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#### Contention one is the grid

#### Incentives now

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

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

#### And demos

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

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

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

#### The plan is key to DOD SMRs

Andres and Breetz 11

Richard Andres, Professor of National Security Strategy at the National War College and a Senior Fellow and Energy and Environmental Security and Policy Chair in the Center for Strategic Research, Institute for National Strategic Studies, at the National Defense University, and Hanna Breetz, doctoral candidate in the Department of Political Science at The Massachusetts Institute of Technology, Small Nuclear Reactorsfor Military Installations:Capabilities, Costs, andTechnological Implications, [www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf](http://www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf)

Thus far, this paper has reviewed two of DOD’s most pressing energy vulnerabilities—grid insecurity and fuel convoys—and explored how they could be addressed by small reactors. We acknowledge that there are many uncertainties and risks associated with these reactors. On the other hand, failing to pursue these technologies raises its own set of risks for DOD, which we review in this section: first, small reactors may fail to be commercialized in the United States; second, the designs that get locked in by the private market may not be optimal for DOD’s needs; and third, expertise on small reactors may become concentrated in foreign countries. By taking an early “first mover” role in the small reactor market, DOD could mitigate these risks and secure the long-term availability and appropriateness of these technologies for U.S. military applications. The “Valley of Death.” Given the promise that small reactors hold for military installations and mobility, DOD has a compelling interest in ensuring that they make the leap from paper to production. However, if DOD does not provide an initial demonstration and market, there is a chance that the U.S. small reactor industry may never get off the ground. The leap from the laboratory to the marketplace is so difficult to bridge that it is widely referred to as the “Valley of Death.” Many promising technologies are never commercialized due to a variety of market failures— including technical and financial uncertainties, information asymmetries, capital market imperfections, transaction costs, and environmental and security externalities— that impede financing and early adoption and can lock innovative technologies out of the marketplace. 28 In such cases, the Government can help a worthy technology to bridge the Valley of Death by accepting the first mover costs and demonstrating the technology’s scientific and economic viability.29 [FOOTNOTE 29: There are numerous actions that the Federal Government could take, such as conducting or funding research and development, stimulating private investment, demonstrating technology, mandating adoption, and guaranteeing markets. Military procurement is thus only one option, but it has often played a decisive role in technology development and is likely to be the catalyst for the U.S. small reactor industry. See Vernon W. Ruttan, Is War Necessary for Economic Growth? (New York: Oxford University Press, 2006); Kira R. Fabrizio and David C. Mowery, “The Federal Role in Financing Major Inventions: Information Technology during the Postwar Period,” in Financing Innovation in the United States, 1870 to the Present, ed. Naomi R. Lamoreaux and Kenneth L. Sokoloff (Cambridge, MA: The MIT Press, 2007), 283–316.] Historically, nuclear power has been “the most clear-cut example . . . of an important general-purpose technology that in the absence of military and defense related procurement would not have been developed at all.”30 **Government involvement is likely to be crucial for innovative, next-generation nuclear technology** as well. Despite the widespread revival of interest in nuclear energy, Daniel Ingersoll has argued that radically innovative designs face an uphill battle, as “the high capital cost of nuclear plants and the painful lessons learned during the first nuclear era have created a prevailing fear of first-of-a-kind designs.”31 In addition, Massachusetts Institute of Technology reports on the Future of Nuclear Power called for the Government to provide modest “first mover” assistance to the private sector due to several barriers that have hindered the nuclear renaissance, such as securing high up-front costs of site-banking, gaining NRC certification for new technologies, and demonstrating technical viability.32 It is possible, of course, that small reactors will achieve commercialization without DOD assistance. As discussed above, they have garnered increasing attention in the energy community. Several analysts have even argued that small reactors could play a key role in the second nuclear era, given that they may be the only reactors within the means of many U.S. utilities and developing countries.33 However, given the tremendous regulatory hurdles and technical and financial uncertainties, it appears far from certain that the U.S. small reactor industry will take off. If DOD wants to ensure that small reactors are available in the future, then it should pursue a leadership role now. Technological Lock-in. A second risk is that if small reactors do reach the market without DOD assistance, the designs that succeed may not be optimal for DOD’s applications. Due to a variety of positive feedback and increasing returns to adoption (including demonstration effects, technological interdependence, network and learning effects, and economies of scale), the designs that are initially developed can become “locked in.”34 Competing designs—even if they are superior in some respects or better for certain market segments— can face barriers to entry that lock them out of the market. If DOD wants to ensure that its preferred designs are not locked out, then it should take a first mover role on small reactors. It is far too early to gauge whether the private market and DOD have aligned interests in reactor designs. On one hand, Matthew Bunn and Martin Malin argue that what the world needs is cheaper, safer, more secure, and more proliferation-resistant nuclear reactors; presumably, many of the same broad qualities would be favored by DOD.35 There are many varied market niches that could be filled by small reactors, because there are many different applications and settings in which they can be used, and it is quite possible that some of those niches will be compatible with DOD’s interests.36 On the other hand, DOD may have specific needs (transportability, for instance) that would not be a high priority for any other market segment. Moreover, while DOD has unique technical and organizational capabilities that could enable it to pursue more radically innovative reactor lines, DOE has indicated that it will focus its initial small reactor deployment efforts on LWR designs.37 **If DOD wants to ensure that its preferred reactors are developed and available in the future, it should take a leadership role now**. Taking a first mover role does not necessarily mean that DOD would be “picking a winner” among small reactors, as the market will probably pursue multiple types of small reactors. Nevertheless, **DOD leadership would likely have a profound effect on the industry’s timeline and trajectory.** Domestic Nuclear Expertise. From the perspective of larger national security issues, if DOD does not catalyze the small reactor industry, there is a risk that expertise in small reactors could become dominated by foreign companies. A 2008 Defense Intelligence Agency report warned that the United States will become totally dependent on foreign governments for future commercial nuclear power unless the military acts as the prime mover to reinvigorate this critical energy technology with small, distributed power reactors.38 Several of the most prominent small reactor concepts rely on technologies perfected at Federally funded laboratories and research programs, including the Hyperion Power Module (Los Alamos National Laboratory), NuScale (DOE-sponsored research at Oregon State University), IRIS (initiated as a DOE-sponsored project), Small and Transportable Reactor (Lawrence Livermore National Laboratory), and Small, Sealed, Transportable, Autonomous Reactor (developed by a team including the Argonne, Lawrence Livermore, and Los Alamos National Laboratories). However, there are scores of competing designs under development from over a dozen countries. If DOD does not act early to support the U.S. small reactor industry, there is a chance that the industry could be dominated by foreign companies. Along with other negative consequences, the decline of the U.S. nuclear industry decreases the NRC’s influence on the technology that supplies the world’s rapidly expanding demand for nuclear energy. Unless U.S. companies begin to retake global market share, in coming decades France, China, South Korea, and Russia will dictate standards on nuclear reactor reliability, performance, and **proliferation resistance**.

