# 1AC

### 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 defeat terrorists**

**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.

**Terrorism causes extinction**

**Hellman 8** [Martin E. Hellman, emeritus prof of engineering @ Stanford, “Risk Analysis of Nuclear Deterrence” SPRING 2008 THE BENT OF TAU BETA PI, http://www.nuclearrisk.org/paper.pdf]

The threat of nuclear terrorism looms much larger in the public’s mind than the threat of a full-scale nuclear war, yet this article focuses primarily on the latter. An explanation is therefore in order before proceeding. A terrorist attack involving a nuclear weapon would be a catastrophe of immense proportions: “A 10-kiloton bomb detonated at Grand Central Station on a typical work day would likely kill some half a million people, and inflict over a trillion dollars in direct economic damage. America and its way of life would be changed forever.” [Bunn 2003, pages viii-ix]. The likelihood of such an attack is also significant. Former Secretary of Defense William Perry has estimated the chance of a nuclear terrorist incident within the next decade to be roughly 50 percent [Bunn 2007, page 15]. David Albright, a former weapons inspector in Iraq, estimates those odds at less than one percent, but notes, “We would never accept a situation where the chance of a major nuclear accident like Chernobyl would be anywhere near 1% .... A nuclear terrorism attack is a low-probability event, but we can’t live in a world where it’s anything but extremely low-probability.” [Hegland 2005]. In a survey of 85 national security experts, Senator Richard Lugar found a median estimate of 20 percent for the “probability of an attack involving a nuclear explosion occurring somewhere in the world in the next 10 years,” with 79 percent of the respondents believing “it more likely to be carried out by terrorists” than by a government [Lugar 2005, pp. 14-15]. I support increased efforts to reduce the threat of nuclear terrorism, but that is not inconsistent with the approach of this article. Because terrorism is one of the potential trigger mechanisms for a full-scale nuclear war, the risk analyses proposed herein will include estimating the risk of nuclear terrorism as one component of the overall risk. If that risk, the overall risk, or both are found to be unacceptable, then the proposed remedies would be directed to reduce which- ever risk(s) warrant attention. Similar remarks apply to a number of other threats (e.g., nuclear war between the U.S. and China over Taiwan). his article would be incomplete if it only dealt with the threat of nuclear terrorism and neglected the threat of full- scale nuclear war. If both risks are unacceptable, an effort to reduce only the terrorist component would leave humanity in great peril. In fact, society’s almost total neglect of the threat of full-scale nuclear war makes studying that risk all the more important. The cosT of World War iii The danger associated with nuclear deterrence depends on both the cost of a failure and the failure rate.3 This section explores the cost of a failure of nuclear deterrence, and the next section is concerned with the failure rate. While other definitions are possible, this article defines a failure of deterrence to mean a full-scale exchange of all nuclear weapons available to the U.S. and Russia, an event that will be termed World War III. Approximately 20 million people died as a result of the first World War. World War II’s fatalities were double or triple that number—chaos prevented a more precise deter- mination. In both cases humanity recovered, and the world today bears few scars that attest to the horror of those two wars. Many people therefore implicitly believe that a third World War would be horrible but survivable, an extrapola- tion of the effects of the first two global wars. In that view, World War III, while horrible, is something that humanity may just have to face and from which it will then have to recover. In contrast, some of those most qualified to assess the situation hold a very different view. In a 1961 speech to a joint session of the Philippine Con- gress, General Douglas MacArthur, stated, “Global war has become a Frankenstein to destroy both sides. … If you lose, you are annihilated. If you win, you stand only to lose. No longer does it possess even the chance of the winner of a duel. It contains now only the germs of double suicide.” Former Secretary of Defense Robert McNamara ex- pressed a similar view: “If deterrence fails and conflict develops, the present U.S. and NATO strategy carries with it a high risk that Western civilization will be destroyed” [McNamara 1986, page 6]. More recently, George Shultz, William Perry, Henry Kissinger, and Sam Nunn4 echoed those concerns when they quoted President Reagan’s belief that nuclear weapons were “totally irrational, totally inhu- mane, good for nothing but killing, possibly destructive of life on earth and civilization.” [Shultz 2007] Official studies, while couched in less emotional terms, still convey the horrendous toll that World War III would exact: “The resulting deaths would be far beyond any precedent. Executive branch calculations show a range of U.S. deaths from 35 to 77 percent (i.e., 79-160 million dead) … a change in targeting could kill somewhere between 20 million and 30 million additional people on each side .... These calculations reflect only deaths during the first 30 days. Additional millions would be injured, and many would eventually die from lack of adequate medical care … millions of people might starve or freeze during the follow- ing winter, but it is not possible to estimate how many. … further millions … might eventually die of latent radiation effects.” [OTA 1979, page 8] This OTA report also noted the possibility of serious ecological damage [OTA 1979, page 9], a concern that as- sumed a new potentiality when the TTAPS report [TTAPS 1983] proposed that the ash and dust from so many nearly simultaneous nuclear explosions and their resultant fire- storms could usher in a nuclear winter that might erase homo sapiens from the face of the earth, much as many scientists now believe the K-T Extinction that wiped out the dinosaurs resulted from an impact winter caused by ash and dust from a large asteroid or comet striking Earth. The TTAPS report produced a heated debate, and there is still no scientific consensus on whether a nuclear winter would follow a full-scale nuclear war. Recent work [Robock 2007, Toon 2007] suggests that even a limited nuclear exchange or one between newer nuclear-weapon states, such as India and Pakistan, could have devastating long-lasting climatic consequences due to the large volumes of smoke that would be generated by fires in modern megacities. While it is uncertain how destructive World War III would be, prudence dictates that we apply the same engi- neering conservatism that saved the Golden Gate Bridge from collapsing on its 50th anniversary and assume that preventing World War III is a necessity—not an option.

#### Scenario 3: Alaska

#### DOD facilities in Alaska are vulnerable to grid disruptions now

Warwick 10 Engineer & Researcher at the Pacific Northwest National Laboratory, “Renewable Resource Development on Department of Defense Bases in Alaska: Challenges and Opportunities”, September, http://www.pnl.gov/main/publications/external/technical\_reports/PNNL-19742.pdf)

Alaska Military Facilities There are seven major DOD facilities in Alaska, as follows (see Figure 1 for a map). Fort Richardson (FRA) is the major Army facility in the southern part of the state. It is in Anchorage adjacent to Elmendorf Air Force Base (AFB). There is another cluster of facilities in the north central part of the state near Fairbanks. This includes Fort Wainwright (FWA) on the eastern edge of Fairbanks and Eielson AFB (EAFB) approximately 26 miles southeast of Fairbanks. Roughly 100 miles further southeast of Fairbanks is Fort Greely (FGA) and the training ranges for Fort Wainwright. Facilities of the Ground Missile Defense (GMD) are located on the range as well. While support to Ground Missile Defense is provided by the Army, it is a facility of the Missile Defense Agency. Approximately mid-way between Fairbanks and Anchorage is the Clear Air Force Station (CAFS). The Base Realignment and Closure (BRAC) process resulted in Fort Wainwright having greater control over the lands at Fort Greely and joint-basing of Fort Richardson and Elmendorf AFB under the control of the Air Force as Joint Base Elmendorf-Richardson (JBER). As a result of this consolidation the focus of Army operations is now primarily Fort Wainwright, while the Air Force operates three major facilities. The Air Force facilities are under the Air Force Pacific and Space Commands. Each of the services, including the Navy, operates smaller facilities in remote areas that are either not interconnected to the Alaska power grid or are too small to be of concern for this study. Alaska Utility Infrastructure The electrical system in Alaska is primitive in comparison to that in the lower 48 states and the rest of the developed world because of the harsh climate, large land mass and sparse population. There are two major population centers in the state, Anchorage and Fairbanks, and a cluster of smaller towns scattered across the Kenai Peninsula (see Figure 2). All three areas are linked by a single transmission circuit that is about 600 miles long. It follows the major railroad and highway linking these areas and is therefore called the Railbelt transmission system. Power exchanges along the system are limited primarily as a consequence of the nature of electricity requirements in the state and the associated history of each utility. The climate in Alaska is so harsh that a power outage of any duration can be devastating. As a result, each utility has planned to be able to operate independently of all others. They also plan to have sufficient reserve generating capacity to be able to provide power even if multiple generators are inoperable. The end result is sufficient generating capability to offset the need for integrated operations, and therefore, the need for an extensive transmission system (see Figure 3, from Doyon Utilities). The major interconnected utilities are Golden Valley Electric Association (GVEA), which serves the north central part of the state centered on Fairbanks. The Anchorage area has two primary utilities, Anchorage Municipal Light and Power (ML&P) and Chugach Electric Association (CEA). Matanuska Electric Association (MEA) provides power to the northern suburbs of Anchorage. The GVEA system in the north is connected to the three Anchorage area utilities by a 170-mile transmission line, the Alaska Intertie, owned by the Alaska Energy Authority, which is a “public,” meaning state-owned, corporation of the Department of Commerce (Alaska Energy Authority 1991). Access to the intertie is through an “intertie agreement.” This is standard practice among utilities in regions where there is no independent system operator (ISO) to collectively manage transmission access on behalf of multiple utility owners. The California ISO (CAISO) is an example of an ISO. In this case, Alaska Energy Authority (AEA) contracts with ML&P and GVEA to manage the intertie. As noted previously, to complete the circuit between GVEA and the two Anchorage utilities, transmission has to pass through the MEA system. AEA recently constructed an extension to the intertie to bypass the MEA system and tie in to the CEA system directly. The intertie was initially envisioned as means to distribute power from a large hydropower development project on the Susitna River. This development is north of the Anchorage area and would require connections to both the south and the north to be feasible. The generating capability from the Susitna project could equal the combined generation of Alaska’s major utilities if fully developed. Like all large hydropower projects, this one is controversial and expensive, and consequently has had an on-again, off-again history. Interest in the project remains high, however, given the current dependence on fossil fuel for generation and shrinking supplies of oil from the North Slope and natural gas from the Cook Inlet near Anchorage (see Figure 4). GVEA serves Forts Wainwright and Greely and Eielson AFB. Elmendorf AFB and Fort Richardson (JBER) are served by ML&P. Power flowing between GVEA and ML&P passes through the systems of MEA and CEA because Anchorage is located on the southern edge of Cook Inlet and MEA and CEA are on the northern and eastern edges, respectively. Clear AFS is not connected to any utility power grid. It is in the GVEA territory and could be interconnected by constructing a transmission line approximately 3-miles long. Clear AFS, Eielson AFB, Fort Wainwright, and Fort Greely have their own central plants that provide both heat and power. Therefore, they are self-sufficient and typically operate without grid power. The plants at Clear, Eielson, and Wainwright are coal-fired using low Btu content coal mined near Clear, roughly 100 miles southeast of Fort Wainwright. Coal is delivered by rail. Fort Greely and GMD have diesel-fired generation in place, however because of the cost, Fort Greely uses excess power generated at Fort Wainwright whenever it is available. Power from Wainwright is wheeled by GVEA under a standard service tariff. The wheeling service is somewhat expensive but doesn’t require GVEA customers on either end of the transaction to provide reliability reserves or ancillary services, which are typically required in wholesale wheeling transactions.

