# 1AC

### 1AC SMR Markets

#### Domestic and international SMRs inevitable- Manufacturing leadership key to market share

Tucker 2011 (William Tucker, nuclear energy researcher and author of Terrestrial Energy: How Nuclear Power Will Lead the Green Revolution and End America's Energy Odyssey, March 2011, “America's Last Nuclear Hope,” American Spectator, http://spectator.org/archives/2011/03/21/americas-last-nuclear-hope/print)

That America is going to miss the revival of nuclear power that is reaching into the remotest corners of the globe is now almost a foregone conclusion. While the rest of the world is discovering what will undoubtedly be the principal source of power by the end of the 21st century, Americans are preoccupied with how many picocuries of tritium are leaking out of Vermont Yankee or whether we'll ever get around to deciding what to do with Yucca Mountain. There are 60 new reactors under construction around the world in countries as diverse as Brazil, Argentina, Lithuania, India, and Sri Lanka. Twenty are being built in China alone. Kenya, Indonesia, Morocco, Bangladesh -- all have entered into agreements with one provider nation or another to begin plans on their own nuclear program.¶ Thirty years ago, the big three American companies -- General Electric, Westinghouse, and Babcock & Wilcox -- dominated the international market, building reactors in Europe and Asia. Today the field is completely dominated by foreign giants. Areva, 80 percent owned by the French government, is building in China, India, and Finland. Westinghouse, bought by Toshiba in 2008, has projects all around the globe. General Electric, still in the field but running in last place, recently partnered with Hitachi in the hope of reviving its fortunes. Russia's Rosatom has deals with Vietnam, India, Egypt, Brazil, and Venezuela. The biggest shock came when the United Arab Emirates put out bids to build four reactors in the oil-rich Persian Gulf. Areva and Westinghouse figured to be the contenders but both were upended by Korea, which only started building its own reactors five years ago. The Koreans won a $20 billion contract in late 2009, the largest international construction job in history. Yet all this will change once again when China enters the international market with its own design (reverse-engineered from Westinghouse) somewhere around 2013. France, which prides itself on being 80 percent nuclear, is already fearful that it will be closed out of the market by the rising Asian competition. So how can America possibly fit into the highly competitive race to provide what is surely going to be the dominant energy source of the 21st century? Believe it or not, we still have a chance -- with small reactors.¶ LAST MARCH, in an op-ed for the Wall Street Journal in which he praised small modular reactors (SMRs) as "America's New Nuclear Option," Secretary of Energy Steven Chu acknowledged that America is in danger of falling behind other countries. "Our choice is clear," he wrote. "Develop these technologies today or import them tomorrow." In fact, America is the only major nuclear country that does not even have the capacity to forge the three-story steel vessel heads at the heart of large reactors and will have to import them as well. But Chu saw an opportunity in the new small designs. "If we can develop this technology in the U.S. and build these reactors with American workers, we will have a key competitive edge."

**DOD key first mover- Guarantees market leadership**

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

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

#### China and Russia will spread dangerous SMRs globally- Causes prolif- US tech solves and is modeled

Ferguson 2010 (Dr. Charles D. Ferguson, President of the Federation of American Scientists, Adjunct Professor in the Security Studies Program at Georgetown University and Adjunct Lecturer in the National Security Studies Program at the Johns Hopkins University, May 19, 2010, Statement before the House Committee on Science and Technology for the hearing on Charting the Course for American Nuclear Technology: Evaluating the Department of Energy’s Nuclear Energy Research and Development Roadmap, http://www.fas.org/press/\_docs/05192010\_Testimony\_HouseScienceCommHearing%20.pdf)

The United States and several other countries have considerable experience in building and operating small and medium power reactors. The U.S. Navy, for example, has used small power reactors since the 1950s to provide propulsion and electrical power for submarines, aircraft carriers, and some other surface warships. China, France, Russia, and the United Kingdom have also developed nuclear powered naval vessels that use small reactors. Notably, Russia has deployed its KLT-40S and similarly designed small power reactors on icebreakers and has in recent years proposed building and selling barges that would carry these types of reactors for use in sea-side communities throughout the world. China has already exported small and medium power reactors. In 1991, China began building a reactor in Pakistan and started constructing a second reactor there in 2005. In the wake of the U.S.-India nuclear deal, Beijing has recently reached agreement with Islamabad to build two additional reactors rated at 650 MWe.2¶ One of the unintended consequences of more than 30 years of sanctions on India’s nuclear program is that India had concentrated its domestic nuclear industry on building small and medium power reactors based on Canadian pressurized heavy water technology, or Candu-type reactors. Pressurized heavy water reactors (PHWRs) pose proliferation concerns because they can be readily operated in a mode optimal for producing weapons-grade plutonium and can be refueled during power operations. Online refueling makes it exceedingly difficult to determine when refueling is occurring based solely on outside observations, for example, through satellite monitoring of the plant’s operations. Thus, the chances for potential diversion of fissile material increase. This scenario for misuse underscores the need for more frequent inspections of these facilities. But the limited resources of the International Atomic Energy Agency have resulted in a rate of inspections that are too infrequent to detect a diversion of a weapon’s worth of material.3 The opening of the international nuclear market to India may lead to further spread of PHWR technologies to more states. For example, last year, the Nuclear Power Corporation of India, Ltd. (NPCIL) expressed interest in selling PHWRs to Malaysia.4 NPCIL is the only global manufacturer of 220 MWe PHWRs. New Delhi favors South-to-South cooperation; consequently developing states in Southeast Asia, sub-Saharan Africa, and South America could become recipients of these technologies in the coming years to next few decades. Many of these countries would opt for small and medium power reactors because their electrical grids do not presently have the capacity to support large power reactors and they would likely not have the financial ability to purchase large reactors.¶ What are the implications for the United States of Chinese and Indian efforts to sell small and medium power reactors? Because China and India already have the manufacturing and marketing capability for these reactors, the United States faces an economically competitive disadvantage. Because the United States has yet to license such reactors for domestic use, it has placed itself at an additional market disadvantage. By the time the United States has licensed such reactors, China and India as well as other competitors may have established a strong hold on this emerging market.¶ The U.S. Nuclear Regulatory Commission cautioned on December 15, 2008 that the “licensing of new, small modular reactors is not just around the corner. The NRC’s attention and resources now are focused on the large-scale reactors being proposed to serve millions of Americans, rather than smaller devices with both limited power production and possible industrial process applications.” The NRC’s statement further underscored that “examining proposals for radically different technology will likely require an exhaustive review” ... before “such time as there is a formal proposal, the NRC will, as directed by Congress, continue to devote the majority of its resources to addressing the current technology base.”6 Earlier this year, the NRC devoted consideration to presentations on small modular reactors from the Nuclear Energy Institute, the Department of Energy, and the Rural Electric Cooperative Association among other stakeholders.7 At least seven vendors have proposed that their designs receive attention from the NRC.8¶ Given the differences in design philosophy among these vendors and the fact that none of these designs have penetrated the commercial market, it is too soon to tell which, if any, will emerge as market champions. Nonetheless, because of the early stage in development, the United States has an opportunity to state clearly the criteria for successful use of SMRs. But because of the head start of China and India, the United States should not procrastinate and should take a leadership role in setting the standards for safe, secure, and proliferation-resistant SMRs that can compete in the market. Several years ago, the United States sponsored assessments to determine these criteria.9 While the Platonic ideal for small modular reactors will likely not be realized, it is worth specifying what such an SMR would be. N. W. Brown and J. A. Hasberger of the Lawrence Livermore National Laboratory assessed that reactors in developing countries must:¶ • “achieve reliably safe operation with a minimum of maintenance and supporting infrastructure;¶ • offer economic competitiveness with alternative energy sources available to the candidate sites;¶ • demonstrate significant improvements in proliferation resistance relative to existing reactor systems.”10¶ Pointing to the available technologies at that time from Argentina, China, and Russia, they determined that “these countries tend to focus on the development of the reactor without integrated considerations of the overall fuel cycle, proliferation, or waste issues.” They emphasized that what is required for successful development of an SMR is “a comprehensive systems approach that considers all aspects of manufacturing, transportation, operation, and ultimate disposal.”¶

**Prevents fast prolif**

Cook 2011 (David Cook, Analyst at National Nuclear Security Administration, MPA from The Ohio State University at the John Glenn School of Public Affairs, “Slowing Atomic Arms Acquisition: More Small Modular Reactors Needed to Combat Nuclear Proliferation,” online)

Reports of Iran seeking to acquire a nuclear weapon are¶ becoming more and more prevalent. Numerous countries are seeking nuclear power and¶ it is vital that the world not export¶ nuclear power to countries that would use¶ that nuclear technology for nefarious ends. The production of nuclear energy, clearly presents inherent security challenges because nuclear material may be used to make nuclear weapons. Countries often defy international norms and pressures that attempt to stop their nuclear proliferation efforts. It is vitally important that these countries not nuclear proliferate. Legislators can take a realistic precaution to ensure that nuclear power used is used for safe purposes. Small modular reactors or SMRs can provide a level of security against nuclear proliferation. Small modular reactors are smaller versions of nuclear plants. These plants can be manufactured in a country that has been traditionally trusted with nuclear power like the United States and sent to other countries that are not traditionally trusted with nuclear power. Legislators need to ensure that more SMR are financed and that the United States takes the lead in the manufacturing process of SMRS to guarantee that the nuclear material needed to produce nuclear energy is safe and secure. Problem? More¶ Countries Are Seeking Nuclear Power¶ More than 80 countries receive technological assistance from the **I**nternational¶ **A**tomic **E**nergy **A**gency. 1 This number is likely to increase as the world turns to nuclear power to meet rising energy needs. While¶ the stalled in¶ America, other countries are turning to nuclear power. As of 2011, there are over 60 nuclear reactors under construction in 14 countries. 2¶ The problem with all of the sudden interest in nuclear power is that all nuclear technology and materials are in inherently “dual use.” Nuclear technology and materials¶ can be used to either to produce energy or enhance a country’s ability to produce nuclear weapons. 3Policy Alternatives¶ The current system that utilizes international inspectors and holding nations to a nuclear non-proliferation treaty is working for a majority of countries, however, this system does not guarantee that countries will not nuclear proliferate. The UN has brought sanctions against Iran for violating the NPT, but these sanctions are not as effective as international leaders hope. A variety of options are available to governments to ensure that countries do not nuclear proliferate.¶ One option is to build more Small Modular Reactors in countries that are newer to the production of nuclear energy. Small Modular Reactors are much smaller than traditional nuclear reactors. The nuclear material is secured safely within these plants and cannot be accessed by anyone once the plant has been manufactured. However, these units may not be made quickly enough and might not provide enough energy to meet the world energy needs.4 Another option is for the IAEA to provide more oversight and inspectors at the nuclear facilities in countries. On the other hand, the IAEA inspectors may not be welcomed in the offending countries and this policy option may not be feasible.¶ Recommendation Finance and Build Small¶ Modular Reactors¶ Legislators can help to ensure the safety of the United States by passing legislation that provides for the financing and building of small modular reactors. These units can be manufactured in countries that have been traditionally trusted with nuclear power and sent to other countries that are not traditionally trusted with nuclear power.¶ SMRs Contain Numerous Safety Features: The reactors contain less nuclear material than traditional power plants, inherently reducing the overall nuclear proliferation risk.¶ SMRS can be built at a factory and the construction of these plants can be overseen safely in a country with a trusted nuclear power background.¶ Light-water SMRs could cool the reactor core in the event of a meltdown even if the power goes out.¶ Nuclear proliferation continues to be a concern to the United States as more countries are acquiring nuclear energy technologies to meet rising energy demands. Numerous countries are seeking nuclear power and it is vital that world not export nuclear power to countries that would¶ use that nuclear technology for nefarious ends. Countries often defy international norms and pressures that attempt to stop their nuclear proliferation efforts.¶ The production and implementation of SMRs to the world nuclear security environment can help to ensure the safety of the United States and the world. Countries all over the globe are turning to nuclear power to meet energy needs in their respective countries and SMRs can help to ensure that nuclear energy is being used for the betterment of the world. It is imperative that the United States takes the lead in ensuring that more SMRs are built and built safely.

#### Proliferation makes nuclear war inevitable- 4 reasons it’s destabilizing

Heisbourg 2012 (François Heisbourg, Chairman of the International Institute for Strategic Studies and of the Geneva Centre for Security Policy, April 4, 2012, “How Bad Would the Further Spread of Nuclear Weapons Be?,” Nonproliferation Policy Education Center, http://www.npolicy.org/article.php?aid=1171&tid=4)

Human societies tend to lack the imagination to think through, and to act upon, what have become known as ‘black swan’ events (26): that which has never occurred (or which has happened very rarely and in a wholly different context) is deemed not be in the field of reality, and to which must be added eventualities which are denied because their consequences are to awful to contemplate. The extremes of human misconduct (the incredulity in the face of evidence of the Holocaust, the failure to imagine 9/11) bear testimony to this hard-wired trait of our species. This would not normally warrant mention as a factor of growing salience if not for the recession into time of the original and only use of nuclear weapons in August 1945. Non-use of nuclear weapons may be taken for granted rather than being an absolute taboo. Recent writing on the reputedly limited effects of the Hiroshima and Nagasaki bombs (27) may contribute to such a trend, in the name of reducing the legitimacy of nuclear weapons. Recent (and often compelling) historical accounts of the surrender of the Japanese Empire which downplay the role of the atomic bombings in comparison to early research can produce a similar effect, even if that may not have been the intention (28). However desirable it has been, the end of atmospheric nuclear testing (29) has removed for more than three decades the periodic reminders which such monstrous detonations made as to the uniquely destructive nature of nuclear weapons. There is a real and growing risk that we forget what was obvious to those who first described in 1941 the unique nature of yet-to-be produced nuclear weapons (30). The risk is no doubt higher in those states for which the history of World War II has little relevance and which have not had the will or the opportunity to wrestle at the time or ex post facto with the moral and strategic implications of the nuclear bombing of Japan in 1945.¶ Unsustainable strains are possibly the single most compelling feature of contemporary proliferation. Tight geographical constraints –with, for instance, New Delhi and Islamabad located within 300 miles of each other-; nuclear multi-polarity against the backdrop of multiple, criss-crossing, sources of tension in the Middle East (as opposed to the relative simplicity of the US-Soviet confrontation); the existence of doctrines (such as India’s ‘cold start’) and force postures (such as Pakistan’s broadening array of battlefield nukes)which rest on the expectation of early use; the role of non-state actors as aggravating or triggering factors when they are perceived as operating with the connivance of an antagonist state ( in the past, the assassination of the Austrian Archduke in Sarajevo in 1914; in the future, Hezbollah operatives launching rockets with effect against Israel or Lashkar-e-Taiba commandos doing a ‘Bombay’ redux in India?) : individually or in combination, these factors test crisis management capabilities more severely than anything seen during the Cold War with the partial exception of the Cuban missile crisis. Even the overabundant battlefield nuclear arsenals in Cold War Central Europe, with their iffy weapons’ safety and security arrangements, were less of a challenge: the US and Soviet short-range nuclear weapons so deployed were not putting US and Soviet territory and capitals at risk.¶ It may be argued that these risk factors are known to potential protagonists and that they therefore will be led to avoid the sort of nuclear brinksmanship which characterized US and Soviet behavior during the Cold War in crises such as the Korean war, Berlin, Cuba or the Yom Kippur war. Unfortunately, the multiple nuclear crises between India and Pakistan demonstrate no such prudence, rather to the contrary. And were such restraint to feed into nuclear policy and crisis planning –along the lines of apparently greater US and Soviet nuclear caution from the mid-Seventies onwards-, the fact would remain that initial intent rarely resists the strains of a complex, multi-actor confrontation between inherently distrustful antagonists. It is also worth reflecting on the fact that during the 1980s, there was real and acute fear in Soviet ruling circles that the West was preparing an out-of-the-blue nuclear strike, a fear which in turn fed into Soviet policies and dispositions (31).

