery, is the modality of possibility. A curious modality, at home neither in ontology nor epistemology; itself, like that which it tries to catch in its net, `always outside', forever `otherwise than being'. The possibility we are talking about here is not the all‑too‑familiar unsure‑of‑itself, and through that uncertainty flawed, inferior and incomplete being, disdainfully dismissed by triumphant existence as `mere possibility', `just a possibility'; possibility is instead `plus que la reahte' ‑ both the origin and the foundation of being. The hope, says Blanchot, proclaims the possibility of that which evades the possible; `in its limit, this is the hope of the bond recaptured where it is now lost."' The hope is always the hope of *being fu filled,* but what keeps the hope alive and so keeps the being open and on the move is precisely its *unfu filment.* One may say that the paradox *of hope* (and the paradox of possibility founded in hope) is that it may pursue its destination solely through betraying its nature; the most exuberant of energies expends itself in the urge towards rest. Possibility uses up its openness in search of closure. Its image of the better being is its own impoverishment . . . The togetherness of the being‑for is cut out of the same block; it shares in the paradoxical lot of all possibility. It lasts as long as it is unfulfilled, yet it uses itself up in never ending effort of fulfilment, of recapturing the bond, making it tight and immune to all future temptations. In an important, perhaps decisive sense, it is selfdestructive and self‑defeating: its triumph is its death. The Other, like restless and unpredictable art, like the future itself, is a *mystery.* And being‑for‑the‑Other, going towards the Other through the twisted and rocky gorge of affection, brings that mystery into view ‑ makes it into a challenge. That mystery is what has triggered the sentiment in the first place ‑ but cracking that mystery is what the resulting movement is about. The mystery must be unpacked so that the being‑for may focus on the Other: one needs to know what to focus on. (The `demand' is *unspoken,* the responsibility undertaken is *unconditional;* it is up to him or her who follows the demand and takes up the responsibility to decide what the following of that demand and carrying out of that responsibility means in practical terms.) Mystery ‑ noted Max Frisch ‑ (and the Other is a mystery), is an exciting puzzle, but one tends to get tired of that excitement. `And so one creates for oneself an image. This is a loveless act, the betrayal." Creating an image of the Other leads to the substitution of the image for the Other; the Other is now fixed ‑ soothingly and comfortingly. There is nothing to be excited about anymore. I know what the Other needs, I know where my responsibility starts and ends. Whatever the Other may now do will be taken down and used against him. What used to be received as an exciting surprise now looks more like perversion; what used to be adored as exhilarating creativity now feels like wicked levity. Thanatos has taken over from Eros, and the excitement of the ungraspable turned into the dullness and tedium of the grasped. But, as Gyorgy Lukacs observed, `everything one person may know about another is only expectation, only potentiality, only wish or fear, acquiring reality only as a result of what happens later, and this reality, too, dissolves straightaway into potentialities'. Only death, with its finality and irreversibility, puts an end to the musical‑chairs game of the real and the potential ‑ it once and for all closes the embrace of togetherness which was before invitingly open and tempted the lonely self." `Creating an image' is the dress rehearsal of that death. But creating an image is the inner urge, the constant temptation, the *must* of all affection . . . It is the loneliness of being abandoned to an unresolvable ambivalence and an unanchored and formless sentiment which sets in motion the togetherness of being‑for. But what loneliness seeks in togetherness is an end to its present condition ‑ an end to itself. Without knowing ‑ without being capable of knowing ‑ that the hope to replace the vexing loneliness with togetherness is founded solely on its own unfulfilment, and that once loneliness is no more, the togetherness ( the being‑for togetherness) must also collapse, as it cannot survive its own completion. What the loneliness seeks in togetherness (suicidally for its own cravings) is the foreclosing and pre‑empting of the future, cancelling the future before it comes, robbing it of mystery but also of the possibility with which it is pregnant. Unknowingly yet necessarily, it seeks it all to its own detriment, since the success (if there is a success) may only bring it back to where it started and to the condition which prompted it to start on the journey in the first place. The togetherness of being‑for is always in the future, and nowhere else. It is no more once the self proclaims: `I have arrived', `I have done it', `I fulfilled my duty.' The being‑for starts from the realization of the bottomlessness of the task, and ends with the declaration that the infinity has been exhausted. This is the tragedy of being‑for ‑ the reason why it cannot but be death‑bound while simultaneously remaining an undying attraction. In this tragedy, there are many happy moments, but no happy end. Death is always the foreclosure of possibilities, and it comes eventually in its own time, even if not brought forward by the impatience of love. The catch is to direct the affection to staving off the end, and to do this against the affection's nature. What follows is that, if moral relationship is grounded in the being-for togetherness (as it is), then it can exist as a project, and guide the self's conduct only as long as its nature of a project (a not yet-completed project) is not denied. Morality, like the future itself, is forever not‑yet. (And this is why the ethical code, any ethical code, the more so the more perfect it is by its own standards, supports morality the way the rope supports the hanged man.) It is because of our loneliness that we crave togetherness. It is because of our loneliness that we open up to the Other and allow the Other to open up to us. It is because of our loneliness (which is only belied, not overcome, by the hubbub of the being‑with) that we turn into moral selves. And it is only through allowing the togetherness its possibilities which only the future can disclose that we stand a chance of acting morally, and sometimes even of being good, in the present.