#### SMRs on Alaskan bases solve

Holdmann 11 Gwen, Director of Alaska Center for Energy and Power at the University of Alaska Fairbanks, “Small Scale Modular Nuclear Power: an option for Alaska”, February, http://www.uaf.edu/files/acep/Executive-Summary-3-2-11.pdf

Executive Summary¶ Alaska is home to some of the most abundant supplies of fossil fuels and renewable energy resources on the planet. While the Alaska treasury benefits financially from development of these resources for export, the supply of reliable, affordable energy to small and often isolated Alaska markets remains a challenge. These conditions result in energy prices for space heating and electricity that are volatile and expensive in many areas of the state. These high energy prices are a significant burden for Alaska residents and businesses and stifle economic development.¶ Ways to address high energy prices are being deliberated, including the possible construction of one of several proposed natural gas pipeline projects, funding of individual projects in rural communities with access to developable resources, and consideration of a large-scale hydroelectric project to serve the Railbelt. Another possible source of energy is nuclear power.¶ Why discuss the nuclear option? With Alaska’s abundant energy resources, this form of energy might not seem needed. However, Alaska’s resources are not equitably distributed geographically, with some areas located near energy sources (for example, the gas fields of Cook Inlet that supply energy for Anchorage), and many other areas less fortunate. In particular, communities in rural Alaska face very high energy prices due to reliance on imported diesel fuel, and many do not have access to developable local resources that can appreciably reduce this dependence. To a lesser degree, the Fairbanks area also lacks low-cost, locally abundant energy resources. It is possible that the new small-scale modular nuclear power plants could lower the cost of energy in some of these locations.¶ Alaska was not part of the first wave of nuclear power development in the U.S., as the nation’s existing commercial nuclear industry is comprised of 1000 MW reactors that are too large for any Alaska applications. However, as part of a new generation of nuclear power plants worldwide, small modular reactors (SMRs) are being developed that range in size from 10 MWe to 300 MWe. These SMRs would be manufactured in factories, allowing standardized design and fabrication, high quality control, shorter power facility construction times, and reduced finance charges during construction. In larger markets in the Lower 48, multiple SMR modules could be combined to form a single gigawatt-scale power plant, which would have several advantages over a single large reactor, including reduced downtime for maintenance and improved safety. These SMRs would also be appropriately sized for use in Alaska, making nuclear energy a viable option to consider. In addition to providing energy (heat and power) for rural communities and/or the Railbelt, other potential applications include providing energy to military bases, remote mining operations, and other industrial users.

#### Alaskan bases vital to prevent Arctic conflict escalation

Schanz 8 Associate Editor of the Air Force Magazine, “Strategic Alaska”, http://www.airforce-magazine.com/MagazineArchive/Pages/2008/November%202008/1108alaska.aspx

Billy Mitchell saw its great potential in 1935, and now the rest of the world has finally caught on.

More than ever before, the Air Force is paying close attention to its force structure in Alaska. Indeed, a major rush of events in the High North has propelled the 49th state up to the top ranks of service thinking. A resurgent Russia has ramped up its long-range bomber flights nearby. A changing Arctic climate has uncorked a flurry of activity in the region as once inaccessible resources now seem ready for exploitation. Alaska’s strategic Arctic location is viewed as useful for missile defense, air defense, and force deployments to locations ranging from Europe to East Asia and beyond. And the military training space available to USAF there is huge and varied. For these and other reasons, the Air Force has started beefing up its forces in the state. A visitor there sees that the service has been sending its newest and most advanced equipment for Alaskan service, including brand-new F-22 fighters and C-17 transports. "From an airman’s perspective, [it’s] probably the most strategic location," said Lt. Gen. Dana T. Atkins, commander of Alaskan Command and Alaskan NORAD region. The state’s geographic location "makes it hugely of strategic import to the United States and really important in a global context." From Alaskan bases, the Air Force can gain quick access both to the Pacific and European Theaters. Transiting across the Arctic, forces could arrive in Europe faster than if flying from the East Coast of the US, Atkins pointed out. This responsive location has helped to push Alaska to the forefront of USAF’s investment queue. The reinvigoration of Russian bomber patrols over Arctic waters in August 2007 was an opening push of that country’s increasingly assertive power projection efforts. NORAD’s US and Canadian fighters have repeatedly intercepted Russian flights skirting Alaskan airspace. New F-22s at Elmendorf Air Force Base took center stage last fall when Raptors stepped in to fill the role of the temporarily grounded F-15 fleet to intercept Russian Tu-95 Bear bombers. The Air Sovereignty Mission Many of the Raptor pilots leveraged their F-15 backgrounds, and the scrambles led to the development of a new training plan for the air sovereignty mission, said Lt. Col. Orlando Sanchez, director of operations for the 525th Fighter Squadron at Elmendorf. While F-22s are no longer on alert, they may perform intercepts in the future. The commander of Russia’s Air Force, Col. Gen. Alexander Zelin, said in April the country will increase its strategic patrols to as many as 30 a month. "It’s been interesting in the last few years," said Gen. Carrol H. Chandler, chief of Pacific Air Forces, in September. "When I was ... Alaskan Command commander, we had one intercept in the time that I was there. The Russians have continued to put emphasis on long-range aviation; they’ve continued to put emphasis on presence in the Arctic. ... Those numbers have picked up considerably over the last three to four years." Chandler suspects that a "competition for resources" will continue, and perhaps intensify, in the Arctic. Last year, Russia publicized a submarine trip to the bottom of the seabed at the North Pole—where the crew deposited a titanium Russian flag, symbolically marking territory. The Canadians derided the expedition as a "stunt," with Prime Minister Stephen Harper making a trip to Canada’s Arctic region to unveil several major military investments, and following with a new defense strategy, outlining new capabilities in the North. Russia’s focus on Arctic operations is a part of the country’s push to assert its own interests over Siberia’s extended continental shelf—the largest and least explored so far of the world’s continental shelves, according to senior Russian military officials. Geologists believe major oil and gas deposits could potentially become available as the polar ice cap slowly recedes with warming temperatures—a fact that is the focus of increasing attention to the nations claiming Arctic waters. "I don’t see that abating anytime in the near future, and the Russians certainly have the resources at this point" to continue to push into the region, said Chandler. A Resurgent Russia While Russia’s Arctic bellicosity has been on the rise, commanders in the region say the moves have to be kept in perspective. "Is it Cold War games all over again? I don’t think so," said Brig. Gen. Thomas L. Tinsley, who led the 3rd Wing at Elmendorf until his death in July. The moves are not hollow, however, and represent Russia’s "desire to bring their Air Forces back up to the speed they were." Tinsley noted that Russia has doubled the fuel it allots to its strategic aviation forces in order to bring back lost training capability. "But you know we’re constantly testing each others’ intel ability, we’re constantly testing each others’ reaction ability, and that’s just part of it." A big issue in the mix is the filing of standard international flight plans by the Russians, Atkins said. If an aircraft approaches a nation’s sovereign boundary with a flight plan, things would be a lot less complicated, he said. The problem with the Russian long-range bomber missions is that "what we’ve witnessed ... is these flights occur without these flight plans." This is one of the goals of improved mil-to-mil relations with the Russian Far East Military District commanders, Atkins added. "It seems too simple to say that, but if they would just adhere to the protocols that we have all accepted, then I think a lot of the perceived tension will evaporate." The US Coast Guard cooperates closely with the Russians just across the Bering Strait on issues ranging from fishing to limiting piracy, Atkins said. This month a survival search and rescue exercise was to be conducted, and this past summer US forces participated in a homeland defense exercise where a simulated hijacking took place—with command and control elements in both Alaska and Russia simulating the tracking and handing off of the aircraft. Both Atkins and Gen. Victor E. Renuart Jr. at NORAD have been working to invite some of the Russian Far East Military District commanders to visit Alaska to continue building between the two militaries professional relationships—which haven’t always been as close as the Coast Guard’s. "I’m the new guy. I’m going to try to keep building that professional rapport," Atkins quipped. "It would be great to get a rapport like the [Coast Guard’s]. ... I’d like to achieve the same kind of professional tie." In addition to renewed tensions with Russia, increased air and maritime traffic is a growing concern at Alaskan Command. Climate conditions have revealed a host of new Arctic transnational issues.