**Especially true in these regions**

**Elhefnawy 2008** (Nader Elhefnawy, PhD, Army War College, August 2008, “The Next Wave of Nuclear Proliferation,” Parameters, online)

It is inconceivable that anything like this distribution will continue in a world turning heavily to nuclear energy, a fact that has already laid the foun- dation for a broadening of production and use in East and South Asia.8 We should also expect a large-scale, rapid establishment of nuclear energy production in areas where it has been virtually absent, for example, the Middle East, sub-Saharan Africa, and Latin America. To approximate France’s current level of nuclear energy reliance, for instance, Iran alone would require roughly 18 operational reactors; Saudi Arabia, 20. More extensive substitution of nuclear energy for other sources of power, or future economic expansion (such as de- scribed above), will require a commensurate growth in the number of reactors.9¶ All of this may sound abstract, but moves in this direction are al- ready well under way. Some 40 developing nations have expressed interest in starting nuclear energy programs, and many have moved beyond vague state- ments of intentions.10 The United Arab Emirates, for instance, has already struck a deal for two reactors, the only one of 11 nations in this region (thus far) to have announced such plans.11¶ Assessing the Danger¶ As outlined above, a future in which the world as a whole turned to nuclear energy will mean not just an expansion of nuclear energy production, but substantial changes in production impacting mainland Asia, Africa, and Latin America. An assessment of the associated proliferation risk involved devolves basically into an examination of two dimensions, capabilities and intentions—what widened nuclear energy use will mean for the access of these states to nuclear weapons technology; and the impact that this new envi ronment will have on a government’s motivation to actually use that access to produce nuclear weaponry.¶ Technological Access¶ The increase in nuclear energy production described above will mean greater production, trading, and consumption of the fissile materials and other technologies that are part of the nuclear fuel cycle. The specifics differ according to reactor type, but every reactor uses uranium in the produc- tion of its fuel and produces plutonium in its waste, extractable in the fuel re- processing procedure, and in such a manner that every type of reactor poses a measure of proliferation risk.12 Gas-cooled and heavy-water reactors use natural uranium as fuel, but are ideal for producing weapons-grade plutonium. “Fast-neutron” reactors use fissile material (such as highly enriched uranium or plutonium) at the very start of their fuel cycle, and Fast Breeder Reactors in particular produce more fissile material than they consume.¶ Even Light Water Reactors (LWRs), which have been described as “proliferation-resistant” (two of which were provided to North Korea under the Agreed Framework), are no exception.13 They use low-enriched uranium, which is not useful for making weapons, but which is produced in the same en- richment process used to manufacture weapons. Additionally, low-enriched uranium can be seen as halfway to weapons grade, since it can be more rapidly enriched to the needed level than stock natural uranium. At the same time, while these reactors produce relatively smaller quantities of lower quality plu- tonium than other types, it has been estimated that a 1,000-megawatt LWR can still generate enough “weapons-usable” plutonium for up to 50 bombs a year.14¶ The response on the part of those seeking to limit proliferation has, accordingly, been to encourage as many nuclear energy users as possible not to develop the entire fuel cycle; that is, to forgo building up their own fuel en- richment and reprocessing capabilities. Instead, it is proposed that they buy fuel and reprocessing services on the world market, as proposed in the Global Nuclear Energy Partnership of February 2006. There are, however, widespread doubts about the initiative’s likely cost and effectiveness, concerns articulated in a letter signed by a number of control organizations, including the Federation of American Scientists, the Union of Concerned Scientists, and the Arms Control Association.15 Their objections, however, fail to include one important point—that states have been partly dissuaded from developing the full nuclear fuel cycle for eco- nomic reasons, a fact that may not remain operative in any massive expansion of nuclear energy use.¶ Simply put, it is cheaper for a small nuclear program to buy nuclear fuel on the world market than to build and operate the facilities required to en- rich uranium domestically. This has resulted in only eight of some 30 nuclear energy producers actually engaging in enrichment on an industrial scale.16 The same is true for fuel reprocessing facilities, especially given the relatively low cost of newly mined uranium. Accordingly, only a handful of states (Britain, France, Russia, Japan, and India) actually practice civil reprocessing.17¶ Any significant growth in nuclear energy production would change those economics. Many of today’s “small” programs would become equal in size to those now considered large-scale, and for that reason their investments in enrichment and reprocessing less impractical. Additionally, with more programs large and small operational, there would be a larger, more lucrative market for fuel production and fuel recycling services; the latter would in all likelihood grow more attractive as enlarged uranium consumption tightens supplies and drives up prices. (Indeed, as the situation currently stands, many uranium exporters not regarded as likely proliferators—including Australia and Canada—are interested in enrichment technology because enriching their uranium before export would increase profitability.)18 Certainly if ura- nium prices were to rise, there would be more interest in Fast Breeder Reac- tors, which one analyst suggests can extract more than 60 times as much energy per ton of mined ore as a “conventional” nuclear plant when operated in a closed circuit with thermal reactors and reprocessing facilities.19¶ In short, the economic incentives for states to refrain from developing the full nuclear fuel cycle will almost certainly weaken, while the particularly worrisome fast-neutron reactors will become more attractive. At the same time, the heightened dependence on nuclear energy, and the experience of en- ergy scarcity, will continue to reinforce the search for “energy independence” and “energy security,” contributing to the pressure that the nonproliferation re- gime is already experiencing, as the result of being a “ratifier” of unequal ac- cess to nuclear technology.20 In any event, such changes enormously increase the already substantial burden of monitoring and securing the storage and movement of the supplies associated with nuclear power generation, not to mention the political costs of maintaining the regime.21 Motivation¶ As outlined previously, any plausible combination of political ar- rangements and technological innovations is likely to have uneven results. Determined states are likely to find it easier to acquire the means for produc- ing fissile material, which raises the other key dimension of the issue—the motivation for acquiring these weapons in the first place.¶ Long-established research strongly indicates that the motivation to build nuclear weapons is more of a factor than simply achieving the technological capacity.22 Indeed, it is due to this excessive focus on capacity that ear- lier predictions about the speed and the extent of nuclear proliferation (which projected 25 to 50 nuclear-weapon states by the year 2000) proved wrong.23 The relative ease with which the weapons might be built is proof of this; a pro- gram to develop a minimal capability from scratch could cost as little as $500 million, less than the price of a modern warship.24¶ In short, were capacity the only issue, there would be far more nu- clear powers in the world, though of course access to the means cannot be ruled out as a factor in decisionmaking. When much of the infrastructure for developing a nuclear arsenal is already in place, as may be the case in several advanced countries, the decision to do so entails lower costs; and given the speed with which these programs can be initiated, the nations in question are also less susceptible to preventative action than countries starting from scratch.25 A particular danger is that having such facilities in place provides them with the option of diverting material from the fuel cycle for covert weapon programs.26¶ The rationale driving the shift to nuclear energy in the first place (en- ergy and climate stress) will increasingly translate into greater motivation on the part of some actors to pursue a nuclear capability. Broad economic disrup- tion is nearly certain as the result of the tightening of oil supplies and the cli- mate changes this scenario anticipates. Politically, this may translate into changes in the distribution of international power depending on individual states’ ability to cope (as with wealthier nations, or ones with energy-efficient economies), or even profit from these conditions (for instance, oil exporters); while the most vulnerable states may collapse, creating even greater problems for the international community (havens for crime, terrorism, or refugee flows).27 Intensified conflict over territory and waters rich in energy and other resources will become increasingly likely.¶ Alliances, trading relationships, and other arrangements will be in flux, and when combined with the associated anxiety and vulnerability may exacerbate a desire on the part of certain states to minimize their vulnerability. A goal which nuclear weapons have long been viewed as a cheap way of achieving. The “nuclearization” of a single state can induce a chain reaction across a region. The nuclearization of China spurred India and in turn Pakistan to follow suit, and the Argentinean and Brazilian nuclear programs fed off one another. Today the pos- sibility that a nuclear North Korea may lead South Korea or Japan to acquire nu- clear weapons is often discussed.28 In the Middle East there are signs that Saudi Arabia is reviewing its nuclear options, and a nuclear-armed Iran may encourage the Saudis and others in the region to continue down this path.29¶ With nuclear technology more widely available these actions can be taken much more rapidly and at less cost. Those pursuing this course of action will find it a simple matter to amass large stockpiles of nuclear weapons. It is also worth noting that even were the development of actual nuclear weapons to remain a rarity, “virtual arsenals” could be more common, leaving the nuclear weapons status of a longer list of countries uncertain, in many cases deliberately so, with a detrimental impact on the security environment.30

#### Extinction

Robock 2009 Professor of climatology @ Rutgers University [Alan Robock (Associate director of Rutger’s Center for Environmental Prediction. 30 year researcher in the area of climate change. Holds a doctorate in meteorology from MIT. Published over 150 peer-reviewed papers on climate change), “Nuclear winter” The Encyclopedia of Earth, January 6, 2009, Pg. http://www.eoearth.org/article/Nuclear\_winter]

Nuclear winter is a term that describes the climatic effects of nuclear war. In the 1980's, work conducted jointly by Western and Soviet scientists showed that for a full-scale nuclear war between the United States and the Soviet Union the climatic consequences, and indirect effects of the collapse of society, would be so severe that the ensuing nuclear winter would produce famine for billions of people far from the target zones. There are several wrong impressions that people have about nuclear winter. One is that there was a flaw in the theory and that the large climatic effects were disproven. Another is that the problem, even if it existed, has been solved by the end of the nuclear arms race. But these are both wrong. Furthermore, new nuclear states threaten global climate change even with arsenals that are much less than 1% of the current global arsenal. What's New Based on new work published in 2007 and 2008 by some of the pioneers of nuclear winter research who worked on the original studies, we now can say several things about this topic. New Science: A minor nuclear war (such as between India and Pakistan or in the Middle East), with each country using 50 Hiroshima-sized atom bombs as airbursts on urban areas, could produce climate change unprecedented in recorded human history. This is only 0.03% of the explosive power of the current global arsenal. This same scenario would produce global ozone depletion , because the heating of the stratosphere would enhance the chemical reactions that destroy ozone. A nuclear war between the United States and Russia today could produce nuclear winter, with temperatures plunging below freezing in the summer in major agricultural regions, threatening the food supply for most of the planet. The climatic effects of the smoke from burning cities and industrial areas would last for several years, much longer than we previously thought. New climate model simulations, that have the capability of including the entire atmosphere and oceans, show that the smoke would be lofted by solar heating to the upper stratosphere, where it would remain for years. New Policy Implications: The only way to eliminate the possibility of this climatic catastrophe is to eliminate the nuclear weapons. If they exist, they can be used. The spread of nuclear weapons to new emerging states threatens not only the people of those countries, but the entire planet. Rapid reduction of the American and Russian nuclear arsenals will set an example for the rest of the world that nuclear weapons cannot be used and are not needed. How Does Nuclear Winter Work? A nuclear explosion is like bringing a piece of the Sun to the Earth's surface for a fraction of a second. Like a giant match, it causes cities and industrial areas to burn. Megacities have developed in India and Pakistan and other developing countries, providing tremendous amounts of fuel for potential fires. The direct effects of the nuclear weapons, blast, radioactivity, fires, and extensive pollution, would kill millions of people, but only those near the targets. However, the fires would have another effect. The massive amounts of dark smoke from the fires would be lofted into the upper troposphere, 10-15 kilometers (6-9 miles) above the Earth's surface, and then absorption of sunlight would further heat the smoke, lifting it into the stratosphere, a layer where the smoke would persist for years, with no rain to wash it out. The climatic effects of smoke from fires started by nuclear war depend on the amount of smoke. Our new calculations show that for 50 nuclear weapons dropped on two countries, on the targets that would produce the maximum amount of smoke, about 5 megatons (Tg) of black smoke would be produced, accounting for the amount emitted from the fires and the amount immediately washed out in rain. As the smoke is lofted into the stratosphere, it would be transported around the world by the prevailing winds. We also did calculations for two scenarios of war between the two superpowers who still maintain large nuclear arsenals, the United States and Russia. In one scenario, 50 Tg of black smoke would be produced and in another, 150 Tg of black smoke would be produced. How many nuclear weapons would be required to produce this much smoke? It depends on the targets, but there are enough weapons in the current arsenals to produce either amount. In fact, there are only so many targets. Once they are all hit by weapons, additional weapons would not produce much more smoke at all. Even after the current nuclear weapons reduction treaty between these superpowers is played out in 2012, with each having about 2,000 weapons, 150 Tg of smoke could still be produced. Here are movies of the smoke transport from three different scenarios: These new results were made possible by the use of a state-of-the-art general circulation model of the climate. For the first time a complete calculation of not only atmospheric but also oceanic circulation was conducted, including the entire atmosphere from the surface up through the troposphere, stratosphere, and mesosphere, to an elevation of 80 kilometers (50 miles). Previous calculations had not been run for the 10 year simulations here, and had not allowed the smoke to be lofted into the upper stratosphere, where it would persist for many years. We calculated the climate response to the three scenarios illustrated above. Compared to the global warming observed for the past century, all three scenarios show massive cooling. Compared to the climate change for the Northern Hemisphere for the past 1,000 years, the famous hockey stick diagram, the climate change from any of these scenarios is unprecedented. Compared to climate change for the past millenium, even the 5 Tg case ( a war between India and Pakistan) would plunge the planet into temperatures colder than the Little Ice Age (approximately1600-1850 ). This would be essentially instantly , and agriculture would be severely threatened . Larger amounts of smoke would produce larger climate changes, and for the 150 Tg case produce a true nuclear winter, making agriculture impossible for years. In both cases, new climate model simulations show that the effects would last for more than a decade. Analogs Support the Theory Nuclear winter is a theory based on computer model calculations. Normally, scientists test theories by doing experiments, but we never want to do this experiment in the real world. Thus we look for analogs that can inform us of parts of the theory. And there are many such analogs that convince us that the theory is correct: Cities burning. Unfortunately, we have several examples of cities burning, firestorms created by the intense release of energy, and smoke being pumped into the upper atmosphere. These include San Francisco as a result of the earthquake in 1906, and cities bombed in World War II, including Tokyo, Dresden, Hamburg, Darmstadt, Hiroshima, and Nagasaki. The seasonal cycle. In the winter, the climate is cooler, because the days are shorter and sunlight is less intense. Again, this helps us quantify the effects of reduction of solar radiation. The diurnal cycle. At night the Sun sets and it gets cold at the surface. If the Sun did not rise tomorrow, we already have an intuitive feel for how much cooling would take place and how fast it would cool. Volcanic eruptions. Explosive volcanic eruptions, such as those of Tambora in 1815, Krakatau in 1883 and Pinatubo in 1991, provide several lessons. The resulting sulfate aerosol cloud in the stratosphere is transported around the world by winds, thus supporting the results from the animations above. The surface temperature plummets after each large eruption, in proportion to the thickness of the stratospheric cloud. In fact 1816, following Tambora, is known as the "Year Without a Summer," with global cooling and famine. Following the Pinatubo eruption, global precipitation, river flow, and soil moisture all reduced, since cooling the planet by blocking sunlight has a strong effect on reducing evaporation and weakening the hydrologic cycle. This is also what the nuclear winter simulations show. Forest fires. Smoke from large forest fires sometimes is injected into the lower stratosphere. And the smoke is transported around the world, also producing cooling under the smoke. Dust storms on Mars. Occasionally, dust storms start in one region of Mars, but the dust is heated by the Sun, lofted into the upper atmosphere, and transported around the planet to completely enshroud it in a dust blanket. This process takes a couple weeks, just like our computer simulations for the nuclear winter smoke. Extinction of the dinosaurs. 65,000,000 years ago an asteroid or comet smashed into the Earth in southern Mexico. The resulting dust cloud, mixed with smoke from fires, blocked out the Sun, killing the dinosaurs, and starting the age of mammals. This Cretaceous-Tertiary (K-T) extinction may have been exacerbated by massive volcanism in India at the same time. This teaches us that large amounts of aerosols in Earth's atmosphere have caused massive climate change and extinction of species . The difference with nuclear winter is that the K-T extinction could not have been prevented. Policy Implications The work on nuclear winter in the 1980's, and the realization that both direct and indirect effects of nuclear war would be a global catastrophe, led to the end of arms race and the end of the Cold War. In response to the comment "In the 1980s, you warned about the unprecedented dangers of nuclear weapons and took very daring steps to reverse the arms race," in an interview in 2000, Mikhail Gorbachev said "Models made by Russian and American scientists showed that a nuclear war would result in a nuclear winter that would be extremely destructive to all life on Earth; the knowledge of that was a great stimulus to us, to people of honor and morality, to act in that situation."[1] Since the 1980's, the number of nuclear weapons in the world has decreased to 1/3 of the peak number of more than 70,000. The consequences of regional-scale nuclear conflicts are unexpectedly large, with the potential to become global catastrophes. The combination of nuclear proliferation, political instability, and urban demographics may constitute one of the greatest dangers to the stability of society since the dawn of humans. The current and projected American and Russian nuclear arsenals can still produce nuclear winter. Only nuclear disarmament will prevent the possibility of a nuclear environmental catastrophe.

**Loose fissile material in SSA gets stolen**

**Belcher 2011** (Emma L. Belcher, former Stanton nuclear security fellow at the Council on Foreign Relations and MA/PhD from Tufts University, July 2011, “A Nuclear Security Fund,” Council on Foreign Relations, http://www.cfr.org/proliferation/nuclear-security-fund/p25388)

Al-Qaeda and other terrorist groups say they want nuclear weapons and will use them if they can. The most likely acquisition method is to buy or steal fissile material and fashion a crude Hiroshima-style device, provided they have some training in explosives and engineering. Alternatively, a group could use fissile material in a radiological dispersal device, or dirty bomb, which would cause panic, even if it did not cause significant destruction. This makes securing fissile material, and preventing its trafficking if it is stolen, vitally important. There are approximately 1,600 metric tons of highly enriched uranium (HEU) and 400 metric tons of plutonium in over 1,100 civilian and military locations worldwide—enough for many thousands of bombs. The security of these sources varies widely, as does the robustness of measures to prevent smuggling of stolen sources.¶ Though many nations are taking measures to prevent terrorists from acquiring fissile material, others lack the resources or prefer to fund other and—in their view—more pressing problems. This situation is most prevalent in eastern Europe and the Caucasus, where sources of fissile material are concentrated, and in sub-Saharan Africa, where public health and civil strife issues take priority over securing borders against smuggling. Terrorist groups could exploit these critical gaps, thus undermining global nuclear security efforts.

**Al Qaeda moving in now**

Dorell 2012 (Oren Dorell, April 19, 2012, “Al-Qaeda expands its reach to 'like-minded' groups in Africa,” USA Today, http://www.usatoday.com/news/world/story/2012-04-18/al-qaeda-helps-africa-radical-groups/54399376/1)

The Nigerian religious sect Boko Haram had been sporadically attacking police stations and people for years with machetes and sometimes guns to create an Islamic state in its corner of Africa's largest nation.

Then, in 2010, the group exploded into violence with suicide bombings, car bombs and coordinated assaults, months after an al-Qaeda leader in Algeria disclosed that the terror group had decided to help the Nigerian radicals.¶ Now Nigeria, whose government was trying to calm old conflicts between Muslims and Christians with negotiation, is headed for possible civil war in what experts say is an emerging strategy by al-Qaeda to convert local rebellions across sub-Saharan Africa into part of a global terror front against the West. "This new Jihadist nexus in Africa" is a rising danger that the West has yet to fully comprehend, said Max Boot, a senior fellow at the Council on Foreign Relations.¶ The pattern is seen not just in Nigeria, but also in Somalia and Mali, where al-Qaeda is prompting independence movements to broaden and heighten attacks, analysts said. Unilateral military operations, such as drone strikes, may have a role, but the focus should be on bolstering U.S. allies throughout North Africa and training their security forces to combat this growing extremism, Boot said.¶ In Somalia, al-Qaeda recently announced a merger with al-Shabaab, which had been at war for years against a coalition of U.S.-backed African countries.¶ Al-Qaeda's influence on al-Shabaab has been profound, said Katherine Zimmerman of the American Enterprise Institute's Critical Threats Project.