### Nuclear Technocracy Good

#### Nuclear technocracy’s key to solve

Ted Nordhaus 11, chairman – Breakthrough Instiute, and Michael Shellenberger, president – Breakthrough Institute, MA cultural anthropology – University of California, Santa Cruz, 2-25, <http://thebreakthrough.org/archive/the_long_death_of_environmenta>)

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

### AT: Uranium Mining

#### No uranium shortage---no K

Hoffman 10 Doug L, The Resilient Earth, "MIT Report Disputes Uranium Shortage Fallacy", October 22, www.theresilientearth.com/?q=content/mit-report-disputes-uranium-shortage-fallacy

One of the arguments used by critics of nuclear power is that there is not enough uranium to power a nuclear world for an extended time. The energy hungry world would just be trading looming oil shortages for uranium shortages, they claim. As with most anti-nuclear scare-mongering these charges are totally bogus. MIT has just released a major report on the nuclear fuel cycle that finds uranium supplies will not limit the expansion of nuclear power in the US or around the world for the foreseeable future. It suggests that nuclear power, even using today’s reactor technology with the wasteful once-through fuel cycle, can play a significant part in satisfying the world's future energy needs.¶ The MIT Energy Initiative (MITEI) report focuses on what is known as the “nuclear fuel cycle”—a concept that encompasses both the kind of fuel used to power a reactor and what happens to the fuel after it has been used. Currently, most of the world’s reactors run on newly mined uranium that has been enriched, though a few run on plutonium. After the fuel has been used it is either stored on site or disposed of underground—the “once-through” fuel cycle adopted during the Carter administration. It is possible to reprocess spent fuel, creating new reactor fuel from what would otherwise be waste.¶ The new study suggests an alternative fuel cycle utilizing an enriched uranium-initiated breeder reactor in which additional natural or depleted uranium is added to the reactor core at the same rate nuclear materials are consumed. This much simpler and more efficient self-sustaining fuel cycle produces no excess nuclear materials. Such reactors can also recover 50 times as much energy per kilogram of mined uranium as a conventional light water reactor. For more on future reactor designs see The Energy Gap.¶ The report—the latest in a series of broad-based MITEI studies of different aspects of energy—was produced by 10 faculty members, three contributing authors, and eight student research assistants, with guidance from a 13-member expert advisory panel from industry, academia, and nonprofit organizations. A summary report of the study was released on September 16. The full report, including all the appendices, will be released later this year.¶ Ernest J. Moniz, director of the MIT Energy Initiative and co-chair of the new study, says the report’s conclusion that uranium supplies will not limit growth of the industry runs contrary to the view that had prevailed for decades—one that guided decisions about which technologies were viable. “The failure to understand the extent of the uranium resource was a very big deal” for determining which fuel cycles were developed and the schedule of their development, he says.¶ “There has been very little research on the fuel cycle for about 30 years,” says Charles Forsberg, MIT research scientist in nuclear engineering and executive director of the study. “People hadn’t gone back and looked at the underlying assumptions.” What the researchers found was that, at any reasonable expected growth of nuclear power over this century, the availability of uranium will not be a constraint.

### AT: Tech Optimism

#### Tech optimism based on empirical research is good---prefer specific experts

Krier 85 James E., Professor of Law at the University of Michigan, “The Un-Easy Case for Technological Optimism,” Michigan Law Review, Vol. 84, No. 3; December 1985, pp. 405-429

A technological optimist is not simply a person with unqualified enthusiasm about technological promise. Saint-Simon (1760-1825) was an enthusiast, but he was not a technological optimist as the term is currently used. Saint-Simon, rather, was a utopian who happened to attach his vision to technocratic expertise.4 He was the forefather of Technocracy, an active utopian movement in the 1930s and one not entirely dead even today.5 Technological optimists are not utopians, but something less - let us say quasi-utopians, after a recent usage (applied to himself) of Robert Dahl's.6 Unlike any self-respecting pure utopian, quasi-utopians (and technological optimists) seek not perfection but tolerable imperfection, tolerable because it is better than anything else they consider attainable though not nearly as good as lots of alternatives that can be imagined. But technological optimists are also something more than mere believers, or faddists, or techniks.7 Their views are rigorously formulated, grounded in an apparent reality, based on knowledge and experience, and artfully defended. There are no crazies among the best of the optimists; they are conservative, respected experts who command enormous authority. They have a very specific position namely, "that exponential technological growth will allow us to expand resources ahead of exponentially increasing demands."8 This is the precise meaning of technological optimism as a term of art.