#### Nuclear war

Wallace and Staples 10 Michael Wallace is Professor Emeritus at the University of British Columbia; Steven Staples is President of the Rideau Institute in Ottawa, March 2010, “Ridding the Arctic of Nuclear Weapons A Task Long Overdue”, http://www.arcticsecurity.org/docs/arctic-nuclear-report-web.pdf

The fact is, the Arctic is becoming a zone of increased military competition. Russian President Medvedev has announced the creation of a special military force to defend Arctic claims. Last year Russian General Vladimir Shamanov declared that Russian troops would step up training for Arctic combat, and that Russia’s submarine fleet would increase its “operational radius.” Recently, two Russian attack submarines were spotted off the U.S. east coast for the first time in 15 years. In January 2009, on the eve of Obama’s inauguration, President Bush issued a National Security Presidential Directive on Arctic Regional Policy. It affirmed as a priority the preservation of U.S. military vessel and aircraft mobility and transit throughout the Arctic, including the Northwest Passage, and foresaw greater capabilities to protect U.S. borders in the Arctic. The Bush administration’s disastrous eight years in office, particularly its decision to withdraw from the ABM treaty and deploy missile defence interceptors and a radar station in Eastern Europe, have greatly contributed to the instability we are seeing today, even though the Obama administration has scaled back the planned deployments. The Arctic has figured in this renewed interest in Cold War weapons systems, particularly the upgrading of the Thule Ballistic Missile Early Warning System radar in Northern Greenland for ballistic missile defence. The Canadian government, as well, has put forward new military capabilities to protect Canadian sovereignty claims in the Arctic, including proposed ice-capable ships, a northern military training base and a deep-water port. Earlier this year Denmark released an all-party defence position paper that suggests the country should create a dedicated Arctic military contingent that draws on army, navy and air force assets with shipbased helicopters able to drop troops anywhere. Danish fighter planes would be tasked to patrol Greenlandic airspace. Last year Norway chose to buy 48 Lockheed Martin F-35 fighter jets, partly because of their suitability for Arctic patrols. In March, that country held a major Arctic military practice involving 7,000 soldiers from 13 countries in which a fictional country called Northland seized offshore oil rigs. The manoeuvres prompted a protest from Russia – which objected again in June after Sweden held its largest northern military exercise since the end of the Second World War. About 12,000 troops, 50 aircraft and several warships were involved. Jayantha Dhanapala, President of Pugwash and former UN under-secretary for disarmament affairs, summarized the situation bluntly: “From those in the international peace and security sector, deep concerns are being expressed over the fact that two nuclear weapon states – the United States and the Russian Federation, which together own 95 per cent of the nuclear weapons in the world – converge on the Arctic and have competing claims. These claims, together with those of other allied NATO countries – Canada, Denmark, Iceland, and Norway – could, if unresolved, lead to conflict escalating into the threat or use of nuclear weapons.” Many will no doubt argue that this is excessively alarmist, but no circumstance in which nuclear powers find themselves in military confrontation can be taken lightly. The current geo-political threat level is nebulous and low – for now, according to Rob Huebert of the University of Calgary, “[the] issue is the uncertainty as Arctic states and non-Arctic states begin to recognize the geo-political/economic significance of the Arctic because of climate change.”

### 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.

#### Pakistan water scarcity causes war with India

Dr Akmal Hussain 11, The Express Tribune, “Pakistan’s water crisis”, 8-25, http://tribune.com.pk/story/231905/pakistans-water-crisis/

A water crisis is emerging which could have major implications for Pakistan’s economy and society. Effective management of this crisis first requires urgent mitigation and adaptation measures with close cooperation amongst Pakistan’s provinces of Khyber-Pakhtunkhwa, Punjab and Sindh on the one hand and then between Pakistan and India on the other. If the necessary collaboration for cooperative management of the Indus basin water resources is not undertaken expeditiously, the resultant economic crisis could lead to a war with India.¶ The problem of water scarcity in the Indus basin is predicated partly on the inherent limitations of water supply in the Indus River System and partly on the growing water demand associated with inefficient water use in the process of economic and population growth. Unsustainable development practices have exacerbated the problem with intrusion of salinity into the ground water, contamination of aquifers with harmful chemicals such as fluoride and arsenic and pollution of surface water due to lack of an institutional framework for environmentally safe disposal of urban and industrial waste. An important dimension of the water issue in the years ahead is the phenomenon of climate change, which could take the crisis to a critical level.¶ Water scarcity can be measured by the availability of water compared with the generally accepted minimum per capita requirement of 1,700 cubic metres per person per year. In their book, Freshwater Under Threat: South Asia, Mukand S Babel and Shahriar M Wahid have estimated that the per capita availability of water in the Indus basin is 1,329 cubic metres per capita per year. This is significantly below the threshold requirement. Another interesting indicator of the water problem is the measure of development pressure on water resources, which is the percentage of available water supply relative to the total water resources. This ratio is as high as 89 per cent for the Indus basin compared to only 15 per cent for the Ganges-Brahmaputra-Meghna (GBM) basin. This indicates the relatively greater development pressure on the Indus basin.¶ Worse, the utilisation of water for production is also highly inefficient by global standards. Water use efficiency is measured in terms of the GDP per unit of water used. In the case of the five top food producers in the world (Brazil, China, France, Mexico and the US) the water use efficiency is $23.8 per cubic metre. The figure is as low as $3.34 for the Indus basin.¶ The problem of water scarcity is expected to become more acute in the future due to the adverse impact of climate change. Dr Leena Srivastava, in a recent research paper, provides evidence to show that some of the Himalayan glaciers are melting more rapidly than the global average and this could increase the frequency of floods in the short run and increase water shortages in the long term by reducing river flows in South Asia. Furthermore, according to the UN’s Intergovernmental Panel on Climate Change report, given the sensitivity of existing seeds to heat, global warming could result in a 30 per cent reduction in the yield per acre of food crops in South Asia.¶ Science and empirical evidence make clear that existing water scarcity, when combined with the impact of climate change, could place critical stress on the economy and society of Pakistan in particular and South Asia in general: major food shortages, increased frequency of natural disasters, large scale dislocations of population and destabilising contention between upper and lower riparian regions.¶ Effective management of this crisis in Pakistan requires close cooperation with India in joint watershed management, increasing the efficiency of irrigation and water use, joint development of technologies, sustainable agriculture practices and institutional arrangements to manage food shortages as well as natural disasters. When faced with a common threat, ideology must be replaced by rationality in the conduct of governance. If we fail to do so, natural disasters could trigger the man-made catastrophe of war.

#### Indo-Pak war causes extinction

Greg Chaffin 11, Research Assistant at Foreign Policy in Focus, July 8, 2011, “Reorienting U.S. Security Strategy in South Asia,” online: http://www.fpif.org/articles/reorienting\_us\_security\_strategy\_in\_south\_asia

The greatest threat to regional security (although curiously not at the top of most lists of U.S. regional concerns) is the possibility that increased India-Pakistan tension will erupt into all-out war that could quickly escalate into a nuclear exchange. Indeed, in just the past two decades, the two neighbors have come perilously close to war on several occasions. India and Pakistan remain the most likely belligerents in the world to engage in nuclear war. ¶ Due to an Indian preponderance of conventional forces, Pakistan would have a strong incentive to use its nuclear arsenal very early on before a routing of its military installations and weaker conventional forces. In the event of conflict, Pakistan’s only chance of survival would be the early use of its nuclear arsenal to inflict unacceptable damage to Indian military and (much more likely) civilian targets. By raising the stakes to unacceptable levels, Pakistan would hope that India would step away from the brink. However, it is equally likely that India would respond in kind, with escalation ensuing. Neither state possesses tactical nuclear weapons, but both possess scores of city-sized bombs like those used on Hiroshima and Nagasaki. ¶ Furthermore, as more damage was inflicted (or as the result of a decapitating strike), command and control elements would be disabled, leaving individual commanders to respond in an environment increasingly clouded by the fog of war and decreasing the likelihood that either government (what would be left of them) would be able to guarantee that their forces would follow a negotiated settlement or phased reduction in hostilities. As a result any such conflict would likely continue to escalate until one side incurred an unacceptable or wholly debilitating level of injury or exhausted its nuclear arsenal. ¶ A nuclear conflict in the subcontinent would have disastrous effects on the world as a whole. In a January 2010 paper published in Scientific American, climatology professors Alan Robock and Owen Brian Toon forecast the global repercussions of a regional nuclear war. Their results are strikingly similar to those of studies conducted in 1980 that conclude that a nuclear war between the United States and the Soviet Union would result in a catastrophic and prolonged nuclear winter, which could very well place the survival of the human race in jeopardy. In their study, Robock and Toon use computer models to simulate the effect of a nuclear exchange between India and Pakistan in which each were to use roughly half their existing arsenals (50 apiece). Since Indian and Pakistani nuclear devices are strategic rather than tactical, the likely targets would be major population centers. Owing to the population densities of urban centers in both nations, the number of direct casualties could climb as high as 20 million. ¶ The fallout of such an exchange would not merely be limited to the immediate area. First, the detonation of a large number of nuclear devices would propel as much as seven million metric tons of ash, soot, smoke, and debris as high as the lower stratosphere. Owing to their small size (less than a tenth of a micron) and a lack of precipitation at this altitude, ash particles would remain aloft for as long as a decade, during which time the world would remain perpetually overcast. Furthermore, these particles would soak up heat from the sun, generating intense heat in the upper atmosphere that would severely damage the earth’s ozone layer. The inability of sunlight to penetrate through the smoke and dust would lead to global cooling by as much as 2.3 degrees Fahrenheit. This shift in global temperature would lead to more drought, worldwide food shortages, and widespread political upheaval.¶ Although the likelihood of this doomsday scenario remains relatively low, the consequences are dire enough to warrant greater U.S. and international attention. Furthermore, due to the ongoing conflict over Kashmir and the deep animus held between India and Pakistan, it might not take much to set them off. Indeed, following the successful U.S. raid on bin Laden’s compound, several members of India’s security apparatus along with conservative politicians have argued that India should emulate the SEAL Team Six raid and launch their own cross-border incursions to nab or kill anti-Indian terrorists, either preemptively or after the fact. Such provocative action could very well lead to all-out war between the two that could quickly escalate.

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

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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.

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

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

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

could take down DOD’s basic operating ability and the whole economy, while oil supply is only a gathering storm.

# 2AC

## Heg Advantage

### AT: Disease

#### No extinction

Posner 5—Senior Lecturer, U Chicago Law. Judge on the US Court of Appeals 7th Circuit. AB from Yale and LLB from Harvard. (Richard, Catastrophe, http://goliath.ecnext.com/coms2/gi\_0199-4150331/Catastrophe-the-dozen-most-significant.html)

Yet the fact that Homo sapiens has managed to survive every disease to assail it in the 200,000 years or so of its existence is a source of genuine comfort, at least if the focus is on extinction events. There have been enormously destructive plagues, such as the Black Death, smallpox, and now AIDS, but none has come close to destroying the entire human race. There is a biological reason. Natural selection favors germs of limited lethality; they are fitter in an evolutionary sense because their genes are more likely to be spread if the germs do not kill their hosts too quickly. The AIDS virus is an example of a lethal virus, wholly natural, that by lying dormant yet infectious in its host for years maximizes its spread. Yet there is no danger that AIDS will destroy the entire human race. The likelihood of a natural pandemic that would cause the extinction of the human race is probably even less today than in the past (except in prehistoric times, when people lived in small, scattered bands, which would have limited the spread of disease), despite wider human contacts that make it more difficult to localize an infectious disease.