#### They’ll WMD attack the US in the next 2 years- Neg evidence underestimates their capability

Kanani 2011 (Rahim Kanani, founder and editor-in-chief of World Affairs Commentary, Citing Rolf Mowatt-Larssen, Senior Fellow, Belfer Center for Science and International Affairs, John F. Kennedy School of Government, Harvard University, former Director of the Office of Intelligence and Counterintelligence, U.S. Department of Energy, former Chief of the Weapons of Mass Destruction Department, Counter-terrorist Center, Central Intelligence Agency, recipient of the CIA Director’s Award, graduate of the U.S. Military Academy, June 29th, “New al-Qaeda Chief Zawahiri Has Strong Nuclear Intent”, Forbes, http://blogs.forbes.com/rahimkanani/2011/06/29/new-al-qaeda-chief-zawahiri-has-strong-nuclear-intent/)

We should be especially worried about the threat of nuclear terrorism under Zawahiri’s leadership. In a recent report titled “Islam and the Bomb: Religious Justification For and Against Nuclear Weapons”, which I researched for and contributed to, lead author Rolf Mowatt-Larssen, former director of intelligence and counterintelligence at the U.S. Department of Energy, argues that al-Qaeda’s WMD ambitions are stronger than ever. And that “this intent no longer feels theoretical, but operational.” “I believe al-Qaeda is laying the groundwork for a large scale attack on the United States, possibly in the next year or two,” continues Mowatt-Larssen in the opening of the report issued earlier this year by the Belfer Center for Science and International Affairs at Harvard Kennedy School. “The attack may or may not involve the use of WMD, but there are signs that al-Qaeda is working on an event on a larger scale than the 9/11 attack.” Most will readily dismiss such claims as implausible and unlikely, and we hope they are right, but after spending months with Mowatt-Larssen, who also served as the former head of the Central Intelligence Agency’s WMD and terrorism efforts, scrutinizing and cross-referencing Zawahiri’s 268-page treatise published in 2008 titled “Exoneration”, the analytics steered us towards something far more remarkable than expected. “As I read the text closely, in the broader context of al-Qaeda’s past, my concerns grew that Zawahiri has written this treatise to play a part in the ritualistic process of preparing for an impending attack,” states Mowatt-Larssen. “As Osama bin Laden’s fatwa in 1998 foreshadowed the 9/11 attack, Ayman Zawahiri’s fatwa in 2008 may have started the clock ticking for al-Qaeda’s next large scale strike on America. If the pattern of al-Qaeda’s modus operandi holds true, we are in the middle of an attack cycle.” Among several important findings, Zawahiri sophisticatedly weaves identical passages, sources and religious justifications for a nuclear terrorist attack against the United States previously penned by radical Saudi cleric Nasir al Fahd. Indeed, the language used, research cited, and arguments put forth are nothing short of detailed and deliberate. Reading as both a religious duty to kill millions of Americans and a lengthy suicide note together, this piece of literature is something we must take seriously with Zawahiri now at the helm of al-Qaeda. The time may have come for al-Qaeda’s new CEO to leave a legacy of his own. Concluding the author’s note, Mowatt-Larssen states, “Even if this theory proves to be wrong, it is better to overestimate the enemy than to under­estimate him. Conventional wisdom holds that al-Qaeda is spent—that they are incapable of carrying out another 9/11. Leaving aside whether this view is correct, for which I harbor grave doubts, we will surely miss the signs of the next attack if we continue to overestimate our own successes, and dismiss what terrorists remain capable of accomplishing when they put their minds to it.”

**Terrorism causes miscalculation that draws in great powers and culminates in extinction- also causes rising alert levels**

Ayson 2010 (Robert Ayson, Professor of Strategic Studies and Director of the Centre for Strategic Studies: New Zealand at the Victoria University of Wellington, “After a Terrorist Nuclear Attack: Envisaging Catalytic Effects,” Studies in Conflict & Terrorism, Volume 33, Issue 7, July, Available Online to Subscribing Institutions via InformaWorld)

A terrorist nuclear attack, and even the use of nuclear weapons in response by the country attacked in the first place, would not necessarily represent the worst of the nuclear worlds imaginable. Indeed, there are reasons to wonder whether nuclear terrorism should ever be regarded as belonging in the category of truly existential threats. A contrast can be drawn here with the global catastrophe that would come from a massive nuclear exchange between two or more of the sovereign states that possess these weapons in significant numbers. Even the worst terrorism that the twenty-first century might bring would fade into insignificance alongside considerations of what a general nuclear war would have wrought in the Cold War period. And it must be admitted that as long as the major nuclear weapons states have hundreds and even thousands of nuclear weapons at their disposal, there is always the possibility of a truly awful nuclear exchange taking place precipitated entirely by state possessors themselves. But these two nuclear worlds—a non-state actor nuclear attack and a catastrophic interstate nuclear exchange—are not necessarily separable. It is just possible that some sort of terrorist attack, and especially an act of nuclear terrorism, could precipitate a chain of events leading to a massive exchange of nuclear weapons between two or more of the states that possess them. In this context, today’s and tomorrow’s terrorist groups might assume the place allotted during the early Cold War years to new state possessors of small nuclear arsenals who were seen as raising the risks of a catalytic nuclear war between the superpowers started by third parties. These risks were considered in the late 1950s and early 1960s as concerns grew about nuclear proliferation, the so-called n+1 problem. It may require a considerable amount of imagination to depict an especially plausible situation where an act of nuclear terrorism could lead to such a massive inter-state nuclear war. For example, in the event of a terrorist nuclear attack on the United States, it might well be wondered just how Russia and/or China could plausibly be brought into the picture, not least because they seem unlikely to be fingered as the most obvious state sponsors or encouragers of terrorist groups. They would seem far too responsible to be involved in supporting that sort of terrorist behavior that could just as easily threaten them as well. Some possibilities, however remote, do suggest themselves. For example, how might the United States react if it was thought or discovered that the fissile material used in the act of nuclear terrorism had come from Russian stocks,40 and if for some reason Moscow denied any responsibility for nuclear laxity? The correct attribution of that nuclear material to a particular country might not be a case of science fiction given the observation by Michael May et al. that while the debris resulting from a nuclear explosion would be “spread over a wide area in tiny fragments, its radioactivity makes it detectable, identifiable and collectable, and a wealth of information can be obtained from its analysis: the efficiency of the explosion, the materials used and, most important … some indication of where the nuclear material came from.”41 Alternatively, if the act of nuclear terrorism came as a complete surprise, and American officials refused to believe that a terrorist group was fully responsible (or responsible at all) suspicion would shift immediately to state possessors. Ruling out Western ally countries like the United Kingdom and France, and probably Israel and India as well, authorities in Washington would be left with a very short list consisting of North Korea, perhaps Iran if its program continues, and possibly Pakistan. But at what stage would Russia and China be definitely ruled out in this high stakes game of nuclear Cluedo? In particular, if the act of nuclear terrorism occurred against a backdrop of existing tension in Washington’s relations with Russia and/or China, and at a time when threats had already been traded between these major powers, would officials and political leaders not be tempted to assume the worst? Of course, the chances of this occurring would only seem to increase if the United States was already involved in some sort of limited armed conflict with Russia and/or China, or if they were confronting each other from a distance in a proxy war, as unlikely as these developments may seem at the present time. The reverse might well apply too: should a nuclear terrorist attack occur in Russia or China during a period of heightened tension or even limited conflict with the United States, could Moscow and Beijing resist the pressures that might rise domestically to consider the United States as a possible perpetrator or encourager of the attack? Washington’s early response to a terrorist nuclear attack on its own soil might also raise the possibility of an unwanted (and nuclear aided) confrontation with Russia and/or China. For example, in the noise and confusion during the immediate aftermath of the terrorist nuclear attack, the U.S. president might be expected to place the country’s armed forces, including its nuclear arsenal, on a higher stage of alert. In such a tense environment, when careful planning runs up against the friction of reality, it is just possible that Moscow and/or China might mistakenly read this as a sign of U.S. intentions to use force (and possibly nuclear force) against them. In that situation, the temptations to preempt such actions might grow, although it must be admitted that any preemption would probably still meet with a devastating response. As part of its initial response to the act of nuclear terrorism (as discussed earlier) Washington might decide to order a significant conventional (or nuclear) retaliatory or disarming attack against the leadership of the terrorist group and/or states seen to support that group. Depending on the identity and especially the location of these targets, Russia and/or China might interpret such action as being far too close for their comfort, and potentially as an infringement on their spheres of influence and even on their sovereignty. One far-fetched but perhaps not impossible scenario might stem from a judgment in Washington that some of the main aiders and abetters of the terrorist action resided somewhere such as Chechnya, perhaps in connection with what Allison claims is the “Chechen insurgents’ … long-standing interest in all things nuclear.”42 American pressure on that part of the world would almost certainly raise alarms in Moscow that might require a degree of advanced consultation from Washington that the latter found itself unable or unwilling to provide. There is also the question of how other nuclear-armed states respond to the act of nuclear terrorism on another member of that special club. It could reasonably be expected that following a nuclear terrorist attack on the United States, both Russia and China would extend immediate sympathy and support to Washington and would work alongside the United States in the Security Council. But there is just a chance, albeit a slim one, where the support of Russia and/or China is less automatic in some cases than in others. For example, what would happen if the United States wished to discuss its right to retaliate against groups based in their territory? If, for some reason, Washington found the responses of Russia and China deeply underwhelming, (neither “for us or against us”) might it also suspect that they secretly were in cahoots with the group, increasing (again perhaps ever so slightly) the chances of a major exchange. If the terrorist group had some connections to groups in Russia and China, or existed in areas of the world over which Russia and China held sway, and if Washington felt that Moscow or Beijing were placing a curiously modest level of pressure on them, what conclusions might it then draw about their culpability? If Washington decided to use, or decided to threaten the use of, nuclear weapons, the responses of Russia and China would be crucial to the chances of avoiding a more serious nuclear exchange. They might surmise, for example, that while the act of nuclear terrorism was especially heinous and demanded a strong response, the response simply had to remain below the nuclear threshold. It would be one thing for a non-state actor to have broken the nuclear use taboo, but an entirely different thing for a state actor, and indeed the leading state in the international system, to do so. If Russia and China felt sufficiently strongly about that prospect, there is then the question of what options would lie open to them to dissuade the United States from such action: and as has been seen over the last several decades, the central dissuader of the use of nuclear weapons by states has been the threat of nuclear retaliation. If some readers find this simply too fanciful, and perhaps even offensive to contemplate, it may be informative to reverse the tables. Russia, which possesses an arsenal of thousands of nuclear warheads and that has been one of the two most important trustees of the non-use taboo, is subjected to an attack of nuclear terrorism. In response, Moscow places its nuclear forces very visibly on a higher state of alert and declares that it is considering the use of nuclear retaliation against the group and any of its state supporters. How would Washington view such a possibility? Would it really be keen to support Russia’s use of nuclear weapons, including outside Russia’s traditional sphere of influence? And if not, which seems quite plausible, what options would Washington have to communicate that displeasure? If China had been the victim of the nuclear terrorism and seemed likely to retaliate in kind, would the United States and Russia be happy to sit back and let this occur? **In the charged** atmosphere immediately after a nuclear terrorist attack, how would the attacked country respond to pressure from other major nuclear powers not to respond in kind? The phrase “how dare they tell us what to do” immediately springs to mind. Some might even go so far as to interpret this concern as a tacit form of sympathy or support for the terrorists. This might not help the chances of nuclear restraint.

**Rapid escalation in alert levels causes decentralized command authority – makes uncontrollable escalation inevitable**

Sagan 1990 (Scott Sagan, professor of political science and co-director of Stanford's Center for International Security and Cooperation, 1990 “Nuclear Alerts and Crisis Management” in “Nuclear diplomacy and crisis management: an International security reader” p. 191-3)

A “NO-ALERTS” POLICY? It would be equally in error, however, to believe that because the nuclear alerts and accompanying conventional force operations taken in past crises were difficult to control, they must never be used again under any circumstances. Any suggestion for a “no-alerts” policy would ignore the fact that the purposes that nuclear alerts were meant to serve in the past are likely to remain important in future crises and are unlikely to be met, in all scenarios, other means. Any decision to place nuclear forces on alert in the future will be an extremely dangerous step, but it is by no means clear that the inherent risks involved with an alert will always be greater than the dangers produced by refraining from alerting forces. Even if the United States could threaten a devastating retaliatory response without generating its forces, the failure to alert nuclear forces in a severe crisis, especially one in which Soviet strategic forces were moving to a higher state of readiness, might tempt the leadership in Moscow to continue escalating the crisis in the belief that the United States was willing to back down.89 difficult judgments would have to be made, weighing the risks of alerting versus not alerting strategic forces, in numerous unlikely but possible scenarios: if the Soviets threaten to attack NATO’s Central Front in the chaotic situation produced by a disintegration of the Eastern European bloc; if the Soviets threatened a nuclear strike against China; if an invasion of Saudi Arabia appeared imminent; or if there was a replay of the Cuban missile crisis with the Soviets placing missiles in Nicaragua or Cuba. In each of these cases, the risks of escalation and war are present whether or not nuclear forces are put on alert. The 1973 case illustrates the point. Putting forces on alert was not a risk-free option; neither, however, was allowing the Soviets to put forces into Egypt. Not only would such an action have set erous precedent for future crises, but Soviet intervention might have led to direct combat with the Israelis, increasing the risk of American involve- ment. Indeed, the risk of escalation was inherent in the situation. The alert certainly highlighted this fact, but it did not create it. In short, wisdom begins in this area with an awareness that one can err either on the side of being excess cautious or excessively provocative. The following observations on what can go wrong when nuclear and con- ventional forces are put on a higher state of readiness in a crisis do not, therefore, mean that such steps must never be taken in the future. They do suggest, however, that if military alerts are deemed necessary in a crisis, it will be essential that they be controlled with the utmost prudence and discipline. What can go Wrong? Much of the recent public concern about nuclear war has focused on the frightening “Dr. Strangelove” scenario: the danger of an unauthorized use of nuclear weapons Of nuclear weapons by a military commander leading to nuclear war. In normal peacetime circumstances, however, the numerous mechanical devices and organizational “checks and balances” that have been developed to prevent unauthorized use of weaponry make this path of accidental nuclear war highly unlikely. In a severe crisis, with nuclear forces placed on extremely high levels of alert, some of these restriction are lifted, however, in order to reduce the probability of a Soviet first-strike successfully “decapitating” the American arsenal. For other obvious reasons, the precise details of the process by which the devolution of command authrotiy takes place and the extent of predelegation of authority to use nuclear weapons, if any in fact exists, are kept highly classified. Although layers of secrecy surround this issue, it is unlikely that predelegation extends to the first-use of offensive strategic nuclear weapons against the Soviet Union under any circumstances. Still, any predelegation authority to launch nuclear forces in retaliation after a Soviet attack upon the United States would produce serious problems with respect to controlling or terminating a nuclear exchange once begun and at least would raise the possibility of accidental war occurring through a warning or assessment failure during a superpower crisis. It would be a mistake, however, to focus exclusively on the danger of an accidental or unauthorized use of nuclear weapons. As the Cuban missile crisis demonstrated, a variety of incidents can occur during a crisis which are neither purely accidental nor unauthorized, but which nonetheless raise the danger of inadvertent escalation. In many of the cases, actions that may have been judged inappropriate by higher political or military authorities were taken by local military commanders who have both good military reasons for taking the action and ample discretionary authority to do so. Such incidents are likely to be a permanent danger in severe crises. Crises are unique and unpredictable. Military rules of engagement and delegations of authority must be preplanned, however, and in crises there is often insufficient time to review such procedures and tailor them to the specific confrontation at hand. These resulting dangers are further compounded when conventional and nuclear forces are placed at higher conditions of alert because rules of engagement and delegations of authority can change in ways that may be inadequately understood by central authorities. In addition, there is a danger that a movement toward a mutual high level alert in a serious crisis could put central authorities under severe pressure to take conventional escalatory steps that they would otherwise prefer to avoid. For example, in a severe crisis, in which both superpowers have alerted their nuclear forces to unprecedented levels, the national command authorities might feel extreme pressure to relieve the strategic arsenal from the danger of quick strike decapitation. One possible conventional option would be to attack the enemy’s most threatening forces such as submarines patrolling off one’s coasts. Moreover, in any convetional war between the Soviet Union and the United States, during which nuclear forces would be at an extremely high state of alert, American leaders could authorize what it viewed as conventional attacks against Soviet conventional forces, which mostcow might view as attacks against its strategic forces. For example, an American ASW campaign against Soviet attack submarines in “forward areas” might bee seen in Moscow, correctly or incorrectly, as an attack on Soveit strategic submarines. Any one of these authorized escalatory steps might lead to uncontrolled escalation.

### 1AC Defense

#### Grid failure inevitable, 4 reasons: Overload, weather, cyber attacks, supply disruption

DSB Taskforce 2008 (Defense Science Board Task Force, Federal Advisory Committee established to provide independent advice to the Secretary of Defense, Tom Morehouse, editor, February 2008, Office of the Under Secretary of Defense For Acquisition, Technology, and Logistics, http://www.acq.osd.mil/dsb/reports/ADA477619.pdf)

The first risk is from overload. As wires become overloaded, they heat up and sag, making them vulnerable to entanglement with trees and other objects. This happened near Cleveland, Ohio on August 14, 2003. According to the U.S.-Canada Power System Outage Task Force, high demand caused a high-voltage line to come in contact with overgrown trees. The resulting cascade of failures plunged many of the 50 million people in the Northeast U.S. and Canada living in an area covering 9,300 square miles into darkness. It shut down more than 500 generating units at 265 power plants, including 22 nuclear plants.29¶ A second risk comes from natural disasters, such as hurricanes, tornadoes, electrical storms or other extreme weather events. The consequences could be very much as described above, but with the added risk of physical damage to the infrastructure. Favorable commentary about the performance of the grid following the August 2003 outage focused on the fact that restoration occurred fairly quickly. Within a few days power was restored virtually everywhere, with much of the area back up within a few hours. This was largely because safety features built into the grid successfully prevented damage to critical equipment such as generators, breakers and transformers. 30 However, the Task Force is concerned that such an extensive outage could be caused by such a commonplace event – a single line contacting a tree. This inevitably raises the next issue below: what the result might have been had there been physical damage to infrastructure, such as from a deliberate attack by knowledgeable adversaries?¶ A third risk comes from sabotage or terrorist activity, whether local, trans-national, or state-sponsored, and including both conventional and nuclear attack. Nuclear attack could take place either directly or through the generation of a high altitude electromagnetic pulse (EMP). The grid is a relatively easy target for a terrorist. It is brittle, increasingly centralized, capacity-strained, and largely unprotected from physical attack, with little stockpiling of critical hardware. Although the system is designed to survive single points of failure, increasing demand on the system and increasing network constraints make multiple points of failure more likely. These are difficult to anticipate and more likely to result in cascading outages and catastrophic outages that cover large areas for long periods of time. Network Single Points of Failure (NSPF) are abundant. High voltage transformers, breakers, and other long-lead time items are particularly critical system elements.31 They can be easily targeted and destroyed. Grid sections could be taken down for months even if replacement transformers and breakers could be found; or for years if certain components need to be newly manufactured and transported. There are only limited backups located around the country—generally co-located with operating equipment. For some of the largest equipment, there is no domestic supply and only limited overseas production capacity which is fully booked years ahead. 32 For example, 765 kV transformers are manufactured only by one company in Canada. Armed with the right knowledge, a small number of people could shut down electricity over significant areas for an extended period of time, including power to critical DoD missions. The grid is not designed to withstand a coordinated multi-pronged or wide-area attack.33 The Task Force noted that attacks on the grid are one of the most common and effective tactics of insurgents in Iraq, and are increasingly seen in Afghanistan.34¶ In addition to physical attacks on the grid, there is the potential for cyber attacks. U.S. grid control systems are continuously probed electronically, and there have been numerous attempted attacks on the Supervisory Control and Data Acquisition (SCADA) systems that operate the grid. None have yet resulted in major problems in the U.S., but the potential exists for major outages in the same way successful hackers can disrupt computer networks.35 Further details regarding the potential for deliberate attacks to the grid and their potential consequences are contained in a classified annex to this report.¶ A fourth risk comes from interruptions in supplies to generating plants, which can be caused by natural events, infrastructure failures, attack or even market forces. This occurred in California during 2000 and 2001 when supplies of natural gas were interrupted and forced a reduction in electricity generation.36 Approximately 20% of U.S. electricity is generated by natural gas and market prices have swung wildly over the past several years.37 Approximately 52% of U.S. electricity is generated by coal and transportation routes that move coal from mines to generating plants are sometimes remote and lacking in alternatives. Critical rail lines or bridges could be taken out by determined saboteurs. For example, in May 2005, 43 rail cars came off the tracks. The disruption to coal deliveries caused prices to spike, and raised electricity prices by 6% nationally, according to the Bureau of Labor Statistics. The 100 mile length of rail line through Wyoming that carries the output of the Western coal belt to power plants is the most heavily traveled in the nation.38 So in addition to risks from grid outage, there are risks to the supply chain that enables the grid to work—not least from electricity supply failures themselves, which could disable the pipelines and controls used by other forms of energy, notably oil and gas.