#### DoD bases are vulnerable to grid disruptions which destroys command infrastructure – only SMR’s can solve

Robitaille 12

(George, Department of Army Civilian, United States Army War College, “Small Modular Reactors: The Army’s Secure Source of Energy?” 21-03-2012, Strategy Research Project)

In recent years, the U.S Department of Defense (DoD) has identified a security issue at our installations related to the dependence on the civilian electrical grid. 1 The DoD depends on a steady source of electricity at military facilities to perform the functions that secure our nation. The flow of electricity into military facilities is controlled by a public grid system that is susceptible to being compromised because of the age of the infrastructure, damage from natural disasters and the potential for cyber attacks. Although most major functions at military installations employ diesel powered generators as temporary backup, the public grid may not be available to provide electricity when it is needed the most. The United States electrical infrastructure system is prone to failures and susceptible to terrorist attacks. 2 It is critical that the source of electricity for our installations is reliable and secure. In order to ensure that our military facilities possess a secure source of electricity, either the public system of electric generation and distribution is upgraded to increase its reliability as well as reducing its susceptibility to cyber attack or another source of electricity should be pursued. Although significant investments are being made to upgrade the electric grid, the current investment levels are not keeping up with the aging system. Small modular reactors (SMRs) are nuclear reactors that are about an order of magnitude smaller than traditional commercial reactor used in the United States. SMRs are capable of generating electricity and at the same time, they are not a significant contributor to global warming because of green house gas emissions. The DoD needs to look at small modular nuclear reactors (SMRs) to determine if they can provide a safe and secure source of electricity. Electrical Grid Susceptibility to Disruptions According to a recent report by the Defense Science Board, the DoD gets ninety nine percent of their electrical requirements from the civilian electric grid. 3 The electric grid, as it is currently configured and envisioned to operate for the foreseeable future, may not be reliable enough to ensure an uninterrupted flow of electricity for our critical military facilities given the influences of the aging infrastructure, its susceptibility to severe weather events, and the potential for cyber attacks. The DoD dependency on the grid is reflected in the $4.01 Billion spent on facilities energy in fiscal year 2010, the latest year which data was available. 4 The electricity used by military installations amounts to $3.76 billion. 5 As stated earlier, the DoD relies on the commercial grid to provide a secure source of energy to support the operations that ensure the security of our nation and it may not be available when we need it. The system could be taken down for extended periods of time by failure of aging components, acts of nature, or intentionally by cyber attacks. Aging Infrastructure. The U.S electric power grid is made up of independently owned power plants and transmission lines. The political and environmental resistance to building new electric generating power plants combined with the rise in consumption and aging infrastructure increases the potential for grid failure in the future. There are components in the U.S. electric grid that are over one hundred years old and some of the recent outages such as the 2006 New York blackout can be directly attributed to this out of date, aging infrastructure. 6 Many of the components of this system are at or exceeding their operational life and the general trend of the utility companies is to not replace power lines and other equipment until they fail. 7 The government led deregulation of the electric utility industry that started in the mid 1970s has contributed to a three decade long deterioration of the electric grid and an increased state of instability. Although significant investments are being made to upgrade the electric grid, the **many years of prior neglect will require a considerable amount of time and funding to bring the aging infrastructure up to date**. Furthermore, the current investment levels to upgrade the grid are not keeping up with the aging system. 8 In addition, upgrades to the digital infrastructure which were done to increase the systems efficiency and reliability, have actually made the system more susceptible to cyber attacks. 9 Because of the aging infrastructure and the impacts related to weather, the extent, as well as frequency of **failures is expected to increase in the future.