## Solvency

### AT: Whiteness

#### Whiteness isn’t a monolithic root cause---they shut off productive debate over solutions – means the alt fails

Shelby 7 – Tommie Shelby, Professor of African and African American Studies and of Philosophy at Harvard, 2007, We Who Are Dark: The Philosophical Foundations of Black Solidarity

Others might challenge the distinction between ideological and structural causes of black disadvantage, on the grounds that we are rarely, if ever, able to so neatly separate these factors, an epistemic situation that is only made worse by the fact that these causes interact in complex ways with behavioral factors. These distinctions, while perhaps straightforward in the abstract, are difficult to employ in practice. For example, it would be difficult, if not impossible, for the members of a poor black community to determine with any accuracy whether their impoverished condition is due primarily to institutional racism, the impact of past racial injustice, the increasing technological basis of the economy, shrinking state budgets, the vicissitudes of world trade, the ascendancy of conservative ideology, poorly funded schools, lack of personal initiative, a violent drug trade that deters business investment, some combination of these factors, or some other explanation altogether. Moreover, it is notoriously difficult to determine when the formulation of putatively race-neutral policies has been motivated by racism or when such policies are unfairly applied by racially biased public officials.¶ There are very real empirical difficulties in determining the specific causal significance of the factors that create and perpetuate black disadvantage; nonetheless, it is clear that these factors exist and that justice will demand different practical remedies according to each factor's relative impact on blacks' life chances. We must acknowledge that our social world is complicated and not immediately transparent to common sense, and thus that systematic empirical inquiry, historical studies, and rigorous social analysis are required to reveal its systemic structure and sociocultural dynamics. There is, moreover, no mechanical or infallible procedure for determining which analyses are the soundest ones. In addition, given the inevitable bias that attends social inquiry, legislators and those they represent cannot simply defer to social-scientific experts. We must instead rely on open public debate—among politicians, scholars, policy makers, intellectuals, and ordinary citizens—with the aim of garnering rationally motivated and informed consensus. And even if our practical decision procedures rest on critical deliberative discourse and thus live up to our highest democratic ideals, some trial and error through actual practice is unavoidable.¶ These difficulties and complications notwithstanding, a general recognition of the distinctions among the ideological and structural causes of black disadvantage could help blacks refocus their political energies and self-help strategies. Attention to these distinctions might help expose the superficiality of theories that seek to reduce all the social obstacles that blacks face to contemporary forms of racism or white supremacy. A more penetrating, subtle, and empirically grounded analysis is needed to comprehend the causes of racial inequality and black disadvantage. Indeed, these distinctions highlight the necessity to probe deeper to find the causes of contemporary forms of racism, as some racial conflict may be a symptom of broader problems or recent social developments (such as immigration policy or reduced federal funding for higher education).

### AT: State Bad

#### We have a moral obligation to advocate nuclear---any alternative results in extinction due to warming

Baker 12—Executive Director of PopAtomic Studios, the Nuclear Literacy Project (7/25/12, Suzy, Climate Change and Nuclear Energy: We Need to Talk, ansnuclearcafe.org/2012/07/25/climate-change-and-nuclear-energy-we-need-to-talk/)

Ocean Acidification¶ While I was making artistic monuments to single celled organisms in the ceramics studio, new research was emerging about ocean acidification affecting these beautiful and integral pieces of our ecosystem. As the ocean absorbs excess carbon from humans burning fossil fuels, the pH of the ocean is rapidly changing. This means that our ancient oxygen-making pals cannot properly do their job. As their ocean home becomes inhospitable, they are dying off in droves. This not only impacts the ocean’s ability to naturally sequester man made carbon emissions; it also negatively impacts the entire food chain, since they are the primary food source for other multi-cellular ocean creatures, some of which we enjoy eating.¶ Oh, and did I mention that these little phytoplankton are also responsible for creating the ozone layer that protects all life on the planet from cosmic radiation, and they churn out 70-80% of the oxygen we breathe? These creatures are much more than just a pretty floating form.¶ Ocean acidification is the issue that brought me to supporting nuclear energy. Ocean acidification is an often-overlooked aspect of climate change that is potentially more threatening than the heat, the super storms, the fires, the drought, the crop losses, and all of the other trends that we are seeing now, which climate scientists have been warning us about for decades.¶ Climate Change and Nuclear Energy: Like Oil and Water?¶ It didn’t take long for me to find out that in the nuclear industry, climate change is not something we all agree on. Discussing climate change as a concern is often polarizing, and brings up intrinsic conflicts of interest in the larger energy sector (the companies who design/build/run the nuclear plants also happen to design/build/run the fossil fuel plants). I’ve been advised by people who deeply care about me, and the success of my organization, not to bring up climate at all, and to be extremely careful not to base my support of nuclear on climate issues. I’ve also been specifically advised not to make the argument that nuclear energy is the only solution to climate change.¶ When you are the new kid, it is usually best not to make waves if you can help it. So, for the most part, I have heeded that advice and held my tongue, despite myself.¶ However, as I watch the news (and my wilting vegetable garden) and see the magnitude of human suffering that is directly related to increasingly severe weather events, I cannot keep silent. Climate change is why I am here supporting nuclear energy, so what am I doing not talking about it?¶ The CEO of Exxon Mobile recently made clear that despite his company’s acknowledgement of the irrefutable evidence of climate change, and the huge ecological and human cost, he has no intentions of slowing our fossil fuel consumption. In fact, he goes as far to say that getting fossil fuels to developing nations will save millions of lives. While I agree that we need stronger, better energy infrastructure for our world’s poorest nations, I wholly disagree that fossils are the right fit for the job.¶ Fossil fuel usage could be cast as a human rights issue only to the extent that access to reliable and affordable electricity determines what one’s standard of living is. At the same time, fossil fuel usage is the single largest threat to our planet and every species on it. Disregarding the impacts that fossil fuel use poses, merely to protect and increase financial profits, is unethical, and cloaking fossil fuel use as a human rights issue is immoral.¶ Although we are all entitled to our own opinions and beliefs, the idea that climate change and ocean acidification are even up for debate is not reasonable. Just think: The CEO of the largest fossil fuel company in America freely speaks out about climate change, while nuclear energy advocates are pressured to stay silent on the subject.¶ Silence is No Longer an Option¶ I am someone who avoids conflict, who seeks consensus in my personal and professional lives, and so I have followed the advice of well-meaning mentors and stayed silent in hopes of preserving a false peace within my pro-nuclear circles, including my family and friends. But my keeping silent is now over— starting here and starting now—because this is too big and too important to stay silent. I am not alone in believing this, and the nuclear industry does itself no favors by tacitly excluding the growing movement of people who are passionate about the need to use nuclear energy to address climate change.¶ And nuclear power is the only realistic solution. It would be great if there were also other viable solutions that could be easily and quickly embraced; however, the numbers just don’t work out. Renewables and conservation may have done more good if we had utilized them on a large scale 40 years ago, when we were warned that our ecosystem was showing signs of damage from fossils fuels…but at this point it’s really too late for them. And burning more fossil fuels right now, when we have the technologies and know-how to create a carbon-free energy economy, would be the height of foolishness.¶ In the meantime, there is real human suffering, and we here in the developed world are directly causing it. Our poorest brothers and sisters cannot escape the heat. They cannot import food when their crops fail. They cannot buy bottled water when there is a drought. They cannot “engineer a solution” any more than my childhood friends the phytoplankton can.¶ ¶ Energy Choices as an Ethical Obligation¶ We have an ethical obligation to stop killing people with our energy consumption. That statement may sound oversimplified, but let’s be honest—we know that fossil fuels kill approximately 1.3 million people each year through respiratory diseases and cancers, and the death toll for climate change related events rises every day. Yet, we do nothing but dither about climate change politics. Where is the outrage?¶ The fossil fuel industry has been successful at presenting a united front and maintaining consistent strategic communications. In contrast, the safety record and clean energy contributions of nuclear are always overshadowed by politics favoring fossil fuel use. If anything, nuclear advocates should be particularly sensitive that the very same politics are happening with climate science.¶ We should be championing nuclear energy as a science-based solution, instead of enforcing a meek code of silence. People from outside the nuclear industry, like Gwyneth Cravens, Barry Brooks and Tom Blees, have pointed out these relationships, yet the nuclear industry has yet to internalize and accept these realities.¶ How can we expect people to listen to science and not politics when it comes to nuclear energy, but not climate change?¶ Disagreeing with a policy does not change the facts. You can disagree with policy to limit carbon emissions, but that doesn’t change the fact that our fossil fuel consumption is changing the PH of our oceans. Many people disagree with the use of nuclear energy, but that doesn’t change the fact that nuclear is our largest source of carbon free electricity and the safest source of electricity per kilowatt hour.¶ Nuclear Must Lead by Example¶ If we want the public to overcome the cognitive dissonance between science and policy when it comes to nuclear energy, we need to lead by example and overcome our own cognitive dissonance when it comes to climate change — even if it means risking our own interests as members of the larger energy industry. We are not going to run out of fossil fuels any time soon, so the decision to move to carbon-free energy—to move to nuclear energy—must be made willingly, and based on ethical principles, not the limits of our natural resources.¶ As green groups wait endlessly for renewable technologies to have some kind of breakthrough, and nuclear supporters stay mum on climate change, we continue using fossil fuels. Our collective inaction is allowing the destruction of our planet’s ecosystem, the dying of our oceans, and the suffering of the poorest members of our own species. The climate conversation has become so convoluted by politics and greed that many smart, compassionate people have “thrown in the towel.” We should be more concerned than ever at our lack of a comprehensive global response.¶ I strongly believe that there’s still time to reclaim the dialogue about climate change based on ocean acidification evidence, and to use nuclear technologies to improve the long-term outcome for our planet and our species. The first step is acknowledging the complicated and unique role of the nuclear industry in this conflict, and the conflicts of interest that are impeding open communication. The second step is to realize that the climate change community is a potential ally, and that openly addressing the subject of climate change in our communications is in the best interest of the nuclear community. The third step is choosing to do the right thing, not just the polite thing, and reclaim our legitimate role in the energy community as the “top dog” of carbon-free electricity, instead of quietly watching natural gas become “the new coal.”¶ Climate change is not going away—it is getting worse—and each one of us in the nuclear community has an ethical obligation to speak up and to do something about it. I am speaking up for the oceans, for the cyano-bacteria and diatoms and our shared mitochondrial RNA that still fills me with wonder at the beauty of this world. Please join me if you can, to speak up for what you love—and if you cannot, please understand that we all remain nuclear advocates, and that the nuclear community is much stronger with the no-longer-silent climate change harbingers in it.