#### Takes out military installations and causes mission disruption- Confusion causes nuclear escalation- SMRs key

**Andres and Breetz 2011** (Richard B. Andres, Professor of National Security Strategy at the National War College and a Senior fellow in 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. Breetz, doctoral candidate in the Department of Political Science at the Massachusetts institute of technology, February 2011, “Small Nuclear Reactors for Military Installations: Capabilities, Costs, and Technological Implications,” National Defense University Strategic Forum, http://www.ndu.edu/press/lib/pdf/strforum/sf-262.pdf)

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 signifcantly reduced DOD energy consumption and green-house 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 **D**epartment of **H**omeland **S**ecurity 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 func- tion 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 di- saster 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 un- derstanding that blinding an opponent with a grid black-out 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 vulnerabili- ties by turning military installations into “islands” of energy self-sufficiency.10 The department has made ef- forts 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 renew- ables, 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 con- ceivable 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 dis- rupting civilian systems, but the powerful incentive to do so in order to win an ongoing battle or war would be greatly reduced.

#### Mission disruptions cause every hotspot to escalate

Kagan and O’Hanlon 2007 (Frederick Kagan, resident scholar at AEI, and Michael O’Hanlon, senior fellow in foreign policy at Brookings, April 24, 2007, “The Case for Larger Ground Forces,” 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 biparti- san 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 conse- quences with a few concrete examples, emphasiz- ing 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 inter-¶ national 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 noninterven- tion in Darfur troubles consciences from Europe to America’s Bible Belt to its bastions of liberal- ism, 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 con- vince many Americans that the war there truly was lost—but the costs of reaching such a con- clusion 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 capa- ble of a wide range of missions—including not only deterrence of great power conflict in deal- ing 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 down- side to a major program to strengthen the mil- itary 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 pru- dent, it is also badly overdue.

**Ambiguous relative capabilities spark great power conflict- Status competition drives decisionmaking**

Wohlforth 2009 William C. Wohlforth (a professor of government at Dartmouth College) 2009 “Unipolarity, Status Competition, and Great Power War” Project Muse

Second, I question the dominant view that status quo evaluations are relatively independent of the distribution of capabilities. If the status of states depends in some measure on their relative capabilities, and if states derive utility from status, then different distributions of capabilities may affect levels of satisfaction, just as different income distributions may affect levels of status competition in domestic settings. 6 Building on research in psychology and sociology, I argue that even capabilities distributions among major powers foster ambiguous status hierarchies, which generate more dissatisfaction and clashes over the status quo. And the more stratified the distribution of capabilities, the less likely such status competition is. Unipolarity thus generates far fewer incentives than either bipolarity or multipolarity for direct great power positional competition over status. Elites in the other major powers continue to prefer higher status, but in a unipolar system they face comparatively weak incentives to translate that preference into costly action. And the absence of such incentives matters because social status is a positional good—something whose value depends on how much one has in relation to others.7 “If everyone has high status,” Randall Schweller notes, “no one does.”8 While one actor might increase its status, all cannot simultaneously do so. High status is thus inherently scarce, and competitions for status tend to be zero sum.9 I begin by describing the puzzles facing predominant theories that status competition might solve. Building on recent research on social identity and status seeking, I then show that under certain conditions the ways decision makers identify with the states they represent may prompt them to frame issues as positional disputes over status in a social hierarchy. I develop hypotheses that tailor this scholarship to the domain of great power politics, showing how the probability of status competition is likely to be linked to polarity. The rest of the article investigates whether there is sufficient evidence for these hypotheses to warrant further refinement and testing. I pursue this in three ways: by showing that the theory advanced here is consistent with what we know about large-scale patterns of great power conflict through history; by [End Page 30] demonstrating that the causal mechanisms it identifies did drive relatively secure major powers to military conflict in the past (and therefore that they might do so again if the world were bipolar or multipolar); and by showing that observable evidence concerning the major powers’ identity politics and grand strategies under unipolarity are consistent with the theory’s expectations. Puzzles of Power and War Recent research on the connection between the distribution of capabilities and war has concentrated on a hypothesis long central to systemic theories of power transition or hegemonic stability: that major war arises out of a power shift in favor of a rising state dissatisfied with a status quo defended by a declining satisfied state.10 Though they have garnered substantial empirical support, these theories have yet to solve two intertwined empirical and theoretical puzzles—each of which might be explained by positional concerns for status. First, if the material costs and benefits of a given status quo are what matters, why would a state be dissatisfied with the very status quo that had abetted its rise? The rise of China today naturally prompts this question, but it is hardly a novel situation. Most of the best known and most consequential power transitions in history featured rising challengers that were prospering mightily under the status quo. In case after case, historians argue that these revisionist powers sought recognition and standing rather than specific alterations to the existing rules and practices that constituted the order of the day. In each paradigmatic case of hegemonic war, the claims of the rising power are hard to reduce to instrumental adjustment of the status quo. In R. Ned Lebow’s reading, for example, Thucydides’ account tells us that the rise of Athens posed unacceptable threats not to the security or welfare of Sparta but rather to its identity as leader of the Greek world, which was an important cause of the Spartan assembly’s vote for war.11 The issues that inspired Louis XIV’s and Napoleon’s dissatisfaction with the status quo were many and varied, but most accounts accord [End Page 31] independent importance to the drive for a position of unparalleled primacy. In these and other hegemonic struggles among leading states in post-Westphalian Europe, the rising challenger’s dissatisfaction is often difficult to connect to the material costs and benefits of the status quo, and much contemporary evidence revolves around issues of recognition and status.12 Wilhemine Germany is a fateful case in point. As Paul Kennedy has argued, underlying material trends as of 1914 were set to propel Germany’s continued rise indefinitely, so long as Europe remained at peace.13 Yet Germany chafed under the very status quo that abetted this rise and its elite focused resentment on its chief trading partner—the great power that presented the least plausible threat to its security: Great Britain. At fantastic cost, it built a battleship fleet with no plausible strategic purpose other than to stake a claim on global power status.14 Recent historical studies present strong evidence that, far from fearing attacks from Russia and France, German leaders sought to provoke them, knowing that this would lead to a long, expensive, and sanguinary war that Britain was certain to join.15 And of all the motivations swirling round these momentous decisions, no serious historical account fails to register German leaders’ oft-expressed yearning for “a place in the sun.” The second puzzle is bargaining failure. Hegemonic theories tend to model war as a conflict over the status quo without specifying precisely what the status quo is and what flows of benefits it provides to states.16 Scholars generally follow Robert Gilpin in positing that the underlying issue concerns a “desire to redraft the rules by which relations among nations work,” “the nature and governance of the system,” and “the distribution of territory among the states in the system.”17 If these are the [End Page 32] issues at stake, then systemic theories of hegemonic war and power transition confront the puzzle brought to the fore in a seminal article by James Fearon: what prevents states from striking a bargain that avoids the costs of war? 18 Why can’t states renegotiate the international order as underlying capabilities distributions shift their relative bargaining power? Fearon proposed that one answer consistent with strict rational choice assumptions is that such bargains are infeasible when the issue at stake is indivisible and cannot readily be portioned out to each side. Most aspects of a given international order are readily divisible, however, and, as Fearon stressed, “both the intrinsic complexity and richness of most matters over which states negotiate and the availability of linkages and side-payments suggest that intermediate bargains typically will exist.”19 Thus, most scholars have assumed that the indivisibility problem is trivial, focusing on two other rational choice explanations for bargaining failure: uncertainty and the commitment problem.20 In the view of many scholars, it is these problems, rather than indivisibility, that likely explain leaders’ inability to avail themselves of such intermediate bargains. Yet recent research inspired by constructivism shows how issues that are physically divisible can become socially indivisible, depending on how they relate to the identities of decision makers.21 Once issues surrounding the status quo are framed in positional terms as bearing on the disputants’ relative standing, then, to the extent that they value their standing itself, they may be unwilling to pursue intermediate bargaining solutions. Once linked to status, easily divisible issues that theoretically provide opportunities for linkages and side payments of various sorts may themselves be seen as indivisible and thus unavailable as avenues for possible intermediate bargains. The historical record surrounding major wars is rich with evidence suggesting that positional concerns over status frustrate bargaining: expensive, protracted conflict over what appear to be minor issues; a propensity on the part of decision makers to frame issues in terms of relative rank even when doing so makes bargaining harder; decision-makers’ [End Page 33] inability to accept feasible divisions of the matter in dispute even when failing to do so imposes high costs; demands on the part of states for observable evidence to confirm their estimate of an improved position in the hierarchy; the inability of private bargains to resolve issues; a frequently observed compulsion for the public attainment of concessions from a higher ranked state; and stubborn resistance on the part of states to which such demands are addressed even when acquiescence entails limited material cost. The literature on bargaining failure in the context of power shifts remains inconclusive, and it is premature to take any empirical pattern as necessarily probative. Indeed, Robert Powell has recently proposed that indivisibility is not a rationalistic explanation for war after all: fully rational leaders with perfect information should prefer to settle a dispute over an indivisible issue by resorting to a lottery rather than a war certain to destroy some of the goods in dispute. What might prevent such bargaining solutions is not indivisibility itself, he argues, but rather the parties’ inability to commit to abide by any agreement in the future if they expect their relative capabilities to continue to shift.22 This is the credible commitment problem to which many theorists are now turning their attention. But how it relates to the information problem that until recently dominated the formal literature remains to be seen.23 The larger point is that positional concerns for status may help account for the puzzle of bargaining failure. In the rational choice bargaining literature, war is puzzling because it destroys some of the benefits or flows of benefits in dispute between the bargainers, who would be better off dividing the spoils without war. Yet what happens to these models if what matters for states is less the flows of material benefits themselves than their implications for relative status? The salience of this question depends on the relative importance of positional concern for status among states. Do Great Powers Care about Status? Mainstream theories generally posit that states come to blows over an international status quo only when it has implications for their security or material well-being. The guiding assumption is that a state’s satisfaction [End Page 34] with its place in the existing order is a function of the material costs and benefits implied by that status.24 By that assumption, once a state’s status in an international order ceases to affect its material wellbeing, its relative standing will have no bearing on decisions for war or peace. But the assumption is undermined by cumulative research in disciplines ranging from neuroscience and evolutionary biology to economics, anthropology, sociology, and psychology that human beings are powerfully motivated by the desire for favorable social status comparisons. This research suggests that the preference for status is a basic disposition rather than merely a strategy for attaining other goals.25 People often seek tangibles not so much because of the welfare or security they bring but because of the social status they confer. Under certain conditions, the search for status will cause people to behave in ways that directly contradict their material interest in security and/or prosperity.

#### China will take the chance to invade Taiwan while US forces are offline

Gerson 2009 (Michael S. Gerson, research analyst at the Center for Naval Analyses, Autumn 2009, “Conventional Deterrence in the Second Nuclear Age,” http://www.carlisle.army.mil/usawc/parameters/Articles/09autumn/gerson.pdf)

Deterrence is once again a topic of discussion and debate among US defense and policy communities. Although the concept has received comparatively little attention since the end of the Cold War, it seems poised to take center stage in America’s national security policy during the coming decades. With two ongoing wars already straining the military, concerns about a recalcitrant and militarized Russia, Iran’s continued uranium enrichment activities, North Korea’s nascent nuclear arsenal, and top-to-bottom military modernization in China, adversary-specific deterrence strategies will likely become a prominent component of national and international security in an increasingly multipolar world. As part of this renewed interest in deterrence, conventional weapons are playing an important role. The “New Triad,” consisting of both nuclear and advanced conventional weapons; proposals for conventionally armed intercontinental ballistic missiles; and, more generally, the concept of Prompt Global Strike all represent a growing belief that advanced conventional capabilities can substitute for some missions previously relegated solely to nuclear weapons. Although there has been considerable debate over these specific initiatives—for example, the effect that putting conventional warheads on ballistic missiles would have on strategic stability—most specialists agree that conventional forces can help reduce the role of nuclear weapons in US security strategy. In fact, in recent years the US military has expanded the concept of “strategic deterrence,” a term that once encompassed only intercontinental nuclear weapons, to incorporate both nuclear and conventional forces, as well as diplomatic, economic, and informational tools. The recent emphasis on substituting conventional for nuclear weapons in selected missions is an important step in developing a credible and robust twenty-first century deterrent, but it does not fully consider the unique logic and strategy of conventional deterrence. The current debate focuses primarily on the use of conventional weapons for “deterrence by punishment,” the threat to impose unacceptable costs, such as the destruction of an adversary’s strategic and high-value targets, in response to unwanted actions. Yet, one of the most important contributions of conventional forces is “deterrence by denial,” the threat to deny an adversary the ability to achieve its military and political objectives through aggression. If some early strategists were accused of “conventionalization” by treating nuclear weapons merely as more powerful and effective tools of war, the current debate regarding conventional contributions to deterrence may be accused of “nuclearization” in that it treats conventional capabilities merely as a substitute for nuclear weapons. This article seeks to expand the current debate about the role and utility of conventional forces in US deterrence strategies by reexamining the traditional logic of conventional deterrence, which focuses on deterrence b y denial, in the context of the modern international security environment. It is primarily concerned with the role of US conventional forces in extended deterrence, defined as the threat of force to protect allies and friends, rather than “central” or “homeland” deterrence. This focus on extended deterrence—and especially on the role of deterrence by denial in extended deterrence—highlights the central importance of protecting territory from attack and invasion. Historically, the desire for control over specific territory has been a frequent motivator of interstate crises and conflict. While interstate conventional wars have significantly declined since the end of the Second World War, the potential for conflict over Taiwan or on the Korean Peninsula, the prospect of future clashes over control of scarce natural resources, and the 2008 war between Georgia and Russia attest to the continued possibility of conflict over specific territory that has important strategic, economic, political, religious, historical, or socio-cultural significance. Consequently, this article examines how US conventional military power can be used to deter conventional aggression against friends and allies by threatening to deny an adversary its best chance of success on the battlefield—a surprise or short-notice attack with little or no engagement with American military forces. The ability to prevent an opponent from presenting the United States with a fait accompli—that is, from striking quickly and achieving victory before substantial US (and perhaps coalition) forces can be deployed to the theater—is a central component of modern conventional deterrence. Conventional Deterrence in US Strategy Broadly defined, deterrence is the threat of force intended to convince a potential aggressor not to undertake a particular action because the costs will be unacceptable or the probability of success extremely low. This threat has always been one of the central strategic principles by which nations attempted to prevent conflict. Even so, the development and rigorous analysis of deterrence as a discrete strategic concept did not occur until the advent of nuclear weapons. Deterrence theory was developed against the backdrop of the Cold War nuclear arms race and focused on the prevention of nuclear conflict. Yet, while the majority of academic research and public debate was concerned with the prevention of nuclear war—the net result was that deterrence became synonymous with nuclear weapons—conventional deterrence, appropriately, assumed an increasingly important role in the development of military strategy during this period. As the Soviet Union began to amass a large and survivable nuclear arsenal that was capable of global reach in the late 1950s and early 1960s, the credibility of the Eisenhower Administration’s policy of “Massive Retaliation,” which threatened an overwhelming nuclear response to virtually any Soviet aggression, was brought into question. Once the Soviet Union developed survivable nuclear capabilities that could reach the US homeland, many defense officials and analysts argued that the threat of Massive Retaliation lacked credibility against anything other than an all-out Soviet nuclear attack. As a result, western military strategy eventually shifted from total reliance on nuclear weapons as a means of deterring both Soviet conventional and nuclear aggression to a strategy of “Flexible Response,” which included conventional and nuclear elements. From the mid-1960s onward, NATO relied on conventional power, backed by the threat of nuclear escalation, to deter any conventional assault on Europe by the numerically superior Warsaw Pact, and relied on nuclear weapons to deter nuclear attacks. By incorporating “direct defense”—the ability to respond to Warsaw Pact aggression, especially conventional aggression, with proportionate (i.e., conventional) force—into NATO strategy, the concept of Flexible Response sought to create a more credible means of deterrence across the entire spectrum of conflict. A potential enemy is more likely to attack neighbors if the regime believes it can accomplish its objectives before US forces respond.