#### The state is inevitable and an indispensable part of the solution to warming

Eckersley 4 Robyn, Reader/Associate Professor in the Department of Political Science at the University of Melbourne, “The Green State: Rethinking Democracy and Sovereignty”, MIT Press, 2004, Google Books, pp. 3-8

While acknowledging the basis for this antipathy toward the nation- state, and the limitations of state-centric analyses of global ecological degradation, I seek to draw attention to the positive role that states have played, and might increasingly play, in global and domestic politics. Writing more than twenty years ago, Hedley Bull (a proto-constructivist and leading writer in the English school) outlined the state's positive role in world affairs, and his arguments continue to provide a powerful challenge to those who somehow seek to "get beyond the state," as if such a move would provide a more lasting solution to the threat of armed conflict or nuclear war, social and economic injustice, or environmental degradation.10 As Bull argued, **given that the state is here to stay whether we like it or not**, then the call to get "beyond the state is a counsel of despair, at all events if it means that we have to begin by abolishing or subverting the state, rather than that there is a need to build upon it.""¶ In any event, rejecting the "statist frame" of world politics ought not prohibit an inquiry into the emancipatory potential of the **state as a crucial "node" in any future network of global ecological governance**. This is especially so, given that one can expect states to persist as major sites of social and political power for at least the foreseeable future and that **any green transformations of the present political order will, short of revolution, necessarily be state-dependent**. Thus, like it or not, those concerned about **ecological destruction must contend with existing institutions** and, where possible, seek to "rebuild the ship while still at sea." And if states are so implicated in ecological destruction, then an inquiry into the potential for their transformation even their modest reform into something that is at least more conducive to ecological sustainability would seem to be compelling.¶ Of course, it would be unhelpful to become singularly fixated on the redesign of the state at the expense of other institutions

of governance. States are not the only institutions that limit, condition, shape, and direct political power, and it is necessary to keep in view the broader spectrum of formal and informal institutions of governance (e.g., local, national, regional, and international) that are implicated in global environmental change. Nonetheless, while the state constitutes only one modality of political power, it is an especially significant one because of its historical claims to exclusive rule over territory and peoples—as expressed in the principle of state sovereignty. As Gianfranco Poggi explains, the political power concentrated in the state "is a momentous, pervasive, critical phenomenon. **Together with other forms of social power, it constitutes an indispensable medium for constructing and shaping larger social realities**, for establishing, shaping and maintaining all broader and more durable collectivities."12 States play, in varying degrees, significant roles in structuring life chances, in distributing wealth, privilege, information, and risks, in upholding civil and political rights, and in securing private property rights and providing the legal/regulatory framework for capitalism**. Every one of these dimensions of state activity has, for good or ill, a significant bearing on the global environmental crisis**. Given that the green political project is one that demands far-reaching changes to both economies and societies, it is difficult to imagine how such changes might occur on the kind of scale that is needed **without the active support of states**. While it is often observed that states are too big to deal with local ecological problems and too small to deal with global ones, the state nonetheless holds, as Lennart Lundqvist puts it, "a unique position in the constitutive hierarchy from individuals through villages, regions and nations all the way to global organizations. The state is inclusive of lower political and administrative levels, and exclusive in speaking for its whole territory and population in relation to the outside world."13 In short, it seems to me inconceivable to advance ecological emancipation without also engaging with and seeking to transform state power.¶ Of course, not all states are democratic states, and the green movement has long been wary of the coercive powers that all states reputedly enjoy. Coercion (and not democracy) is also central to Max Weber's classic sociological understanding of the state as "a human community that (successfully) claims the monopoly of the legitimate use of physical force within a given territory."14 Weber believed that the state could not be defined sociologically in terms of its ends\* only formally as an organization in terms of the particular means that are peculiar to it.15 Moreover his concept of legitimacy was merely concerned with whether rules were accepted by subjects as valid (for whatever reason); he did not offer a normative theory as to the circumstances when particular rules ought to be accepted or whether beliefs about the validity of rules were justified. Legitimacy was a contingent fact, and in view of his understanding of politics as a struggle for power in the context of an increasingly disenchanted world, likely to become an increasingly unstable achievement.16¶ In contrast to Weber, my approach to the state is explicitly normative and explicitly concerned with the purpose of states, and the democratic basis of their legitimacy. It focuses on the limitations of liberal normative theories of the state (and associated ideals of a just constitutional arrangement), and it proposes instead an alternative green theory that seeks to redress the deficiencies in liberal theory. Nor is my account as bleak as Weber's. The fact that states possess a monopoly of control over the means of coercion is a most serious matter, but it does not necessarily imply that they must have frequent recourse to that power. In any event, whether the use of the state's coercive powers is to be deplored or welcomed turns on the purposes for which that power is exercised, the manner in which it is exercised, and whether it is managed in public, transparent, and accountable ways—a judgment that must be made against a background of changing problems, practices, and under- standings. The coercive arm of the state can be used to "bust" political demonstrations and invade privacy. **It can also be used to prevent human rights abuses, curb the excesses of corporate power, and protect the environment.**¶ In short, although the political autonomy of states is widely believed to be in decline, **there are still few social institution that can match the** same degree of capacity and potential legitimacy that **states have to redirect societies and economies along more ecologically sustainable lines to address ecological problems** such as global warming and pollution, the buildup of toxic and nuclear wastes and the rapid erosion of the earth's biodiversity. States—particularly when they act collectively—have the capacity to curb the socially and ecologically harmful consequences of capitalism. They are also more amenable to democratization than cor- porations, notwithstanding the ascendancy of the neoliberal state in the increasingly competitive global economy. There are therefore many good reasons why green political theorists need to think not only critically but also constructively about the state and the state system. While the state is certainly not "healthy" at the present historical juncture, in this book I nonetheless join Poggi by offering "a timid two cheers for the old beast," at least as a potentially more significant ally in the green cause.17

### AT: Social Death

#### No social death – history proves

Brown 9 Vincent, Prof. of History and African and African-American Studies @ Harvard Univ., December, "Social Death and Political Life in the Study of Slavery," American Historical Review, p. 1231-1249

THE PREMISE OF ORLANDO PATTERSON’S MAJOR WORK, that enslaved Africans were natally alienated and culturally isolated, was challenged even before he published his influential thesis, primarily by scholars concerned with “survivals” or “retentions” of African culture and by historians of slave resistance. In the early to mid-twentieth century, when Robert Park’s view of “the Negro” predominated among scholars, it was generally assumed that the slave trade and slavery had denuded black people of any ancestral heritage from Africa. The historians Carter G. Woodson and W. E. B. Du Bois and the anthropologist Melville J. Herskovits argued the opposite. Their research supported the conclusion that while enslaved Africans could not have brought intact social, political, and religious institutions with them to the Americas, they did maintain significant aspects of their cultural backgrounds.32 Herskovits ex- amined “Africanisms”—any practices that seemed to be identifiably African—as useful symbols of cultural survival that would help him to analyze change and continuity in African American culture.33 He engaged in one of his most heated scholarly disputes with the sociologist E. Franklin Frazier, a student of Park’s, who empha- sized the damage wrought by slavery on black families and folkways.34 More recently, a number of scholars have built on Herskovits’s line of thought, enhancing our understanding of African history during the era of the slave trade. Their studies have evolved productively from assertions about general cultural heritage into more precise demonstrations of the continuity of worldviews, categories of belonging, and social practices from Africa to America. For these scholars, the preservation of distinctive cultural forms has served as an index both of a resilient social personhood, or identity, and of resistance to slavery itself. 35¶ Scholars of slave resistance have never had much use for the concept of social death. The early efforts of writers such as Herbert Aptheker aimed to derail the popular notion that American slavery had been a civilizing institution threatened by “slave crime.”36 Soon after, studies of slave revolts and conspiracies advocated the idea that resistance demonstrated the basic humanity and intractable will of the enslaved—indeed, they often equated acts of will with humanity itself. As these writ- ers turned toward more detailed analyses of the causes, strategies, and tactics of slave revolts in the context of the social relations of slavery, they had trouble squaring abstract characterizations of “the slave” with what they were learning about the en- slaved.37 Michael Craton, who authored Testing the Chains: Resistance to Slavery in the British West Indies, was an early critic of Slavery and Social Death, protesting that what was known about chattel bondage in the Americas did not confirm Patterson’s definition of slavery. “If slaves were in fact ‘generally dishonored,’ ” Craton asked, “how does he explain the degrees of rank found among all groups of slaves—that is, the scale of ‘reputation’ and authority accorded, or at least acknowledged, by slave and master alike?” How could they have formed the fragile families documented by social historians if they had been “natally alienated” by definition? Finally, and per- haps most tellingly, if slaves had been uniformly subjected to “permanent violent domination,” they could not have revolted as often as they did or shown the “varied manifestations of their resistance” that so frustrated masters and compromised their power, sometimes “fatally.”38 The dynamics of social control and slave resistance falsified Patterson’s description of slavery even as the tenacity of African culture showed that enslaved men, women, and children had arrived in the Americas bearing much more than their “tropical temperament.”¶ The cultural continuity and resistance schools of thought come together pow- erfully in an important book by Walter C. Rucker, The River Flows On: Black Re- sistance, Culture, and Identity Formation in Early America. In Rucker’s analysis of slave revolts, conspiracies, and daily recalcitrance, African concepts, values, and cul- tural metaphors play the central role. Unlike Smallwood and Hartman, for whom “the rupture was the story” of slavery, Rucker aims to reveal the “perseverance of African culture even among second, third, and fourth generation creoles.”39 He looks again at some familiar events in North America—New York City’s 1712 Coromantee revolt and 1741 conspiracy, the 1739 Stono rebellion in South Carolina, as well as the plots, schemes, and insurgencies of Gabriel Prosser, Denmark Vesey, and Nat Turner—deftly teasing out the African origins of many of the attitudes and actions of the black rebels. Rucker outlines how the transformation of a “shared cultural heritage” that shaped collective action against slavery corresponded to the “various steps Africans made in the process of becoming ‘African American’ in culture, orientation, and identity.”40

## DA

### 2AC Oil DA

#### Price collapse inevitable – diversification is only way to survive

Paikin 12 Zach Paikin is a columnist for Canada's iPolitics and contributes research on international affairs to several Washington-based think tanks and institutes, April 11, 2012, “Coping in an increasingly competitive global economy”, http://www.ipolitics.ca/2012/04/11/zach-paikin-coping-with-less-revenues-in-an-increasingly-competitive-global-economy/

It gets worse. **The price of oil is about to collapse due to the increasing extraction of unconventional oil**. Roughly 250 billion barrels of oil shale — and possibly as much as twice that figure — have been discovered in Israel and will begin to flow into the global market in about a decade **at an estimated $30-40 per barrel**, merely one third of the current price of oil. This gives Israel the third largest oil shale reserves in the world after the United States and China. The U.S. has already become a net exporter of gasoline and could surpass both Russia and Saudi Arabia as the world’s largest supplier of oil in the near future thanks to its unconventional oil reserves.¶ **The upcoming decline in the price of oil will result in the near-total collapse of non-diversified economies**, such as the Middle East’s oil-exporting countries. For instance, roughly 75 per cent of Saudi Arabia’s governmental revenue and 90 per cent of its export earnings come from the oil industry. Natural gas doesn’t provide these Mid-East states with much solace: Canadian exports of natural gas to the United States last year alone accounted for half the rate of all natural gas exports from the Middle East and North Africa.

#### 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.

#### Military oil doesn’t link

Kreutzer 12 David, Research Fellow in Energy Economics and Climate Change, Heritage Foundation, “Military Biofoolishness”, May 21, <http://energy.nationaljournal.com/2012/05/powering-our-military-whats-th.php>

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

#### Reduced US oil demand doesn't affect global prices

Nordhaus 11 William D, Sterling Professor of Economics; Cowles Foundation, Yale University, October 27, “Energy: Friend or Enemy?,” http://www.nybooks.com/articles/archives/2011/oct/27/energy-friend-or-enemy/?pagination=false

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

### AT: Russia Oil---2AC

#### Plan doesn’t collapse Putin – doesn’t get close to the $13 threshold

IHT 4 (1/7, Lexis)

Given its dependence on oil revenue, a steep decline in oil prices would pose a threat to the economy, analysts say. Russia can withstand a serious crisis as long as oil remains above $13.50, according to one economist. After oil prices averaged $28.80 a barrel in 2003, Russia's GDP could still grow a healthy 5.5 percent even if the price of Brent crude falls to $23 a barrel this year.

### AT: Russian Nationalism

#### Nationalism inevitable – political incentives mean leaders will work to preserve it

Corcoran 9 [Ed Corcoran, editor of Survivalist magazine, “Engaging Russia,” March 23 2009, http://sitrep.globalsecurity.org/articles/090323252-engaging-russia.htm]

Economic frustrations were compounded by the loss of international prestige – the Soviet Union had been one of the two superpowers dominating global politics, but Russia was at best a bit player. Its once feared army was reduced to a shadow of its former self, barely able to control tiny Chechnya. The choice of NATO as a major vehicle for Western support of the newly independent East European countries was unfortunate; its origin as a military organization focused against Russia made it an unnecessary provocation which the leadership was quick to exploit. ¶ Against this background, with a thousand-year tradition of autocratic leaders and a cultural tradition of a special mission for Russia, it was only natural that a strong leader who stood up to the West would get wide support. Vladimir Putin, only too ready to provide such leadership, received a huge boost by the fortuitous rise of energy prices in the last decade. This allowed him to once again have Russia play a prominent and independent role on the world stage, a role which provided very satisfying psychological rewards to the Russian people, but little economic or social benefit. ¶ It is to the regime's benefit to maintain an adversarial or confrontational stance vis-a-vis the West, promoting nationalistic attitudes and intensifying internal controls. Hard line Russian leaders stress the need for military modernization, eliciting matching calls from hard line Western leaders. The popular support these measures engender allows the regime to suppress opposition and democratic elements. This situation will not change until the underlying attitudes of the Russian people change significantly, and that obviously is a long term project.

## K

### 2AC God K

#### Extinction actually is the end of all human consciousness---no transcendence or life after death---this arg could not be dumber

Stenger 92 – Victor J. Stenger, Adjunct Professor of Philosophy, University of Colorado, 1992, “The Myth of Quantum Consciousness,” online: http://www.colorado.edu/philosophy/vstenger/Quantum/QuantumConsciousness.pdf

Quantum mechanics is called on further to argue that the cosmic field, like Newton’s aether, couples to the human mind itself. In Robert Lanza’s view, that field is the universal mind of all humanity - living, dead, and unborn. Ironically, this seemingly profound association between quantum and mind is an artifact, the consequence of unfortunate language used by Bohr, Heisenberg and the others who originally formulated quantum mechanics. In describing the necessary interaction between the observer and what is being observed, and how the state of a system is determined by the act of its measurement, they inadvertently left the impression that human consciousness enters the picture to cause that state come into being. This led many who did not understand the physics, but liked the sound of the words used to describe it, to infer a fundamental human role in what was previously a universe that seemed to have need for neither gods nor humanity.

If Bohr and Heisenberg had spoken of measurements made by inanimate instruments rather than “observers,” perhaps this strained relationship between quantum and mind would not have been drawn. For, nothing in quantum mechanics requires human involvement.

Quantum mechanics does not violate the Copernican principle that the universe cares not a whit about the human race. Long after humanity has disappeared from the scene, matter will still undergo the transitions that we call quantum events. The atoms in stars will radiate photons, and these photons will be absorbed by materials that react to them. Perhaps, after we are gone, some of our machines will remain to analyze these photons. If so, they will do so under the same rules of quantum mechanics that operate today.

God doesn’t exist—probability is overwhelmingly on our side

Dawkins, 6—Richard, evolutionary biologist at Oxford University, The God Delusion, 2006, page 36

I'll begin by distinguishing two kinds of agnosticism. TAP, or Temporary Agnosticism in Practice, is the legitimate fence-sitting where there really is a definite answer, one way or the other, but we so far lack the evidence to reach it (or don't understand the evidence, or haven't time to read the evidence, etc.). TAP would be a reasonable stance towards the Permian extinction. There is a truth out there and one day we hope to know it, though for the moment we don't. But there is also a deeply inescapable kind of fence-sitting, which I shall call PAP (Permanent Agnosticism in Principle). The fact that the acronym spells a word used by that old school preacher is (almost) accidental. The PAP style of agnosticism is appropriate for questions that can never be answered, no matter how much evidence we gather, because the very idea of evidence is not applic- able. The question exists on a different plane, or in a different dimension, beyond the zones where evidence can reach. An example might be that philosophical chestnut, the question whether you see red as I do. Maybe your red is my green, or something completely different from any colour that I can imagine. Philosophers cite this question as one that can never be answered, no matter what new evidence might one day become available. And some scientists and other intellectuals are convinced - too eagerly in my view - that the question of God's existence belongs in the forever inaccessible PAP category. From this, as we shall see, they often make the illogical deduction that the hypothesis of God's existence, and the hypothesis of his non-existence, have exactly equal probability of being right. The view that I shall defend is very different: agnosticism about the existence of God belongs firmly in the temporary or TAP category. Either he exists or he doesn't. It is a scientific question; one day we may know the answer, and mean- while we can say something pretty strong about the probability. Michigan Camps 2008 7 Week Seniors Backfile Check 3 2 78/78

Christian triumphalism has the capacity to produce new Crusades and Holocausts

McCormick 2006

(Patrick, professor of Christian ethics in the Religious Studies Department of Gonzaga University, “Violence: Religion, Terror, War”, Theological Studies, Vol. 67, 2006)

Gnanadason notes that "this is particularly not the moment for Christian triumphalism and arrogance," since Christianity is as deeply implicated in religious violence as other faiths, and since triumphalism has so often been the cause of Christian violence. (16) Recent writing on the ties between Christianity and violence acknowledge and explore Christianity's violent history, **elements of Christian theology used to support violence**, and Christian resources for the struggle to overcome violence: Joseph Lynch, Luis Rivera Pagan, David Gushee, and Victoria Barnett review the violence of the Crusades, the Conquistadores, and the Holocaust, (17) while Lee Griffith and others point to Augustine and Ambrose's early justification of war and the torture of heretics, as well as the Inquisition, the wars of religion, and the current involvement of Christian groups in sectarian violence and terrorism. (18) This bloody history uncovers the ambivalent and sinful character of Christianity's involvement in violence, and provides contemporary Christian extremists with historical models and theoretical justifications for their violence.

The impact turns the case – environmental destruction destroys our access to God’s creation and commits a sin against God directly.

Robert H. Nelson, professor of environmental policy at the School of Public Policy of the University of Maryland, Fall 2004, Case Western Reserve Law Review, 55 Case W. Res. 51, p. 67-68

In current environmental religion, although there are fewer explicit references to "God," nature is still commonly spoken of in moral, religious tones. Environmental writings are filled with statements of the urgent need to protect "the Creation," Al Gore has declared that human beings must show "a new moral courage to choose higher values" that will better protect the environment and thus act to secure "our place within creation." [57](http://web.lexis-nexis.com/universe/document?_m=c22df598f6be313f2a00ea0a34c19d09&_docnum=1&wchp=dGLbVtz-zSkVA&_md5=893f8f0873013439e8cd8654262d35d0#n57) Bruce Babbitt, as the former Secretary  [\*68]  of the Interior, declared that "all the plants and animals in the natural world are together a direct reflector of divinity, that creation is a plan of God." [58](http://web.lexis-nexis.com/universe/document?_m=c22df598f6be313f2a00ea0a34c19d09&_docnum=1&wchp=dGLbVtz-zSkVA&_md5=893f8f0873013439e8cd8654262d35d0#n58) Moreover, since "God put them there," there was a moral imperative that "we ought not to recklessly destroy the patterns of creation."