#### Global nuclear escalation

Hunkovic 2009 (Lee J Hunkovic, Professor American Military University, 2009, "The Chinese-Taiwanese Conflict Possible Futures of a Confrontation between China, Taiwan and the United States of America", http://www.lamp-method.org/eCommons/Hunkovic.pdf)

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

#### Uniquely likely now- Tensions are mounting

Bloomberg 2012 (Bloomberg Editorial, “China-Taiwan Tensions Could Loom Over U.S. ‘Pivot’ to Asia: View,” Bloomberg, http://www.bloomberg.com/news/2012-02-27/china-taiwan-tensions-could-loom-over-u-s-pivot-to-asia-view.html)

As China’s economic and military power grows, and Taiwan’s long-term future remains unclear, that debate deserves a wider airing. The tension, and the stakes, will only increase as the Obama administration undertakes its much-trumpeted “pivot” to Asia.¶ Taiwan didn’t surface as a big issue in Chinese Vice President Xi Jinping’s recent visit to Washington. The re- election of Taiwan’s President Ma Ying-jeou, who has downplayed talk of independence and promoted ties with China, has also reduced cross-strait tensions. And the recent U.S. decision to upgrade Taiwan’s F-16s fighter planes rather than sell it newer ones provoked relatively mild heartburn in Beijing.¶ Nonetheless, the status quo that has prevailed since the U.S. recognition of China in 1979 -- a delicate balance that has supported not just China’s growth, but also the development of a vibrant, democratic Taiwan -- is under threat. China’s military edge over Taiwan is growing, as is the influence of its military on policy and the volatility of Chinese nationalist sentiment. Future U.S. sales to Taiwan of advanced weapons necessary to counter China’s advantage may trigger a harsher reaction. (Under the Taiwan Relations Act that Congress passed in 1979, the U.S. is required to “provide Taiwan with arms of a defensive character.”) Meanwhile, as the economic and strategic importance of U.S.-China relations grows, so does the U.S. temptation to advance those ties at Taiwan’s expense.¶ Of course, in the best diplomatic tradition, the cross- strait status quo has always rested to some degree on evasions and half-truths. China and Taiwan agree that there is only “one China” -- just not which China that is. The U.S. maintains only unofficial relations with Taiwan, but that includes military exchanges and training, occasional Cabinet-level visitors and embassy surrogates. Taiwan is a plucky front-line state that seeks U.S. military help, yet it spends only 2.1 percent of its own gross domestic product on defense. The U.S., President George W. Bush said, will “do whatever it takes” to defend Taiwan -- a few months before he changed his tune, after the Sept. 11 attacks, to secure Chinese cooperation in the war on terrorism.

#### SMRs key to island bases- Other tech fails

Robitaille 2012 (George E. Robitaille, Department of Army Civilian, March 21, 2012, “Small Modular Reactors: The Army’s Secure Source of Energy?,” US Army War College Strategy Research Project, http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA561802)

In recent years, the U.S Department of Defense (DoD) has identified a security issue at our installations related to the dependence on the civilian electrical grid.1 The DoD depends on a steady source of electricity at military facilities to perform the functions that secure our nation. The flow of electricity into military facilities is controlled by a public grid system that is susceptible to being compromised because of the age of the infrastructure, damage from natural disasters and the potential for cyber attacks. Although most major functions at military installations employ diesel powered generators as temporary backup, the public grid may not be available to provide electricity when it is needed the most. The United States electrical infrastructure system is prone to failures and susceptible to terrorist attacks.2 It is critical that the source of electricity for our installations is reliable and secure. In order to ensure that our military facilities possess a secure source of electricity, either the public system of electric generation and distribution is upgraded to increase its reliability as well as reducing its susceptibility to cyber attack or another source of electricity should be pursued. Although significant investments are being made to upgrade the electric grid, the current investment levels are not keeping up with the aging system. Small modular reactors (SMRs) are nuclear reactors that are about an order of magnitude smaller than traditional commercial reactor used in the United States. SMRs are capable of generating electricity and at the same time, they are not a significant contributor to global warming because of green house gas emissions. The DoD needs to look at small modular nuclear reactors (SMRs) to determine if they can provide a safe and secure source of electricity.

### 1AC Plan

#### The United States Federal Government should offer substantial competitive power purchase agreements for electricity from small modular nuclear reactors on military bases in the United States.

### 1AC Solvency

**No disads- Lots of SMR funding now, Obama’s committed**

Biello 2012 (David Biello, journalist at Scientific American, April 19, 2012, Missourians for a Better Energy Future, http://www.moenergyfuture.org/news/small-reactors-make-a-bid-to-revive-nuclear-power/)

Small may be beautiful for the nuclear power industry So argue a host of would-be builders of novel nuclear reactors. While the U.S. government has not given up on investing in large units that boast conventional designs, the Department of Energy has also announced the availability of $450 million in funds to support engineering and licensing of so-called "small modular reactors."¶ "The Obama Administration and the Energy Department are committed to an all-of-the-above energy strategy that develops every source of American energy, including nuclear power," said Secretary of Energy Steven Chu in a statement announcing the funding, which aims to get such modular reactors hooked into the grid by 2022. "The Energy Department and private industry are working to position America as the leader in advanced nuclear energy technology and manufacturing."

**But the DOD’s key- Only way to barriers and achieve commercialization**

**Andres and Breetz 2011** (Richard B. Andres, Professor of national Security Strategy at the national War College and a Senior fellow and energy and environmental Security and Policy Chair in the Center for Strategic research, institute for national Strategic Studies, at the national Defense University, and Hanna L. Breetz, doctoral candidate in the Department of Political Science at the Massachusetts institute of technology, February 2011, “Small Nuclear Reactors for Military Installations: Capabilities, Costs, and Technological Implications,” National Defense University Strategic Forum, http://www.ndu.edu/press/lib/pdf/strforum/sf-262.pdf)

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

#### Power purchase agreements key- R&D projects fail to incentivize commercialization

Madia 2012 (William Madia, Chairman of the Board of Overseers and Vice President for the SLAC National Accelerator Laboratory at Stanford University, previously the Laboratory Director at the Oak Ridge National Laboratory, Spring 2012, “SMALL MODULAR REACTORS: A POTENTIAL GAME-CHANGING TECHNOLOGY,” Stanford Energy Club, http://energyclub.stanford.edu/index.php/Journal/Small\_Modular\_Reactors\_by\_William\_Madia)

Throughout the history of NPP development, plants grew in size based on classic “economies of scale” considerations. Bigger was cheaper when viewed on a cost per installed kilowatt basis. The drivers that caused the industry to build bigger and bigger NPPs are being offset today by various considerations that make this new breed of SMRs viable. ¶ ¶ Factory manufacturing is one of these considerations. Most SMRs are small enough to allow them to be factory built and shipped by rail or barge to the power plant sites. Numerous industry “rules of thumb” for factory manufacturing show dramatic savings as compared to “on-site” outdoor building methods. Significant schedule advantages are also available because weather delay considerations are reduced. Of course, from a total cost perspective, some of these savings will be offset by the capital costs associated with building multiple modules to get the same total power output. Based on analyses I have seen, overnight costs in the range of $5000 to $8000 per installed kilowatt are achievable. If these analyses are correct, it means that the economies of scale arguments that drove current designs to GW scales could be countered by the simplicity and factory-build possibilities of SMRs.¶ ¶ No one has yet obtained a design certification from the Nuclear Regulatory Commission (NRC) for an SMR, so we must consider licensing to be one of the largest unknowns facing these new designs. Nevertheless, since the most developed of the SMRs are mostly based on proven and licensed components and are configured at power levels that are passively safe, we should not expect many new significant licensing issues to be raised for this class of reactor. Still, the NRC will need to address issues uniquely associated with SMRs, such as the number of reactor modules any one reactor operator can safely operate and the size of the emergency planning zone for SMRs.¶ ¶ To determine if SMRs hold the potential for changing the game in carbon-free power generation, it is imperative that we test the design, engineering, licensing, and economic assumptions with some sort of public-private development and demonstration program. Instead of having government simply invest in research and development to “buy down” the risks associated with SMRs, I propose a more novel approach. Since the federal government is a major power consumer, it should commit to being the “first mover” of SMRs. This means purchasing the first few hundred MWs of SMR generation capacity and dedicating it to federal use. The advantages of this approach are straightforward. The government would both reduce licensing and economic risks to the point where utilities might invest in subsequent units, thus jumpstarting the SMR industry. It would then also be the recipient of additional carbon-free energy generation capacity. This seems like a very sensible role for government to play without getting into the heavy politics of nuclear waste, corporate welfare, or carbon taxes.

**SMRS are extremely safe**

**Kessides 2010** (Ioannis N. Kessides, Lead Economist in the World Bank's Development Research Group, June 2012, “The Future of the Nuclear Industry Reconsidered Risks, Uncertainties, and Continued Potential,” The World Bank Development Research Group Environment and Energy Team, http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2012/06/29/000158349\_20120629130837/Rendered/INDEX/WPS6112.txt)

Most SMR concepts envision widespread deployment of a large number of small nuclear plants sited in diverse environments and frequently in close proximity to users. These considerations place very stringent requirements on reliability and safety performance—arguably even more exacting relative to traditional large-scale nuclear plants. The need for enhanced levels of safety has led to design options that maximize the use of inherent and passive safety features and incorporate additional layers of defense in depth (IAEA, 2009).18 These safety features can be more easily and effectively implemented in SMRs because of their larger surface- to-volume ratio, reduced core power density, lower source term, and less frequent (multi-year) refueling. For example, large surface-to-volume ratios facilitate the passive (with no external source of electrical power or stored energy) removal of decay heat.¶ SMRs employ an enveloping design approach that seeks to eliminate or prevent as many accident initiators and accident consequences as possible. Any remaining plausible accident initiators and consequences are dealt with appropriate combinations of active and passive safety systems. In water-cooled SMRs, the integration of steam generators and pressurizers within the reactor vessel eliminates large-diameter pipes and penetrations in the reactor vessel, thereby reducing substantially the risk of LOCAs. Moreover, in some designs the application of in- vessel control rod drives eliminates the risk of inadvertent control rod ejections that lead to reactivity insertion accidents. Loss of coolant accidents may also be prevented with compact loop designs that employ short piping and fewer connections between components (Kuznetsov, 2009).¶ In HTGRs, the fuel particles consist of fissionable fuel kernels with tri-structural isotropic (TRISO) coating.19 The TRISO coating system constitutes a miniature pressure vessel that is capable of containing the readionuclides and gases generated by fission of the nuclear material in the kernel. One of the coating layers consists of silicon carbide (a strong refractory material) which can retain radionuclides at extremely high temperatures under all accident conditions—temperatures can remain at 1600°C for several hundred hours without loss of particle coating integrity. Furthermore, the graphite holding the TRISO-coated particles together can withstand even higher temperatures without structural damage.20 And the massive graphite structures in the core create an extremely large heat capacity. The combination of large thermal margins, low power density of the core, and relatively large length-to-diameter ratio of the core, allow for very slow and stable response to transients caused by initiating events and for passive heat removal (INL, 2011).¶ The effectiveness of passive safety features can be illustrated by comparing outcomes from probabilistic risk analysis (PRA). In 1991, a Level-2 PRA was developed for the EBR-II fast neutron spectrum experimental breeder reactor—a 21 MWe plant—to compare its operational risk to that of commercial LWR‘s for which PRA‘s were available. EBR-II employs an extensive array of passive and inherent safety measures to back up traditional active safety systems. This PRA exercise showed that for EBR-II the risk of simply violating a fuel pin technical specification (with no core damage) is less than the risk of significant core disruption for the LWRs of the time. The point of the PRA comparisons is that application of passive and inherent safety measures as incorporated in SMRs can help to overcome the increase in numbers of SMRs needed to deliver the same societal energy provided by a smaller number of large-sized LWRs. Similarly, preliminary Level-1 PRA results for the NuScale Power Reactor indicate a total single-module mean CDF of 2.8x10-8/reactor-year, well below that of existing nuclear plants. And for the VK-300, the probability of severe core damage has been estimated to be less than 2.0x10-8/reactor-year (Hill et al, 1998; Kuznetsov and Gabaraev, 2007; Modarres, 2010).¶ SMRs have a smaller fuel inventory and thus a reduced source term. So on top of reduced hazard of core damage, the hazard attendant to release of radioactivity is also reduced per deployed SMR. The combination of reduced probability of core damage failure, a reduced source term, and additional fission product release barriers, could offer major advantages for emergency planning and response.

# 2AC

### 2AC DOD T – FI

#### W/M-

**C/I- Financial incentives use public funds to motivate production**

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

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

#### Precision- DOE definition

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

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

#### Best ground- PPA incentivizes electricity not R&D or construction- Neg can say energy production bad

#### Best caselist- Big affs cause flypaper effect- Sustainable mechs key to deter new affs every outround- They limit out the biggest aff on the topic

#### Their interp is arbitrary- No impact to the distinction between different ways of giving money for energy

#### Reasonability- Competing interps causes race to the bottom judge intervention

### CASE

**Solvency-**

**Congress solved waste**

**Conca 2012** (James Conca, Energy Contributo, April 28, 2012, “Congress Goes Nuclear,” http://www.forbes.com/sites/jamesconca/2012/04/28/congress-goes-nuclear)

So much for the notion that Congress can’t do anything right. The thoughtful and smart actions of Senators Murkowski and Landrieu, working with Senators Feinstein, Alexander and Bingaman, produced a bill out of the Senate Energy and Water Appropriations Subcommittee last Tuesday, approved Thursday by the full Committee, that took the first step to solving our nation’s nuclear waste problem. I’ve been waiting my entire career for this to happen. In fact, this first step is so significant that I’m having trouble catching my breath! If you remember, the Yucca Mountain Project, the nation’s first selected nuclear disposal site, was recently scrapped for being not workable and the President’s Blue Ribbon Commission on America’s Nuclear Future was appointed to find another path forward. After reviewing the last 60 years of frustrated science and policy, in February the BRC released a number of very good recommendations addressing nuclear in general, but three specific ones were critical to actually dealing with high-level nuclear waste and managing spent nuclear fuel for the next hundred years. They were: 1) executing interim storage for spent nuclear fuel, 2) resuming the site selection process for a second repository (Yucca being the first, the massive salts being the best), and 3) forming a quasi-government entity, or FedCorp, to execute the program and take control of the Nuclear Waste Fund in order to do so. The first recommendation separates fuel from real waste, allowing storage of still-usable spent nuclear fuel from reactor sites either to be used in future reactors or eventually disposed, without needing to retrieve it from deep in the earth as is presently the Law. The second recommendation allows us to choose the best geology for the permanent disposal of actual high-level waste that has no value since it is the waste from reprocessing old fuel. This real waste needs to be disposed of promptly, not just looked at for another few decades. It has cost billions to manage this waste in places that were always meant to be temporary. The third recommendation controls cost and administration, because, duh, we’re broke. Dry cask storage behind a security fence. The safest, easiest method for putting spent fuel aside until used, burned as new fuel or eventually disposed of in a deep geologic repository. Tuesday’s bill starts the ball rolling by implementing the first recommendation, authorizing “the Secretary of Energy to site, construct, and operate consolidated storage facilities to provide storage as needed for spent nuclear fuel and high-level radioactive waste.” – IN THE SENATE OF THE UNITED STATES—112th Cong., 2d Sess. The short version is this bill is consent-based, meaning the Feds can’t just pick a site and force it down a State’s throat, but have to wait for someone to bid for it and requires approval of the Governor, any affected Tribes, and the local representatives of that State. Plus, it authorizes the Nuclear Waste Fund to be used for what it always was intended. And DOE has only 120 days from passage to begin accepting proposals so it won’t languish for years. This bill **breaks the nuclear waste logjam**. It’s simple, it’s the right thing to do, it will save lots of money, it’s the best thing for the environment, and it’s a win-win, so how did the Senate do this? And so fast! Now it’s up to the House to maintain the do-nothing image of Congress, kill this bill, and let us get back to wasting billions of dollars looking at the problem for 30 more years.

**Licensing- Only DOD solves it**

CSPO 2010 (Consortium for Science, Policy and Outcomes at Arizona State, June 2010, “Four Policy Principles for Energy Innovation and Climate Change: A Synthesis,” http://www.catf.us/resources/publications/files/Synthesis.pdf)

Government purchase of new technologies is a powerful way to accelerate innovation through increased demand (Principle 3a). We explore how this principle can be applied by considering how the DoD could purchase new nuclear reactor designs to meet electric power needs for DoD bases and operations. Small modular nuclear power reactors (SMRs), which generate less than 300 MW of power (as compared to more typical reactors built in the 1000 MW range) are often listed as a potentially transformative energy technology. While typical traditional large-scale nuclear power plants can cost five to eight billion dollars, smaller nuclear reactors could be developed at smaller scale, thus not presenting a “bet the company” financial risk. SMRs could potentially be mass manufactured as standardized modules and then delivered to sites, which could significantly reduce costs per unit of installed capacity as compared to today’s large scale conventional reactor designs. It is likely that some advanced reactors designs – including molten salt reactors and reactors utilizing thorium fuels – could be developed as SMRs. Each of these designs offers some combination of inherently safe operation, very little nuclear proliferation risk, relatively small nuclear waste management needs, very abundant domestic fuel resources, and high power densities – all of which are desirable attributes for significant expansion of nuclear energy. Currently, several corporations have been developing small nuclear reactors. Table 2 lists several of these companies and their reactor power capacities, as well as an indication of the other types of reactor innovations that are being incorporated into the designs. Some of these technologies depend on the well-established light water reactor, while others use higher energy neutrons, coolants capable of higher temperature operation, and other innovative approaches. Some of these companies, such as NuScale, intend to be able to connect as many as 24 different nuclear modules together to form one larger nuclear power plant. In addition to the different power ranges described in Table 2, these reactors vary greatly in size, some being only 3 to 6 feet on each side, while the NuScale reactor is 60 feet long and 14 feet in diameter. Further, many of these reactors produce significant amounts of high-temperature heat, which can be harnessed for process heating, gas turbine generators, and other operations. One major obstacle is to rapid commercialization and development are prolonged multi-year licensing times with the Nuclear Regulatory Commission. Currently, the NRC will not consider a reactor for licensing unless there is a power utility already prepared to purchase the device. Recent Senate legislation introduced by Senator Jeff Bingaman (D-NM) has pushed for DOE support in bringing down reactor costs and in helping to license and certify two reactor designs with the NRC. Some additional opportunities to facilitate the NRC licensing process for innovative small modular reactors would be to fund NRC to conduct participatory research to get ahead of potential license applications (this might require ~$100million/year) and potentially revise the current requirement that licensing fees cover nearly all NRC licensing review costs. One option for accelerating SMR development and commercialization, would be for DOD to establish SMR procurement specifications (to include cost) and agree to purchase a sufficient amount of SMR’s to underwrite private sector SMR development. Of note here may be that DARPA recently (3/30/10) issued a “Request for Information (RFI) on Deployable Reactor Technologies for Generating Power and Logistic Fuels”2 that specifies may features that would be highly desirable in an advanced commercial SMR. While other specifications including coproduction of mobility fuel are different than those of a commercial SMR power reactor, it is likely that a core reactor design meeting the DARPA inquiry specifications would be adaptable to commercial applications. While nuclear reactors purchased and used by DOD are potentially exempt from many NRC licensing requirements3, any reactor design resulting from a DOD procurement contract would need to proceed through NRC licensing before it could be commercially offered. Successful use of procured SMR’s for DOD purposes could provide the knowledge and operational experience needed to aid NRC licensing and it might be possible for the SMR contractor to begin licensing at some point in the SMR development process4. Potential purchase of small modular nuclear reactors would be a powerful but proven way in which government procurement of new energy technologies could encourage innovation. Public procurement of other renewable energy technologies could be similarly important.

#### Prolif-

**Plan key to prolif regime**

**Domenici and Miller 2012** (Senator Pete Domenici, Bipartisan Policy Center Senior Fellow, and Dr. Warren F. “Pete” Miller, Co-chair, Bipartisan Policy Center Nuclear Initiative¶ And Former Assistant Secretary for Nuclear Energy, July 2012, “Maintaining U.S.¶ Leadership in Global Nuclear Energy Markets,” http://bipartisanpolicy.org/sites/default/files/Leadership%20in%20Nuclear%20Energy%20Markets.pdf)

Strategic Goal: Continued strong U.S. leadership in global nuclear security matters is central to protecting our national security interests. In particular, U.S. leadership in nuclear technology and operations can strengthen U.S. influence with respect to other countries’ nuclear programs and the evolution of the international nonproliferation regime, while also supporting U.S. competitiveness in a major export market.¶ Nuclear power technologies are distinct from other potential exports in energy or in other sectors where America’s competitive advantage may also be declining. Because of the potential link between commercial technology and weapons development, nuclear power is directly linked to national security concerns, including the threat of proliferation. Although reactors themselves do not pose significant proliferation risks, both uranium-enrichment and spent fuel–processing technologies can be misused for military purposes. If U.S. nuclear energy leadership continues to diminish, our nation will be facing a situation in which decisions about the technological capabilities and location of fuel-cycle facilities throughout the world will be made without significant U.S. participation. Leadership is important in both commercial and diplomatic arenas, and it requires a vibrant domestic industry; an effective, independent regulator; access to competitive and innovative technologies and services; and the ability to offer practical solutions to safety, security, and nonproliferation challenges (an international fuel bank, for example, could help address concerns about the proliferation of uranium-enrichment capabilities).¶ COMMERCIAL NUCLEAR OPERATIONS¶ As the world’s largest commercial nuclear operator and dominant weapons state, the United States has traditionally been the clear leader on international nuclear issues. Today, the United States still accounts for approximately one-quarter of commercial nuclear reactors in operation around the world and one-third of global nuclear generation.33 This position is likely to shift in coming decades, as new nuclear investments go forward in other parts of the world while slowing or halting in the United States. In past decades, the United States was also a significant exporter of nuclear materials and technologies, but this dominance too has slowly declined.¶ At present, however, the U.S. safety and security infrastructure and regulatory framework remain without peer and U.S. expertise and guidance on operational and regulatory issues continues to be sought around the world. The domestic nuclear industry established the INPO in the wake of the Three Mile Island accident in 1979 in a collective effort to hold all industry players accountable to the highest standards for safe and reliable commercial operations. Similarly, the NRC is seen as the gold standard for commercial nuclear regulation. As long as other countries seek to learn from the experience and expertise of U.S. firms and regulators, the United States will enjoy greater access to international nuclear programs. A substantial reduction in domestic nuclear energy activities could erode U.S. international standing.¶ COMPETITIVE COMMERCIAL NUCLEAR EXPORTS¶ As an active participant in commercial markets, the United States has considerable leverage internationally through the 123 Agreements (in reference to Section 123 of the Atomic Energy Act) and Consent Rights on nuclear technologies exported by the U.S. nuclear industry. These mechanisms provide a direct and effective source of leverage over other countries’ fuel-cycle decisions. U.S. diplomatic influence is also important, but absent an active role in commercial markets, it may not be sufficient to project U.S. influence and interests with respect to nuclear nonproliferation around the world. At an October 2011 Nuclear Initiative workshop on “Effective Approaches for U.S. Participation in a More Secure Global Nuclear Market,” Deputy Secretary of Energy Daniel B. Poneman framed commerce and security not as competing objectives but as “inextricably intertwined.”34 He also highlighted several ways in which a robust domestic nuclear energy industry can further our country’s nonproliferation goals. Deputy Secretary Poneman emphasized the importance of U.S. leadership not only in the commercial marketplace but in international nonproliferation organizations like the International Atomic Energy Agency (IAEA) as well. In addition, BPC’s Nuclear Initiative recognizes that a nuclear accident is a low-probability event that would have high consequences regionally or globally. Many countries that have expressed interest in, or the intention to, develop domestic nuclear power lack important infrastructure, education, and regulatory institutions. We believe that, if these programs move forward, the United States has a critical commercial and advisory role to play.¶ However, domestic exporters of U.S. nuclear technology, fuels, and services face a truly global and highly competitive market. Commercial nuclear technology is now available from a variety of suppliers, and there are many more companies, several of which have the direct backing of their country’s government, competing with U.S. firms. Industry and other stakeholders believe that U.S. nuclear technology companies are at a competitive disadvantage in international markets due to complex and overlapping federal regulations. Several presenters at the BPC Nuclear Initiative event noted that multiple federal agencies, including the Department of Commerce, DOE, and the Department of State have jurisdiction over commercial nuclear trade, global safety and security, and nonproliferation.¶ In an attempt to ameliorate current competitive disadvantages, the Obama administration recently created a new position within the National Security Council to coordinate civilian nuclear policy. We support the creation of this new position to improve coordination of executive branch policy for nuclear energy policy and international affairs. We believe continued efforts to improve coordination between government and industry stakeholders and to more efficiently apply federal export regulations will allow U.S. companies to compete more effectively in the global nuclear marketplace.

#### China-

**It would seem rational**

**Glaser 2011** (Charles Glaser, Professor of Political Science and International Affairs at George Washington University, March/April 2011, “Will China’s Rise Lead to War?” Foreign Affairs)

A crisis over Taiwan could fairly easily escalate to nuclear war, because each step along the way might well **seem rational** to the actors involved. Current U.S. policy is designed to reduce the probability that Taiwan will declare independence and to make clear that the United States will not come to Taiwan's aid if it does. Nevertheless, the United States would find itself under pressure to protect Taiwan against any sort of attack, no matter how it originated. Given the different interests and perceptions of the various parties and the limited control Washington has over Taipei's behavior, a crisis could unfold in which the United States found itself following events rather than leading them.¶ Such dangers have been around for decades, but ongoing improvements in China's military capabilities may make Beijing more willing to escalate a Taiwan crisis. In addition to its improved conventional capabilities, China is modernizing its nuclear forces to increase their ability to survive and retaliate following a large-scale U.S. attack. Standard deterrence theory holds that Washington's current ability to destroy most or all of China's nuclear force enhances its bargaining position. China's nuclear modernization might remove that check on Chinese action, leading Beijing to behave **more boldly** in future crises than it has in past ones. A U.S. attempt to preserve its ability to defend Taiwan, meanwhile, could fuel a conventional and nuclear arms race. Enhancements to U.S. offensive targeting capabilities and strategic ballistic missile defenses might be interpreted by China as a signal of malign U.S. motives, leading to further Chinese military efforts and a general poisoning of U.S.-Chinese relations.

**2AC Elections Top Level**

**Iran prolif makes strikes inevitable- Obama, Romney, Israel**

**Miller 2012** (Andrew Davis, Senior Fellow at the Woodrow Wilson Institute, “Barack O’Romney,” <http://www.foreignpolicy.com/articles/2012/05/23/barack_oromney?page=0,2>)

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

**Plan solves Iran and North Korea**

**Goodby and Heiskanen 2012** (James Goodby and Markku Heiskanen, March 2012, “The Seoul Nuclear Security Summit: New Thinking in Northeast Asia?,” Nautilus Institute for Security and Sustainability, http://nautilus.org/napsnet/napsnet-policy-forum/the-seoul-nuclear-security-summit-new-thinking-in-northeast-asia/)

The nuclear crises in the Middle East and Northeast Asia and the stalled promise of a nuclear renaissance in civil nuclear power could all be solved by a more rational approach to the generation of electric power. Although it will take years before the current, outdated system is replaced, the Seoul meeting could provide a political impetus. The new system would rest on three legs: small modular reactors (“mini-reactors”), internationally managed nuclear fuel services, and increasing reliance on the distributed (local) generation of electricity. After the disaster in Fukushima, there has been an understandable retreat from plans for large-scale reactors, with their inevitable safety issues. A vivid example of this reaction is found in Germany, which has cancelled its plans to increase the generation of electricity from nuclear reactors even though they are cleaner and more dependable than most other sources currently available. Vulnerabilities and inefficiencies of long-distance transmission lines point to a paradigm for generation and distribution of electric power that is more local – connected to national grids, to be sure, but able to operate independently of them. This is an ideal situation for mini-reactors, which are safer and less prone to encourage the spread of nuclear weapons. Internationally managed nuclear fuel services already exist and the security of supply can be assured by policies that foster more fuel service centers in Asia and elsewhere, including in the United States. These factors would enable suppliers of mini-reactors to expand their business to nations like North Korea and Iran under IAEA safeguards.¶ The relevance of this energy paradigm to resolving the issues in North Korea and Iran is evident: both nations could develop civil nuclear programs with assured supplies of nuclear fuel from multiple internationally managed fuel service centers in Russia, China, and Western Europe while avoiding the ambiguity of nationally operated plutonium reprocessing and uranium enrichment. Reliance on distributed generation of electricity would be more efficient and less prone to blackouts. And the presence of a level playing field should be apparent from the fact that similar arrangements would be the 21st-century way of generating electricity from nuclear energy in the developed economies as well as in energy-starved economies such as India and China.

#### Romney can’t follow through

Lee 8/30 (Peter Lee, “Staying in Character: Romney’s China-Bashing,” Counterpunch, http://www.counterpunch.org/2012/08/30/romneys-china-bashing/]

A centerpiece of candidate Romney’s surprisingly insubstantial foreign policy portfolio is China bashing, in the form of the crowd-pleasing assertion that, on Day One of his presidency, he will designate China a “currency manipulator” and instruct the Department of Commerce to impose countervailing duties if Beijing doesn’t behave. [3] This is meant to make a marked contrast with the Obama Treasury Department, which declined to make the currency manipulator designation this year.¶ As Scott Lincicome, an experienced international trade litigator (and, it might be noted, a libertarian fan of Romney running-mate Paul Ryan’s economic policies) wrote on his blog, the Romney China plank is pure, election-year BS:¶ Treasury’s assessment must be done in consultation with the IMF [International Monetary Fund] and pursuant to pretty strict guidelines. In short, the president can’t just tell the Treasury to designate a country a “currency manipulator,” and he/she certainly can’t do it publicly via Executive Order (as Romney’s plan promises). To do so would not only violate the letter of the law, but also destroy the Treasury report’s credibility.¶ Second, the president can’t just instruct the Commerce Department to begin imposing countervailing duties on Chinese goods. Pursuant to US trade law and regulations, the imposition of countervailing duties on imports requires (i) a petition from an affected industry or self-initiation by Commerce …; (ii) preliminary and final findings, based on extensive evidence (including rebuttal from Chinese producers, US importers and the Chinese government) … ; and (iii) preliminary and final findings by the non-partisan International Trade Commission that said imports are injuring the US industry. Each of these steps is required by US law and WTO [World Trade Organization] rules. So Romney’s plan to, on the very first day of his presidency, just start imposing CVDs [countervailing duties] on Chinese imports would be in direct conflict with both US law and the United States’ WTO obligations. [4]¶ A further difficulty for Romney is that the merits of the case against the PRC as a currency manipulator are becoming rather thin, and serve as a rather poor justification (on grounds of cost-benefit as well as principle) for a session of scorched-earth countervailing duty trade warfare.¶ China has been quietly appreciating the yuan for several years. Government action, combined with domestic inflation, has led to a 40% appreciation in the yuan since 2005 according to Treasury’s calculation, thereby significantly eroded the export advantages the PRC enjoyed from its undervalued currency. [5]

#### Russia will never cooperate

Cohen 2010 (Ariel Cohen, Ph.D., Senior Research Fellow in Russian and Eurasian Studies and International Energy Policy, and Helle C. Dale is Senior Fellow for Public Diplomacy in the Douglas and Sarah Allison Center for Foreign Policy Studies, a division of the Kathryn and Shelby Cullom Davis Institute for International Studies, at The Heritage Foundation, February 24, 2010, “Russian Anti-Americanism: A Priority Target for U.S. Public Diplomacy,” http://www.heritage.org/Research/Reports/2010/02/Russian-Anti-Americanism-A-Priority-Target-for-US-Public-Diplomacy)

Russian anti-Americanism remains an entrenched and politically expedient phenomenon among the country's governing elites. This may seem puzzling, given the rapprochement between Russia's political leadership and the Obama Administration. Yet the idea of "resetting" the relationship between the two, as conceived by President Obama and Secretary of State Hillary Clinton, rests on the profound fallacy that the current Russian leadership and the United States share common values. From the Kremlin's perspective, anti-Americanism is a strategic tool for pursuing domestic and foreign policy goals. It has remained this way for almost the past 100 years. After World War II, Joseph Stalin denounced American "imperialism" as the enemy at the gate. In 1956, Nikita Khrushchev infamously threatened the United States: "We will bury you!" Since then, Soviet and Russian anti-Americanism has become a part of the Russian national psyche. Anti-Americanism is not confined to Russia alone. Russia is deliberately spreading this poisonous propaganda to neighboring countries through the Russian mass media, briefings, and conferences. This anti-Americanism also provides the glue that keeps together Russia's de facto anti-American coalition with countries such as Iran and Venezuela. Some dismiss the constant flood of anti-Western and anti-American words and images as rhetoric for internal consumption. Yet just as their czarist and Soviet predecessors, contemporary Russian leaders view external propaganda as a full-fledged instrument in their foreign policy and national security toolbox. This has far-reaching implications for U.S.-Russian relations and the U.S. global image and cannot be dismissed lightly.

#### No risk of great power conflict in Central Asia: incentives to de-escalate and stable balance of power

Zhao Huasheng, director of the Center for Russia and Central Asia Studies at Fudan University, February 2005, CEF Quarterly, http://www.silkroadstudies.org/new/docs/CEF/CEF\_Quarterly\_Winter\_2005.doc.pdf, p. 31

China, Russia, and the United States will not go to open confrontation for several reasons. Generally speaking, the relations of the three powers in Central Asia depend on their general relations. In other words, if their general relations sour, their relations in Central Asia will go tense or intensify. Otherwise, if their general relations are good, their relations in Central Asia will not be hostile and openly confrontational. Conversely, in spite of the tripartite configuration among the three powers, especially the confrontation between Russia and the United States, like two tigers gazing at each other in their military bases in Tajikistan and Kyrgyzstan, none of the three powers wants to undermine bilateral relations on the parochial issue of Central Asia. The coexistence of the three powers in Central Asia restrains their open confrontation as well. None of the three powers intends to ally with one against the other. Or, none is pleased to see a united front formed by two against one. At the same time, none wants to see Central Asia to be monopolized by one power. Therefore, the game played by three powers is good for the balance of power and not for open confrontation in any forms.

#### We get new 1AR defense- Laundry list cards don’t count

**Romney wins-**

#### Romney will win- Obama not good enough

O'Reilly 9-26 [Bill O'Reilly works as a corporate and political communications consultant, its not THAT Bill O’Reilly either, 9-26-2012 http://www.newsday.com/opinion/columnists/bill-o-reilly/o-reilly-mitt-romney-will-win-the-election-here-s-why-1.4042723]

I don't know about you, but my head is spinning with all the theories out there about who will win this presidential election and why.¶ I'm as guilty of promulgating them as anyone. Ask any political consultant for a prediction on a race -- on anything really -- and we'll take you on a trip around the world. We're worse than the commentators before an NFL game:¶ "I'll tell you, Steve, no lefthanded president who has lost the Methodist vote in Wisconsin has ever been re-elected in a year that ends with the number two..."¶ This is my firm and final theory then -- it is also my first incidentally -- on why I think Mitt Romney will be the next president of the United States:¶ Romney will win because Barack Obama has not done a good enough job.¶ That's it.¶ Call it the Obama-Occam's Razor Theory if you want to dress it up -- the simplest explanation is usually the right one -- or the Homer Simpson "D'oh!" Theory, which I much prefer. But either way, the result on Nov. 6 should be predictable. Most Americans think the country is in trouble and headed more deeply into it rather than out of it, so come Election Day they will replace the current White House occupant with the well-qualified challenger.