[59](http://web.lexis-nexis.com/universe/document?_m=c22df598f6be313f2a00ea0a34c19d09&_docnum=1&wchp=dGLbVtz-zSkVA&_md5=893f8f0873013439e8cd8654262d35d0#n59) In such thinking, wilderness areas are among the last remaining places where God's original artwork is still visible and where we can thus learn important things about the mind of God. If we were to destroy all the wilderness areas of the earth, we would in effect be defacing a "Book" by which God has revealed Himself to the world. Only the Devil could hope for such a thing. In seeking the economic development of remaining wild areas, modern men and women are thus -- from the perspective of environmental religion -- committing a grave sin against God, one that would even go so far as to erase some of the most important evidences of God's own plan for the world.

### 2AC Neolib K

#### 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**.

#### Neolib is sustainable and inevitable –

#### a) No political crises

Stelzer 9 Irwin Stelzer is a business adviser and director of economic policy studies at the Hudson Institute, “Death of capitalism exaggerated,” http://www.theaustralian.news.com.au/story/0,25197,26174260-5013479,00.html

A FUNNY thing happened on the way to the collapse of market capitalism in the face of the worst economic crisis since the Great Depression. It didn't. Indeed, in Germany voters relieved Chancellor Angela Merkel of the necessity of cohabiting with a left-wing party, allowing her to form a coalition with a party favouring lower taxes and free markets. And in Pittsburgh leaders representing more than 90 per cent of the world's GDP convened to figure out how to make markets work better, rather than to hoist the red flag. The workers are to be relieved, not of their chains but of credit-card terms that are excessively onerous, and helped to retain their private property - their homes. All of this is contrary to expectations. The communist spectre that Karl Marx confidently predicted would be haunting Europe is instead haunting Europe's left-wing parties, with even Vladimir Putin seeking to attract investment by re-privatising the firms he snatched. Which raises an interesting question: why haven't the economic turmoil and rising unemployment led workers to the barricades, instead of to their bankers to renegotiate their mortgages? It might be because Spain's leftish government has proved less able to cope with economic collapse than countries with more centrist governments. Or because Britain, with a leftish government, is now the sick man of Europe, its financial sector in intensive care, its recovery likely to be the slowest in Europe, its prime credit rating threatened. Or it might be because left-wing trade unions, greedily demanding their public-sector members be exempted from the pain they want others to share, have lost their credibility and ability to lead a leftward lurch. All of those factors contribute to the unexpected strength of the Right in a world in which a record number of families are being tossed out of their homes, and jobs have been disappearing by the million. But even more important in promoting reform over revolution are three factors: the existence of democratic institutions; the condition of the unemployed; and the set of policies developed to cope with the recession. Democratic institutions give the aggrieved an outlet for their discontent, and hope they can change conditions they deem unsatisfactory. Don't like the way George W. Bush has skewed income distribution? Toss the Republicans out and elect a man who promises to tax the rich more heavily. Don't like Gordon Brown's tax increases? Toss him out and hope the Tories mean it when they promise at least to try to lower taxes. Result: angry voters but no rioters, unless one counts the nutters who break windows at McDonald's or storm banks in the City. Contrast that with China, where the disaffected have no choice but to take to the streets. Result: an estimated 10,000 riots this year protesting against job losses, arbitrary taxes and corruption. A second factor explaining the Left's inability to profit from economic suffering is capitalism's ability to adapt, demonstrated in the Great Depression of the 1930s. While a gaggle of bankers and fiscal conservatives held out for the status quo, Franklin D. Roosevelt and his experimenters began to weave a social safety net. In Britain, William Beveridge produced a report setting the stage for a similar, indeed stronger, net. Continental countries recovering from World War II did the same. So unemployment no longer dooms a worker to close-to-starvation. Yes, civic institutions were able to soften the blow for the unemployed before the safety net was put in place, but they could not cope with pervasive protracted lay-offs. Also, during this and other recessions, when prices for many items are coming down, the real living standard of those in work actually improves. In the US, somewhere between 85 per cent and 90 per cent of workers have kept their jobs, and now see their living costs declining as rents and other prices come down. So the impetus to take to the streets is limited. Then there are the steps taken by capitalist governments to limit the depth and duration of the downturn. As the economies of most of the big industrial countries imploded, policy went through two phases. The first was triage - do what is necessary to prevent the financial system from collapse. Spend. Guarantee deposits to prevent runs on banks and money funds, bail out big banks, force relatively healthier institutions to take over sicker ones, mix all of this with rhetorical attacks on greedy bankers - the populist spoonful of sugar that made the bailouts go down with the voters - and stop the rot. Meanwhile, have the central banks dust off their dog-eared copies of Bagehot and inject lots of liquidity by whatever means comes to mind. John Maynard Keynes, meet Milton Friedman for a cordial handshake. Then came more permanent reform, another round of adapting capitalism to new realities, in this case the malfunctioning of the financial markets. Even Barack Obama's left-wing administration decided not to scupper the markets but instead to develop rules to relate bankers' pay more closely to long-term performance; to reduce the chance of implosions by increasing the capital banks must hold, cutting their profits and dividends, but leaving them in private hands; and to channel most stimulus spending through private-sector companies. This leaves the anti-market crowd little room for manoeuvre as voters seem satisfied with the changes to make capitalism and markets work better and more equitably. At least so far. There are exceptions. Australia moved a bit to the left in the last election, but more out of unhappiness with a tired incumbent's environmental and foreign policy. Americans chose Obama, but he had promised to govern from the centre before swinging left. And for all his rhetorical attacks on greedy bankers and other malefactors of great wealth, he sticks to reform of markets rather than their replacement, with healthcare a possible exception. Even in these countries, so far, so good for reformed capitalism. No substitutes accepted.

#### Neolib’s inevitable and movements are getting smothered out of existence—no alternative economic system

Jones 11—Owen, Masters at Oxford, named one of the Daily Telegraph's 'Top 100 Most Influential People on the Left' for 2011, author of "Chavs: The Demonization of the Working Class", The Independent, UK, "Owen Jones: Protest without politics will change nothing", 2011, www.independent.co.uk/opinion/commentators/owen-jones-protest-without-politics-will-change-nothing-2373612.html

My first experience of police kettling was aged 16. It was May Day 2001, and the anti-globalisation movement was at its peak. The turn-of-the-century anti-capitalist movement feels largely forgotten today, but it was a big deal at the time. To a left-wing teenager growing up in an age of unchallenged neo-liberal triumphalism, just to have "anti-capitalism" flash up in the headlines was thrilling. Thousands of apparently unstoppable protesters chased the world's rulers from IMF to World Bank summits – from Seattle to Prague to Genoa – and the authorities were rattled.

Today, as protesters in nearly a thousand cities across the world follow the example set by the Occupy Wall Street protests, it's worth pondering what happened to the anti-globalisation movement. Its activists did not lack passion or determination. But they did **lack a coherent alternative to the neo-liberal project**. With no clear political direction, **the movement was easily swept away** by the jingoism and turmoil that followed 9/11, just two months after Genoa.

Don't get me wrong: the Occupy movement is a glimmer of sanity amid today's economic madness. By descending on the West's financial epicentres, it reminds us of how a crisis caused by the banks (a sentence that needs to be repeated until it becomes a cliché) has been cynically transformed into a crisis of public spending. The founding statement of Occupy London puts it succinctly: "We refuse to pay for the banks' crisis." The Occupiers direct their fire at the top 1 per cent, and rightly so – as US billionaire Warren Buffett confessed: "There's class warfare, all right, but it's my class, the rich class, that's making war, and we're winning."

The Occupy movement has provoked fury from senior US Republicans such as Presidential contender Herman Cain who – predictably – labelled it "anti-American". They're right to be worried: those camping outside banks threaten to refocus attention on the real villains, and to act as a catalyst for wider dissent. But a **coherent alternative to the tottering global economic order remains,** it seems, **as distant as ever.**

**Neo-liberalism crashes around, half-dead, with no-one to administer the killer blow.**

There's always a presumption that a crisis of capitalism is good news for the left. Yet in the Great Depression, fascism consumed much of Europe. The economic crisis of the 1970s did lead to a resurgence of radicalism on both left and right. But, spearheaded by Thatcherism and Reaganism, the New Right definitively crushed its opposition in the 1980s.This time round, there doesn't even seem to be an alternative for the right to defeat. That's not the fault of the protesters. In truth, the left has never recovered from being virtually **smothered out of existence**. It was the victim of a perfect storm: the rise of the New Right; neo-liberal globalisation; and the repeated defeats suffered by the trade union movement.

But, above all, it was the aftermath of the collapse of Communism that did for the left. As US neo-conservative Midge Decter triumphantly put it: "It's time to say: We've won. Goodbye." From the British Labour Party to the African National Congress, left-wing movements across the world hurtled to the right in an almost synchronised fashion. It was as though the left wing of the global political spectrum had been sliced off. That's why, **although we live in an age of revolt, there remains no left to give it direction and purpose.**

####  [ ] No environment impact

Ben Ridder 8, Phd School of Geography and Environmental Studies, University of Tasmania, “Questioning the ecosystem services argument for biodiversity conservation” Biodiversity and conservation yr:2008 vol:17 iss:4 pg:781

**\*ES = environmental services**

The low resilience assumption

Advocates of the conservation of biodiversity tend not to acknowledge the distinction between resilient and sensitive ES. This ‘low resilience assumption’ gives rise to, and is reinforced by the almost ubiquitous claim within the conservation literature that ES depend on biodiversity.