**Energy not key**

**Presson 2012** (Jacob Pressen, August 6, 2012, “Energizing the 2012 Campaign: Why aren’t we talking about energy politics?,” Spopitics, http://www.spopitics.com/energizing-the-2012-campaign-why-arent-we-talking-about-energy-politics/)

**Any campaign that takes place during an economic downturn**, whether it’s at the beginning (like 2008) or closer to the end (as Democrats hope 2012 will be) of the downturn, **economic issues will always dominate.** And there is good reason for this: **the electorate** naturally **turns inward when personal wealth and livelihoods are at stake.¶** This is why Romney’s recent foray abroad, despite demonstrating an alarming lack of diplomatic tact and message control, really won’t faze voters in the US. **This is** also **why energy** politics **won’t come up that much** for the time being. If **it’s too much of a walk from jobs to energy**, **the candidates** and their campaigns **just won’t do it.¶** **The closest the campaigns have come was** the controversy over the **Keystone** Pipeline approval, where Republicans tried to force the Obama administration into giving a direct answer and the administration still found a way to answer indirectly. **Romney criticized the President briefly** for costing the nation jobs and being responsible for high energy prices, **but then moved on. It just wasn’t a key issue.**

**Renewables outweigh**

**Gardner 2012** (Amy Gardner and Rosalind S. Helderman, August 14, 2012, “Obama, Romney campaigns shift to debate over energy,” Washington Post, http://www.washingtonpost.com/politics/wind-energy-will-be-obama-focus-today-in-iowa/2012/08/14/11026ea4-e615-11e1-936a-b801f1abab19\_story.html)

**Romney has been critical of** the **Obama** administration**’s** **policies toward alternative energy sources, particularly** a half-billion-dollar loan to solar-panel maker **Solyndra**, which subsequently collapsed. Romney and other Republicans have accused the administration of favoring Solyndra because its largest investors were funds linked to Oklahoma billionaire George Kaiser, an Obama donor.¶ **The** so-called **Production Tax Credit**, which is set to expire at the end of this year, **provides** tax credits **to producers of wind** power according to how many megawatts they produce. According to the Obama administration, the tax credit works in concert with the Advanced Energy Manufacturing Tax Credit to provide a 30 percent investment credit to manufacturers who invest in equipment for clean energy projects in the United States.¶ **Obama took credit Tuesday for an explosion in wind energy production.** Although it is still a small fraction of the energy industry, wind represents nearly one-third of all new energy capacity added in last year.¶ The president also made an unscheduled stop in Haverhill, Iowa, to tour the Heil Family Farm, part of a cooperative of six other landowners that operate 52 wind turbines on 20,000 acres of land. The cooperative produces 120 megawatts of wind energy, which by the Heil family’s estimate powers about 30,000 Iowa homes. The windmills were visible for miles around as the president’s motorcade pulled up for the visit.¶ **Meanwhile, Romney traveled into the heart of coal country in Beallsville, Ohio to sharply accuse the president of trying to destroy the coal industry in favor of wind and solar energy.**

**DOD means no link**

**Davenport 2012** (Coral Davenport, February 10, 2012, “White House Budget to Expand Clean-Energy Programs Through Pentagon,” National Journal, http://www.nationaljournal.com/2013-budget/white-house-budget-to-expand-clean-energy-programs-through-pentagon-20120210)

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

**New reactors before election**

**Peters 2012** (Mark T. Peters, deputy laboratory director for programs at Argonne National Laboratory, June 25, 2012, "The Future of Nuclear Energy," online)

NUCLEAR ENERGY SINCE THE LATE 1970s**¶** Although the power of the “peaceful atom” was initially welcomed as a generation source that would provide electricity “too cheap to meter,” the economics of the industry were upended after the oil crisis of 1973-74. With the national economy stagnant and interest rates as high as 20 percent, the cost of building new nuclear capacity spiked from an average of $161/kW in 1968-1971 to $1,373/kW in 1979-84.[1] During the same period, U.S. environmentalists and other opponents of nuclear energy were galvanized by the highly publicized partial core meltdown at the Three Mile Island plant in Pennsylvania, which caused the release of small amounts of radioactive gases. The combination of extraordinary costs and public opposition brought U.S. nuclear power plant construction to a halt. After 1978, no new units were ordered for more than 30 years,[2] although power uprates and license extensions for many existing plants have been granted since then. (Work began recently on preparation for new reactors at the Vogtle nuclear plant site in Georgia; the Nuclear Regulatory Commission (NRC) is expected to issue the combined construction and operating license for the new reactors **by the end of this year**.)

**SMRs good for Obama**

**Johnson 2012** (John Johnson, April 25, 2012, “US Campaign Trail: is nuclear in the equation?,” Nuclear Energy Insider, http://analysis.nuclearenergyinsider.com/new-build/us-campaign-trail-nuclear-equation)

As the U.S. Presidential election draws closer, **Americans are most concerned about job creation** and how the candidates plan to boost the U.S. economy.¶ ¶ Alternative **energy policies have received a fair amount of publicity** from the Obama administration, **although nuclear power specifically is rarely mentioned on the campaign trial**, primarily due to perceived safety questions.¶ ¶ **Just the same,** the **Obama** Administration **is considered a nuclear supporter**, having made several moves to help jumpstart America’s nuclear energy industry.¶ ¶ Obama plugged nuclear power during his first State Of The Union speech several years ago, and has generally been upbeat about the energy source’s future in the U.S. The Campaign Obama, a Democrat, will face Mitt Romney in the November election. Romney is expected to be named the official Republican nominee in August.¶ ¶ While Romney has not taken a stance on nuclear energy during his campaign, the **Obama** administration **has made significant investments in** the sector, including a $450m budget request in March intended to advance the development of American-made small modular reactors (**SMRs**). Congress still needs to approve the authorization for funding.¶ ¶ The SMRs are expected to be ready for commercial use within 10 years, and are intended for small electric grids and for locations that cannot support large reactors, offering utilities the flexibility to scale production as demand changes.¶ ¶ “The Obama Administration and the Energy Department are committed to an all-of-the-above energy strategy that develops every source of American energy, including nuclear power, and strengthens our competitive edge in the global clean energy race,” U.S. Energy Secretary Steven Chu said when the program was announced. ¶ ¶ “Through the funding for small modular nuclear reactors, the Energy Department and private industry are working to position America as the leader in advanced nuclear energy technology and manufacturing.” ¶ ¶ John Keeley, manager of media relations for the Nuclear Energy Institute, said that **the Obama administration has done what it can to support the deployment on new build-outs in the United States to build out nuclear, as well as supporting** research and development efforts, such as those in **the small reactor space.** ¶ ¶ Research support¶ ¶ In addition, the U.S. has invested $170 million in research grants at more than 70 universities, supporting research and development into a full spectrum of technologies, from advanced reactor concepts to enhanced safety design.¶ ¶ “The President was explicit in his State Of The Union speech about the virtues of nuclear as a technology and its role in clean air generation,” said Keeley. “And he has been supportive of developing more nuclear plants in this country. Those initiatives have to be identified as significant evidence of support for the nuclear sector.”¶ ¶ There are currently 104 nuclear power reactors operating in the U.S. in 31 states, operated by 30 different utilities. There are four new nuclear reactors being built in the U.S., including two in George at total expected cost of $14bn. ¶ ¶ In another sign of the U.S support for the industry, the federal government provided utility company Southern with an $8.3bn loan guarantee for the Vogtle Units 3 and 4, the first new nuclear plants to be built in the U.S. in the last 30 years. They are expected to be operational in 2016 and 2017.¶ ¶ The U.S. Energy Department has also supported the Vogtle project and the development of the next generation of nuclear reactors by providing more than $200m through a cost-share agreement to support the licensing reviews for the Westinghouse AP1000 reactor design certification. ¶ ¶ In addition to the Vogtle plants, SCANA, a subsidiary of South Carolina Electric & Gas Co. plans to add two reactors to its nuclear power plant near Jenkinsville, S.C., by 2016 and 2019.¶ ¶ “There is certainly political consensus in support of clean generation, and large scale cultural consensus as well,” said Keeley. ¶ ¶ Political benefits of nuclear support¶ **As gas prices in the U.S. continue to soar,** it’s possible that **the tide will turn more in favor of nuclear** and other clean energy sources, **especially as electric cars take a stronger foothold. In addition, the job creation benefits from nuclear could work their way into the** political landscape **as well.**

**Only a turn- No GOP counterspin**

**Kotkin 2012** (Joel Kotkin, March 1, 2012, “Is Energy the Last Good Issue for the Republicans?,” New Geography, http://www.newgeography.com/content/002698-is-energy-last-good-issue-republicans)

With gas prices beginning their summer spike to what could be record highs, President Obama in recent days has gone out of his way to sound reassuring on energy, seeming to approve an oil pipeline to Oklahoma this week after earlier approving leases for drilling in Alaska. Yet few in the energy industry trust the administration’s commitment to expanding the nation’s conventional energy supplies given his strong ties to the powerful green movement, which opposes the fossil-fuel industry in a split that’s increasingly dividing the country by region, class, and culture.¶ But Republicans, other than the increasingly irrelevant Newt Gingrich, have failed to capitalize on the potent issue, instead lending the president an unwitting assist by focusing the primary fight on vague economic plans and sex-related side issues like abortion, gay marriage, and contraception. The GOP may be winning over the College of Cardinals, but it is **squandering its chance** of gaining a majority in the Electoral College, holding the House, and taking the Senate.

**2AC Spending DA**

#### Incentives now

**Aff is NOT DOE**

**GAO 2012** (Government Accountability Office, April 2012, “RENEWABLE ENERGY PROJECT FINANCING:

Improved Guidance and Information Sharing Needed for DOD Project-Level Officials,” online)

Availability of funding. Some military service headquarters and installation officials said that, in recent years, they have preferred to use up-front appropriations to pay for renewable energy projects on installations since an increased amount of appropriated funding has been available for such projects through the American Recovery and Reinvestment Act of 2009, the Energy Conservation Investment Program, and centrally managed operation and maintenance funding from the military services. However, officials said that they expect they will need to seek alternative financing for renewable energy projects in the future due to likely reductions in the availability of up-front appropriated funding. Some officials noted that a drawback of each of the appropriated fund sources is that renewable energy projects must compete with other projects for funding and renewable energy projects are often a **lower priority** than other projects because of the relatively higher cost and lower savings generated from such projects. For example, officials at some installations said that they generally do not use installation-managed operation and maintenance funds for renewable energy projects because of competing demands for this funding for repairs and other maintenance of existing facilities on the installation. With regard to the Energy Conservation Investment Program, renewable energy projects must **compete against other renewable energy projects** as well as energy efficiency projects for limited funding and, according to officials, energy efficiency projects are often more cost-effective than renewable energy projects and receive higher priority for funding.

#### Fusion fails even with strong investment – lack of tritium self-sufficiency and extremely high neutron flux – focus on this reactor scrambles efforts to tackle energy problems -making the case a DA.

Francois Cellier, 11-10-2009, MS in electrical engineering, PhD degree in technical sciences from the Swiss Federal Institute of Technology (ETH) Zurich, worked at the University of Arizona as professor in electrical engineering, specialization in modeling and simulation methodologies, specialist in modeling and simulation of physical systems at the Institute of Computational Science, The Oil Drum: Europe, “The Future of Nuclear Energy: Facts and Fiction - Part IV: Energy from Breeder Reactors and from Fusion?,” <http://www.iseof.org/~europe/node/5929#Ref_31>

Those not familiar with the handling of high neutron fluxes or the possible chemical reactions of tritium and lithium atoms might suppose that these problems are well known within the fusion community and are being studied intensively. But the truth is, none of these problems have been studied intensively and, at best, even with the ITER project, the only problems that might be studied relate to some of the plasma stability issues outlined in Section 5.1. All of the other problem areas are essentially ignored in today's discussions among ITER experts. Confronted with the seemingly impossible tritium self-sufficiency problem that must be solved before a commercial fusion reactor is possible, the ITER experts tell you that this is not a problem that the current ITER project is to address. It won't be until the next generation of experiments -experiments that will not begin for roughly another 30 years according to official plans- that issues related to tritium self-sufficiency will have to be dealt with. They seem to also be comfortable with the fact that neither the problems related to material aging due to the high neutron flux nor the problems related to tritium and lithium handling can be tested with ITER. However, among those who are not part of ITER and who do not expect miracles, an ever increasing number of scientists is coming to the conclusion that commercial fusion reactors can never become a reality. They are even starting to receive attention from the media as they argue ever more loudly that the ITER project will contribute very little, if anything, to energy research [42]. One scientist who should be listened to more widely is Prof. Abdou. In a pre­sentation in 2003 that was prepared on behalf of the US fusion chamber technology community for the US Department of Energy (DOE) Office of Science on Fusion Chamber Technology, he wrote that "tritium supply and self-sufficiency are a 'Go-No Go' issue for fusion energy, [and are therefore] as critical NOW as demonstrating a burning plasma" [capitalization in original]. He pointed out that "there is NOT a single experiment yet in the fusion environment that shows that the DT fusion fuel cycle is viable." He said that "proceeding with ITER makes Chamber Research even more critical" and he asked: "What should we do to communicate this message to those who influence fusion policy outside DOE?" [43]. In short, to go ahead with ITER without addressing these chamber technology issues makes very little sense economically. In the light of everything that has been said in this section, it seems clear that the nuclear fusion scientists should be telling the truth to the tax payers, the policy makers, and the media. They should tell them that, after 50 years of very costly fusion research conducted at various locations around the world, enough knowledge exists to state that: today's achievements in all relevant areas of nuclear fusion are still many orders of magnitude away from the basic requirements of a fusion prototype reactor; no material or structure is known that can withstand the extremely high neutron flux expected under realistic deuterium-tritium fusion conditions; and self-sufficient tritium breeding appears to be impossible to achieve under the conditions required to operate a commercial fusion reactor. It is late, but perhaps not too late, to acknowledge that the ITER project is at this point nothing more than an expensive experiment to investigate some fundamental aspects of plasma physics. Since this would in effect acknowledge that the current ITER funding process is based on faulty assumptions and that ITER should in all fairness be funded on equal terms with all other basic research projects, acknowledging these truths will not be easy. Yet, it is the only honest thing to do. It is also the only path that will allow us to transfer from ITER to other more promising research efforts the enormous resources and the highly skilled talents that need now to be brought to bear on our increasingly urgent energy problems. In short, this is the only path that will allow us to stop "throwing good money after bad" and to start dealing with our emerging energy crisis in a realistic way.

**Current reactors make accidents inevitable- SMRs solve**

**Hurst 2011** (Tim Hurst, editor at Ecopolitology and Earth and Industry as well as the executive editor of the LiveOAK Media Network, “Are Small Nuclear Reactors Safer?,” http://www.celsias.com/article/are-small-nuclear-reactors-safer/)

In the wake of the deadly earthquake and tsunami that struck northeastern Japan on Friday which now threatens the possibility of partial or full reactor meltdowns at several Japanese nuclear power plants, many anti-nuclear campaigners are using the opportunity to posit that nuclear power is neither clean, green nor safe, even in the context of its potential to reduce greenhouse gas emissions contributing to global warming. And at the very least, that is a conversation worth having.¶ But what about the much-hyped small modular reactors (SMRs) that are being touted as one possible way to scale-up the low-carbon electricity generating-potential of nuclear power, and to do so at a much lower cost than traditional utility-scale nuclear power plants? Are the much smaller SMRs any safer than large nuclear power plants? And can they withstand the kind of thrashing that Japanese plants endured on Friday without melting down? From what I can gather, the answer to both of those questions is yes. ¶ In the United States, **N**uclear **R**egulatory **C**ommission regulations require that every plant be built to survive an earthquake larger than the strongest ever recorded in the area. And when the NRC does finally produce a regulatory regime governing SMRs, the same rule will likely be put in place. But what happens when a major earthquake and tsunami event not only prevents a nuclear power plant from operating properly but also prevents the emergency back-up systems from operating properly, or at all? In the case of SMRs, because of the size of the reactors and the passive cooling systems used, a loss of back-up power or access to fresh water would be irrelevant. ¶ "They are smaller, so the amount of radioactivity contained in each reactor is less," writes John Wheeler at This Week in Nuclear. "So much less," he writes, "that even if the worse case reactor accident occurs, the amount of radioactive material released would not pose a risk to the public."¶ Not only do smaller reactors contain less fuel, which slows down the progression of reactor accidents, most SMRs are small enough that they cannot over heat and melt down. ¶ "Where operators in large reactors have minutes or hours to react to events, operators of SMRs may have hours or even days. This means the chance of a reactor damaging accident is very, very remote," writes Wheeler. ¶ A 2010 report by the American Nuclear Society (pdf) seems to back that up. According to the report, many of the safety provisions required in large reactors are not necessary in the many new small reactor designs .¶ In particular, most SMRs are not water cooled, they use passive systems of gas, liquid salt, or liquid metal coolants that operate at low pressures, meaning that if radioactive gasses build up inside the containment building, like they did inside the reactors at the Fukushima nuclear power plant, there is less pressure to expel radioactive gasses into the environment. ¶ The fact that they don't need fresh water to cool the reactors mean there is no need for pumps to move the water, and perhaps more importantly, they do not require access to electrical power via the grid or via backup diesel generators to provide active cooling support. ¶ "They get all the cooling they need from air circulating around the reactor," writes Wheeler. "This is a big deal because if SMRs can’t melt down, then they can’t release radioactive gas that would pose a risk to the public." ¶ In addition to not requiring access to electricity to support an active cooling system, SMRs are small enough that they can be built underground. Doing so certainly wouldn't protect them from the damaging effects of earthquakes, per se, but it would prevent them from being lifted off their foundations by a powerful tsunami and floated away like matchboxes, as we saw was the case with so many large, heavy structures on the northeastern coast of Japan last Friday afternoon.¶ As someone who has personally and publicly wrestled with the nuclear power issue for a very long time, I would like to believe that we have the ability to generate safe, reliable, clean nuclear power. And while I still believe there is a place for new nuclear capacity in the U.S. and elsewhere, I'm not so sure that new capacity should come in the form of large, capital-intensive, utility-scale nuclear power plants -- plants that obviously are not impervious to environmental threats.

**2AC CP**

#### Perm do both

#### This is a “ban nukes” CP- Fossil fuel subsidies

Westenhaus 2011 (Brian Westenhaus, December 15, 2011, “Small Modular Nuclear Reactors to be Mass Produced in US?,” Oil Price, http://oilprice.com/Alternative-Energy/Nuclear-Power/Small-Modular-Nuclear-Reactors-To-Be-Mass-Produced-In-US.html)

New studies from the Energy Policy Institute at the University of Chicago (EPIC) conclude that small modular reactors may hold the key to the future of U.S. nuclear power generation. The reports assess the economic feasibility of classical, gigawatt-scale reactors and the possible new generation of modular reactors. The smaller modular reactors as considered would have generating capacities of 600 megawatts or less, would be factory-built as modular components, and then shipped to their desired location for assembly.¶ As a beginning point on other news this week, the reports followed up a 2004 University of Chicago study on the economic future of nuclear energy. The 2004 study concluded that the nuclear energy industry would need financial incentives from the federal government in order to build new plants that could compete with coal and gas fired plants.¶ The other news this week is the realization by many that the Obama appointment of Gregory Jaczko, to Chairman of the Nuclear Regulatory Commission should be removed. A petition drive is underway at Change.org, following an inspector general’s report released last June that said Jaczko intimidated staff members who disagreed with him and withheld information from members of the commission to gain their support. The report also said several high-ranking employees at the independent agency complained that Chairman Jaczko delayed and hindered their work on important projects.