An extreme example of this claim is made by the Ehrlichs in Extinction. They state that “all [ecosystem services] will be threatened if the rate of extinctions continues to increase” then observe that attempts to artificially replicate natural processes “are no more than partially successful in most cases. Nature nearly always does it better. When society sacrifices natural services for some other gain… it must pay the costs of substitution” (Ehrlich and Ehrlich 1982, pp. 95–96). This assertion—that the only alternative to protecting every species is a world in which all ES have been substituted by artificial alternatives—is an extreme example of the ‘low resilience assumption’. Paul Ehrlich revisits this flawed logic in 1997 i nhis response (with four co-authors) to doubts expressed by Mark Sagoff regarding economic arguments for species conservation (Ehrlich et al. 1997, p. 101).

The claim that ES depend on biodiversity is also notably present in the controversial Issues in Ecology paper on biodiversity and ecosystem functioning (Naeem et al. 1999) that sparked the debate mentioned in the introduction. This appears to reflect a general tendency among authors in this field (e.g., Hector et al. 2001; Lawler et al. 2002; Lyons et al. 2005). Although such authors may not actually articulate the low resilience assumption, presenting such claims in the absence of any clarification indicates its influence.

That the low resilience assumption is largely false is apparent in the number of examples of species extinctions that have not brought about catastrophic ecosystem collapse and decline in ES, and in the generally limited ecosystem influence of species on the cusp of extinction. These issues have been raised by numerous authors, although given the absence of systematic attempts to verify propositions of this sort, the evidence assembled is usually anecdotal and we are forced to trust that an unbiased account of the situation has been presented. Fortunately a number of highly respected people have discussed this topic, not least being the prominent conservation biologist David Ehrenfeld. In 1978 he described the ‘conservation dilemma’, which “arises on the increasingly frequent occasions when we encounter a threatened part of Nature but can find no rational reason for keeping it” (Ehrenfeld 1981, p. 177). He continued with the following observation:

Have there been permanent and significant ‘resource’ effects of the extinction, in the wild, of John Bartram’s great discovery, the beautiful tree Franklinia alatamaha, which had almost vanished from the earth when Bartram first set eyes upon it? Or a thousand species of tiny beetles that we never knew existed before or after their probable extermination? Can we even be certain than the eastern forests of the United States suffer the loss of their passenger pigeons and chestnuts in some tangible way that affects their vitality or permanence, their value to us? (p. 192)

Later, at the first conference on biodiversity, Ehrenfeld (1988) reflected that most species “do not seem to have any conventional value at all” and that the rarest species are “the ones least likely to be missed… by no stretch of the imagination can we make them out to be vital cogs in the ecological machine” (p. 215). The appearance of comments within the environmental literature that are consistent with Ehrenfeld’s—and from authors whose academic standing is also worthy of respect—is uncommon but not unheard of (e.g., Tudge 1989; Ghilarov 1996; Sagoff 1997; Slobodkin 2001; Western 2001).

The low resilience assumption is also undermined by the overwhelming tendency for the protection of specific endangered species to be justified by moral or aesthetic arguments, or a basic appeal to the necessity of conserving biodiversity, rather than by emphasising the actual ES these species provide or might be able to provide humanity. Often the only services that can be promoted in this regard relate to the ‘scientific’ or ‘cultural’ value of conserving a particular species, and the tourism revenue that might be associated with its continued existence. The preservation of such services is of an entirely different order compared with the collapse of human civilization predicted by the more pessimistic environmental authors**.**

The popularity of the low resilience assumption is in part explained by the increased rhetorical force of arguments that highlight connections between the conservation of biodiversity, human survival and economic profit. However, it needs to be acknowledged by those who employ this approach that a number of negative implications are associated with any use of economic arguments to justify the conservation of biodiversity.

#### 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).

# 1AR

## AT: God K

### AT: V2L

#### Value to life is subjective --- life is a prerequisite

Lisa Schwartz, Chair at the Centre for Health Economics and Policy Analysis, 2002

“Medical Ethic: A Case Based Approach” Chapter 6, www.fleshandbones.com/readingroom/pdf/399.pdf

The second assertion made by supporters of the quality of life as a criterion for decisionmaking is closely related to the first, but with an added dimension. This assertion suggests that the determination of the value of the quality of a given life is a subjective determination to be made by the person experiencing that life. The important addition here is that the decision is a personal one that, ideally, ought not to be made externally by another person but internally by the individual involved. Katherine Lewis made this decision for herself based on a comparison between two stages of her life. So did James Brady. Without this element, decisions based on quality of life criteria lack salient information and the patients concerned cannot give informed consent. Patients must be given the opportunity to decide for themselves whether they think their lives are worth living or not. To ignore or overlook patients’ judgement in this matter is to violate their autonomy and their freedom to decide for themselves on the basis of relevant information about their future, and comparative consideration of their past. As the deontological position puts it so well, to do so is to violate the imperative that we must treat persons as rational and as ends in themselves.

## AT: Neolib K

### AT: Method First

#### 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.

### Nuclear Epist 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: Commodification K

#### Commodification arguments are wrong---policy solutions are the only way to prevent extinction

Wagner 11 Gernot, economist at EDF, where he works in the office of economic policy and analysis, “But Will the Planet Notice? How Smart Economics Can Save the World.” Hill and Wang Press, p. 11-12

The fundamental forces guiding the behavior of billions are much larger than any one of us. It's about changing our system, creating a new business as usual. And to do that we need to think about what makes our system run. In the end, it comes down to markets, and the rules of the game that govern what we chase and how we chase it. Scientists can tell us how bad it will get. Activists can make us pay attention to the ensuing instabilities and make politicians take note. When the task comes to formulating policy, only economists can help guide us out of this morass and save the planet. In an earlier time with simpler problems, environmentalists took direct action against the market's brutal forces by erecting roadblocks or chaining themselves to trees. That works if the opposing force is a lumberjack with a chain saw. It might even work for an entire industry when the task is to ban a particular chemical or scrub a pollutant out of smokestacks. But that model breaks down when the opposing force is ourselves: each and every one of us demanding that the globalized market provide us with cheaper and better food, clothes, and vacations. There is no blocking the full, collective desires of the billions who are now part of the market economy and the billions more who want to—and ought to—be part of it. The only solution is to guide all-powerful market forces in the right direction and create incentives for each of us to make choices that work for all of us. The guideposts we have today for market forces evolved helter- skelter from a historical process that gave almost no weight to the survival of the planet, largely because the survival of the planet was not at stake. Now it is. Since we can't live without market forces, we need to guide them to help us keep the human adventure going in workable ways, rather than continue on the present path right off the edge of a cliff.

### AT: Root Cause

#### No root cause

Larrivee 10— PF ECONOMICS AT MOUNT ST MARY’S UNIVERSITY – MASTERS FROM THE HARVARD KENNEDY SCHOOL AND PHD IN ECONOMICS FROM WISCONSIN, 10 [JOHN, A FRAMEWORK FOR THE MORAL ANALYSIS OF MARKETS, 10/1, <http://www.teacheconomicfreedom.org/files/larrivee-paper-1.pdf>]

 The Second Focal Point: Moral, Social, and Cultural Issues of Capitalism **Logical errors abound** in critical commentary on capitalism. Some critics observe a problem and conclude: “I see X in our society. We have a capitalist economy. Therefore capitalism causes X.” They draw their conclusion by looking at a phenomenon as it appears only in one system. Others merely follow a host of popular theories according to which capitalism is particularly bad. 6 The solution to such flawed reasoning is to be comprehensive, to look at the good and bad, in market and non-market systems. Thus the following section considers a number of issues—greed, selfishness and human relationships, honesty and truth, alienation and work satisfaction, moral decay, and religious participation—that have often been associated with capitalism, but have also been problematic in other systems and usually in more extreme form. I conclude with some evidence for the view that markets foster (at least some) virtues rather than undermining them. My purpose is not to smear communism or to make the simplistic argument that “capitalism isn’t so bad because other systems have problems too.” The critical point is that **certain people thought** various **social ills resulted from capitalism, and on this basis they took action to establish alternative economic systems** to solve the problems they had identified. That **they failed to solve the problems, and** in fact **exacerbated them** while also creating new problems, implies that capitalism itself wasn’t the cause of the problems in the first place, at least not to the degree theorized.

### AT: Enviro Impact/Sustainability

#### Environmental benefits from decline are short-term and small---downturn massively increases overall environmental damage

Bauer and Anbumozhi 10 – Armin Bauer, Senior Economist at the Asian Development Bank, and Venkatachalam Anbumozhi, Capacity-Building Specialist at the Asian Development Bank Institute, July 2010, “Impact of Global Recession on Sustainable Development and Poverty Linkages,” online: http://www.adbi.org/files/2010.07.08.wp227.impact.global.recession.dev.poverty.linkages.pdf

The global financial crisis and the resulting economic slowdown may be assumed to have at least the benefit of also reducing environmental degradation in the individual countries. This paper discusses the consequences of the crisis for energy use, pollution prevention, and land use in Asia and the associated emissions of greenhouse gases—the principal global warming pollutants—as well as their linkage with poverty.

There are some short-term benefits to the global environment from the economic slowdown. Such benefits include reduction in the rate of air and water pollution from reduced energy use—which has direct implications for the urban poor’s health.

However, modest benefits to global and local environments arising from the economic slowdown are likely to be much smaller than the costs associated with many environmental conservation measures, related to energy savings, natural resources protection, and water environment.

Both supply and demand side investments in energy and environment are being affected. Many ongoing projects are being slowed and a number of downward revisions are being made in expected profitability. Meanwhile, businesses and households are spending less on energy efficiency measures. Tighter credit and lower prices make investment in energy savings and environmental conservation less attractive financially, while the economic crisis is encouraging end users to rein in spending across the board. This is delaying the deployment of more efficient technology and equipment. Furthermore, solution providers are expected to reduce investment in research, development, and commercialization of more energy-efficient models, unless they are able to secure financial support from governments. The economic slowdown is likely to alter land use patterns by increasing the pressure to clear forests for firewood, timber, or agricultural purposes—the livelihood opportunities available with the rural poor.

Further, the likely additional delay in many countries in the construction of effluent treatment plans for limiting the discharge of pollutants into the rivers is expected to harm the water environment. Thus on balance, the modest benefits to global and local environments arising from the economic slowdown are likely to be much smaller than the costs of many environmental conservation measures for improving the livelihood conditions of the poor.