**Lock out- Can’t solve the grid adv**

Andres and Breetz 2011 (Richard B. Andres, Professor of National Security Strategy at the National War College and a Senior fellow in 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. Breetz, doctoral candidate in the Department of Political Science at the Massachusetts institute of technology, February 2011, “Small Nuclear Reactors for Military Installations: Capabilities, Costs, and Technological Implications,” National Defense University Strategic Forum, http://www.ndu.edu/press/lib/pdf/strforum/sf-262.pdf)

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.

**Licensing- Only DOD solves it**

CSPO 2010 (Consortium for Science, Policy and Outcomes at Arizona State, June 2010, “Four Policy Principles for Energy Innovation and Climate Change: A Synthesis,” http://www.catf.us/resources/publications/files/Synthesis.pdf)

Government purchase of new technologies is a powerful way to accelerate innovation through increased demand (Principle 3a). We explore how this principle can be applied by considering how the DoD could purchase new nuclear reactor designs to meet electric power needs for DoD bases and operations. Small modular nuclear power reactors (SMRs), which generate less than 300 MW of power (as compared to more typical reactors built in the 1000 MW range) are often listed as a potentially transformative energy technology. While typical traditional large-scale nuclear power plants can cost five to eight billion dollars, smaller nuclear reactors could be developed at smaller scale, thus not presenting a “bet the company” financial risk. SMRs could potentially be mass manufactured as standardized modules and then delivered to sites, which could significantly reduce costs per unit of installed capacity as compared to today’s large scale conventional reactor designs. It is likely that some advanced reactors designs – including molten salt reactors and reactors utilizing thorium fuels – could be developed as SMRs. Each of these designs offers some combination of inherently safe operation, very little nuclear proliferation risk, relatively small nuclear waste management needs, very abundant domestic fuel resources, and high power densities – all of which are desirable attributes for significant expansion of nuclear energy. Currently, several corporations have been developing small nuclear reactors. Table 2 lists several of these companies and their reactor power capacities, as well as an indication of the other types of reactor innovations that are being incorporated into the designs. Some of these technologies depend on the well-established light water reactor, while others use higher energy neutrons, coolants capable of higher temperature operation, and other innovative approaches. Some of these companies, such as NuScale, intend to be able to connect as many as 24 different nuclear modules together to form one larger nuclear power plant. In addition to the different power ranges described in Table 2, these reactors vary greatly in size, some being only 3 to 6 feet on each side, while the NuScale reactor is 60 feet long and 14 feet in diameter. Further, many of these reactors produce significant amounts of high-temperature heat, which can be harnessed for process heating, gas turbine generators, and other operations. One major obstacle is to rapid commercialization and development are prolonged multi-year licensing times with the Nuclear Regulatory Commission. Currently, the NRC will not consider a reactor for licensing unless there is a power utility already prepared to purchase the device. Recent Senate legislation introduced by Senator Jeff Bingaman (D-NM) has pushed for DOE support in bringing down reactor costs and in helping to license and certify two reactor designs with the NRC. Some additional opportunities to facilitate the NRC licensing process for innovative small modular reactors would be to fund NRC to conduct participatory research to get ahead of potential license applications (this might require ~$100million/year) and potentially revise the current requirement that licensing fees cover nearly all NRC licensing review costs. One option for accelerating SMR development and commercialization, would be for DOD to establish SMR procurement specifications (to include cost) and agree to purchase a sufficient amount of SMR’s to underwrite private sector SMR development. Of note here may be that DARPA recently (3/30/10) issued a “Request for Information (RFI) on Deployable Reactor Technologies for Generating Power and Logistic Fuels”2 that specifies may features that would be highly desirable in an advanced commercial SMR. While other specifications including coproduction of mobility fuel are different than those of a commercial SMR power reactor, it is likely that a core reactor design meeting the DARPA inquiry specifications would be adaptable to commercial applications. While nuclear reactors purchased and used by DOD are potentially exempt from many NRC licensing requirements3, any reactor design resulting from a DOD procurement contract would need to proceed through NRC licensing before it could be commercially offered. Successful use of procured SMR’s for DOD purposes could provide the knowledge and operational experience needed to aid NRC licensing and it might be possible for the SMR contractor to begin licensing at some point in the SMR development process4. Potential purchase of small modular nuclear reactors would be a powerful but proven way in which government procurement of new energy technologies could encourage innovation. Public procurement of other renewable energy technologies could be similarly important.

#### Market pull- DOD key

Marqusee 2012 (Jeffrey Marqusee, Executive director at the Strategic Environmental Research and Development Program at the DOD, March 2012, “Military Installations and Energy Technology Innovations,” in Energy Innovation at the Department of Defense: Assessing the Opportunities, scribd)

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

**Learning effects- Market pull is necessary, demonstration fails**

Rosner and Goldberg 2011 (Robert Rosner, astrophysicist and founding director of the Energy Policy Institute at Chicago, and Stephen Goldberg, Special Assistant to the Director at the Argonne National Laboratory, Energy Policy Institute at Chicago, “Small Modular Reactors – Key to Future Nuclear Power Generation in the U.S.”, Technical Paper, Revision 1, November 2011)

Capital Cost Incentive: A capital cost incentive would reduce the effective overnight capital cost through either direct government cost sharing or through an investment tax credit.41 There are policy precedents for both. DOE provides direct cost sharing for demonstration projects involving FOAK coal generation technology under the Clean Coal Power Initiative (CCPI). Congress provided a capital cost incentive for renewable energy projects in the form of an Investment Tax Credit (ITC), which currently can be converted to an upfront cash grant.42 Capital cost incentives help “buy down” the initial capital cost of SMR deployments, thus reducing the capital recovery requirements that would otherwise be reflected in the LCOE. A direct buy-down of the capital cost protects project sponsors against construction risk for SMRs by shifting a portion of that risk to the government. It also shifts performance risk from the project sponsor to the federal government, i.e., the federal government pays the capital cost incentive regardless of whether the project performs as planned or not. In the case of SMRs, shifting a portion of performance risk from the SMR community to the government also may adversely impact the risk-reward structure guiding the learning process. For example, a capital cost incentive for SMRs would be fixed, regardless of whether the investment achieved the estimated learning performance. Consequently, capital cost incentives were not incorporated into the business case analysis for SMRs.

**Means there’s no commercialization- Can’t solve SMR markets**

Rosner and Goldberg 2011 (Robert Rosner, astrophysicist and founding director of the Energy Policy Institute at Chicago, and Stephen Goldberg, Special Assistant to the Director at the Argonne National Laboratory, Energy Policy Institute at Chicago, “Small Modular Reactors – Key to Future Nuclear Power Generation in the U.S.”, Technical Paper, Revision 1, November 2011)

The favorability of SMR economics is strongly dependent on the degree of cost savings achievable through off-site factory manufacturing of the reactors and the subsequent learning-by-doing achieved after production of multiple modules. This phenomenon has been well demonstrated in a variety of manufacturing enterprises, including shipbuilding, and initial analysis suggests that this type of learning experience is applicable to the manufacturing of SMR modules. In addition, the shipbuilding experience also shows that achievement of significant cost savings in the manufacturing process could require additional upfront investment in engineering to improve the ease of manufacturing of the design. The economics of the manufacturing learning process is addressed in more detail in Appendix C.2. Based on this experience, the study team believes that a more robust DD&E effort can improve the economics of SMR manufacturing through more cost- efficient design enhancements. The achievement of a high learning rate is a **key** precursor to a viable SMR industry. The study team is planning to perform additional research in this area.

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#### Congress will PRESSURE NRC into doing it

Bradford 2009 (Peter A. Bradford, former member of the U.S. Nuclear Regulatory Commission and former chair of the Maine and New York utility commissions, March 24, 2009, testimony before the Senate Committee on Environment and Public Works Subcommittee on Clean Air and Nuclear Safety, Hearing on “Three Mile Island: Thirty Years of Lessons Learned,” http://www.nuclearfiles.org/menu/key-issues/nuclear-energy/issues/bradford\_tmi\_testimony.pdf)

Finally, a word about the lessons of Three Mile Island for Congressional Oversight. If the message that the NRC gets from the Congressional oversight committees is that what’s wanted is strong commission focus on expedited licensing of new reactors and deemphasized enforcement, that message will have an effect over time. Senator Pete Domenici asserted in his 1998 book that he singled-handedly changed NRCs priorities in a 1998 meeting with the NRC chair in which he threatened to cut the agency’s budget by one-third if the NRC did not modify its “adversarial attitude” toward the industry.

#### NRC is prepared for SMR licensing

Solan 2010 (David Solan, Director, Energy Policy Institute, Associate Director, Center for Advanced Energy Studies, Assistant Professor of Public Policy and Administration at Boise State University, June 2010, “ECONOMIC AND EMPLOYMENT IMPACTS OF SMALL MODULAR NUCLEAR REACTORS,” Energy Policy Institute, http://www.nuclearcompetitiveness.org/images/EPI\_SMR\_ReportJune2010.pdf)

While the NRC is actively engaged in developing technology-neutral guidelines for new plant licensing, it has developed its current regulations based on 40 years of design and operation of LWR facilities (U.S. Nuclear Regulatory Commission, 2010). In addition, the NRC has been challenged to significantly upgrade its workforce and capacity to license LWR designs in the last five years (U.S. Government Accountability Office, 2007). Because of these factors, the SMRs which utilize light water designs should have a distinct advantage over non-LWR reactors in the NRC design and certification process, and the Department of Energy has publicly endorsed this view with the aim to financially assist SMR LWR designs through the licensing process (Chu, 2010). This should lead to faster certification and give LWR designs an early adoption advantage in the SMR market. An example of this LWR advantage is the backing of Babcock & Wilcox by three large utilities, Tennessee Valley Authority, First Energy Corp. and Oglethorpe Power Corp. These utilities recently signed a multi-firm agreement to solidify a mutual commitment to acquire necessary approval for the commercial use of B&W’s new reactor design within the U.S (Smith, 2010). Likewise, NuScale Power has met with Energy Northwest, a joint operating agency for public utilities, about interest in adopting its design, and Energy Northwest has initiated studying SMRs and held informational meetings with its local partners (Dininny, 2009; Haviland, 2009).

#### NRC is being proactive in licensing SMRs

EBR 2010 (Energy Business Review, September 3, 2010, “NRC takes steps to improve SMR license review framework,” http://nuclear.energy-business-review.com/news/nrc\_takes\_steps\_to\_improve\_smr\_license\_review\_framework\_100903)

The Nuclear Regulatory Commission (NRC) has taken steps to further enhance the licensing reviews of potential applications to license small modular reactors (SMRs). Earlier, the license review framework for SMRs was initiated and advanced by commissioner George Apostolakis and chairman Gregory Jaczko,¶ Commissioners Kristine Svinicki, William Magwood and William Ostendorff concurred in the proposal that directs the NRC staff to produce a plan within six months on how to more fully integrate the use of risk insights into pre-application activities and the potential review of small modular reactor applications.¶ "There is considerable interest in SMRs. The power level of these reactors would be significantly lower than that of existing reactors," said Apostolakis.¶ "Risk insights from PRAs could help focus resources on the most risk-significant aspects of a SMR design and enhance the safety focus of review guidance in the near term.”¶ The NRC is currently reviewing thirteen COLs for larger pressurized and boiling water reactors.

**It would seem rational**

**Glaser 2011** (Charles Glaser, Professor of Political Science and International Affairs at George Washington University, March/April 2011, “Will China’s Rise Lead to War?” Foreign Affairs)

A crisis over Taiwan could fairly easily escalate to nuclear war, because each step along the way might well **seem rational** to the actors involved. Current U.S. policy is designed to reduce the probability that Taiwan will declare independence and to make clear that the United States will not come to Taiwan's aid if it does. Nevertheless, the United States would find itself under pressure to protect Taiwan against any sort of attack, no matter how it originated. Given the different interests and perceptions of the various parties and the limited control Washington has over Taipei's behavior, a crisis could unfold in which the United States found itself following events rather than leading them.¶ Such dangers have been around for decades, but ongoing improvements in China's military capabilities may make Beijing more willing to escalate a Taiwan crisis. In addition to its improved conventional capabilities, China is modernizing its nuclear forces to increase their ability to survive and retaliate following a large-scale U.S. attack. Standard deterrence theory holds that Washington's current ability to destroy most or all of China's nuclear force enhances its bargaining position. China's nuclear modernization might remove that check on Chinese action, leading Beijing to behave **more boldly** in future crises than it has in past ones. A U.S. attempt to preserve its ability to defend Taiwan, meanwhile, could fuel a conventional and nuclear arms race. Enhancements to U.S. offensive targeting capabilities and strategic ballistic missile defenses might be interpreted by China as a signal of malign U.S. motives, leading to further Chinese military efforts and a general poisoning of U.S.-Chinese relations.

#### Israel will strike

Martin 9/27 (David Martin, September 27, 2012, “Netanyahu's red line: Attack on Iran close?,” CBS News, http://www.cbsnews.com/8301-18563\_162-57521866/netanyahus-red-line-attack-on-iran-close/)

At the United Nations Thursday, Israeli Prime Minister Netanyahu warned that Iran's work to build a nuclear bomb will be irreversible by next summer.¶ That's significant because he's never put a time frame on it before.¶ It looked like a cartoon but it was deadly serious. Netanyahu drew the red line that would trigger an attack on Iran's nuclear program as clearly as it has ever been drawn.¶ "A red line should be drawn right here," Netanyahu said, literally drawing a red line on a bomb diagram. "Before, before Iran completes the second stage of nuclear enrichment necessary to make a bomb."¶ That second stage is taking place at an underground facility near the holy city of Gum, where Iran is enriching uranium to a 20 percent level of purity -- one step away from the 90 percent needed to build a bomb.¶ According to the latest report by U.N. inspectors, Iran has about 200 pounds of 20-percent uranium -- roughly two thirds of what it would need to build one nuclear device. At the current rate of enrichment, Iran would have enough 20-percent uranium for one bomb in about 10 months -- or as Netanyahu told the U.N. -- by next spring or summer. After that, it would take just a few months more to enrich the uranium to the 90-percent bomb grade level.¶ Netanyahu said Iran's nuclear program must be stopped before then, "before Iran gets to a point where it's a few months away or a few weeks away from amassing enough enriched uranium to make a nuclear weapon."

#### Obama wins jobs spin

Riccardi 2012 (Nicholas Riccardi, August 7, 2012, “Mitt Romney's green-jobs criticism carries risks,” US News and World Report, http://www.usnews.com/news/politics/articles/2012/08/07/romneys-green-jobs-criticism-carries-risks)

Mitt Romney's presidential campaign has been savaging what it calls President Barack Obama's "unhealthy" obsession with "green jobs." The Republican challenger criticizes the government program that propped up solar manufacturer Solyndra, and he mocks Obama's vision of a boom in employment, citing a European study to argue that new solar or wind-energy positions would destroy jobs elsewhere.¶ But when a campaign spokesman said last week that Congress should let a tax break for wind energy producers expire at the end of the year, some Republicans were concerned the candidate had gone too far.¶ Republican Rep. Tom Latham, R-Iowa, noting that nearly 7,000 Iowans work in the wind industry, assailed the Romney campaign for "a lack of full understanding of how important the wind energy tax credit is for Iowa and our nation." Iowa's senior senator, Chuck Grassley, told reporters he didn't believe Romney really opposed the extension, and he joined five other GOP lawmakers in voting for it in the Senate Finance Committee.¶ The Obama campaign quickly organized conference calls for reporters and circulated fact sheets showing the deep support the credit has in such swing-voting states as Iowa, Colorado and Nevada.¶ Obama will appear in Denver and western Colorado Wednesday to promote his economic plan, and the wind tax credit may well come up.¶ The backlash on the wind tax issue shows the risks Romney takes in targeting a fast-growing and popular industry that Obama has embraced. However, Romney's aides argue the campaign is just making a principled economic argument against excessive government interference in the marketplace — one that the conservative movement, which Romney has struggled to win over, has praised.¶ Indeed, Patrick Hedger, a researcher at FreedomWorks, a small-government group that is a prominent backer of the tea party movement, called Romney's position "a happy surprise." He added that Republicans who feared a political cost from Romney's position were stuck in an outdated way of thinking. "We've got to get out of this cycle of buying votes with money we don't have," Hedger said.¶ But critics contend that Romney, who counts members of the fossil fuels industry as major financial supporters and relies on the head of an oil company as his energy adviser, has backed himself into a corner. "I think it's really a knee-jerk reaction to what this president has done," said Jeff Gohringer, a spokesman for the League of Conservation Voters. "He (Romney) is actually going to states and advocating cutting thousands of their jobs."

**Enviros already pissed**

**Fouhy 2012** (Beth Fouhy and Dina Cappiello, March 23, 2012, “Obama And Environmentalists Have A Complicated Relationship,” Huffington Post, http://www.huffingtonpost.com/2012/03/23/obama-and-environmentalis\_n\_1374768.html)

"The environmental movement has been **at odds** with Barack Obama for much of his three years in the White House," said Bill McKibben, founder of the environmental group 350.org. "The president is very much in the center – far too much in the center for many environmentalists."¶ As a candidate, Obama's pledge to limit the gases that contribute to global warming and embrace cleaner forms of energy pleased many environmental activists. But nearing the end of his first term, Obama's record on the environment is mixed – and many of his decisions have **irked** the very **activists** who Republicans suggest have broad sway over administration policies.¶ "Absolutely, he has been a **disappointment**," said Frank O'Donnell, president of the environmental group Clean Air Watch. "When Obama was elected, I think public health and environmental advocates thought a number of unresolved problems would be dealt in short order. And we learned that environmental protection did not prove to be a first-tier activity for the White House."

#### No vote switch

NEI 2012 (Nuclear Energy Institute, Summer 2012, “Obama, Romney Support Nuclear Energy, Offer Views on Financing, Regulation,” http://www.nei.org/resourcesandstats/publicationsandmedia/insight/insightsummer2012/obama-romney-support-nuclear-energy-offer-views-on-financing-regulation/)

Unlike some issues that polarize presidential candidates, the broad energy positions of President Barack Obama and challenger Mitt Romney are strikingly similar. It’s the finer brush strokes of policy that reveal differences. Republicans and Democrats alike support an “all-of-the-above” energy production approach and both Obama and Romney support the use of nuclear energy and the development of new reactors. ¶ Obama’s 2011 blueprint for a Secure Energy Future calls for 80 percent of electricity to be generated from low-carbon fuels by 2035. The administration’s clean energy standard includes nuclear energy, which does not emit greenhouse gases as it generates electricity. It also includes wind energy, solar power, natural gas and coal with carbon capture and sequestration.