** Adverse Weather. According to a 2008 grid reliability report by the Edison Electric Institute, sixty seven per cent of all power outages are related to weather. Specifically, lightning contributed six percent, while adverse weather provided thirty one percent and vegetation thirty percent (which was predominantly attributed to wind blowing vegetation into contact with utility lines) of the power outages. 10 In 1998 a falling tree limb damaged a transformer near the Bonneville Dam in Oregon, causing a cascade of related black-outs across eight western states. 11 In August of 2003 the lights went out in the biggest blackout in North America, plunging over fifty million people into darkness over eight states and two Canadian provinces. Most areas did not have power restored four or five days. In addition, drinking water had to be distributed by the National Guard when water pumping stations and/or purification processes failed. The estimated economic losses associated with this incident were about five billion dollars. Furthermore, this incident also affected the operations of twenty two nuclear plants in the United States and Canada. 12 In 2008, Hurricane Ike caused approximately seven and a half million customers to lose power in the United States from Texas to New York. 13 The electric grid suffered numerous power outages **every year** throughout the United States and the number of outages is expected to increase as the infrastructure ages without sufficient upgrades and weather-related impacts continue to become more frequent. Cyber Attacks. The civilian grid is made up of three unique electric networks which cover the East, West and Texas with approximately one hundred eighty seven thousand miles of power lines. There are several weaknesses in the electrical distribution infrastructure system that could compromise the flow of electricity to military facilities. The flow of energy in the network lines as well as the main distribution hubs has become totally dependent on computers and internet-based communications. Although the digital infrastructure makes the grid more efficient, it also makes it more susceptible to cyber attacks. Admiral Mr. Dennis C. Blair (ret.), the former Director of National Intelligence, testified before Congress that “the growing connectivity between information systems, the Internet, and other infrastructures creates opportunities for attackers to disrupt telecommunications, electrical power, energy pipelines, refineries, financial networks, and other critical infrastructures. 14 ” The Intelligence Community assesses that a number of nations already have the technical capability to conduct such attacks. 15 In the 2009 report, Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee, Adm. Blair stated that “Threats to cyberspace pose one of the most serious economic and national security challenges of the 21st Century for the United States and our allies.”16 In addition, the report highlights a growing array of state and non-state actors that are targeting the U.S. critical infrastructure for the purpose of creating chaos that will subsequently produce detrimental effects on citizens, commerce, and government operations. These actors have the ability to compromise, steal, change, or completely destroy information through their detrimental activities on the internet. 17 In January 2008, US Central Intelligence Agency senior analyst Tom Donahue told a gathering of three hundred international security managers from electric, water, oil & gas, and other critical industry, that data was available from multiple regions outside the United States, which documents cyber intrusions into utilities. In at least one case (outside the U.S.), the disruption caused a power outage affecting multiple cities. Mr. Donahue did not specify who executed these attacks or why, but did state that all the intrusions were conducted via the Internet. 18 During the past twenty years, advances in computer technologies have permeated and advanced all aspects of our lives. Although the digital infrastructure is being increasingly merged with the power grid to make it more efficient and reliable, it also makes it more vulnerable to cyber attack. In October 2006, a foreign hacker invaded the Harrisburg, PA., water filtration system and planted malware. 19 In June 2008, the Hatch nuclear power plant in Georgia shut down for two days after an engineer loaded a software update for a business network that also rebooted the plant's power control system. In April 2009, The Wall Street Journal reported that cyber spies had infiltrated the U.S. electric grid and left behind software that could be used to disrupt the system. **The hackers came from China, Russia and other nations and were on a “fishing expedition” to map out the system**. 20 According to the secretary of Homeland Security, Janet Napolitano at an event on 28 October 2011, cyber–attacks have come close to compromising the country’s critical infrastructure on multiple occasions. 21 Furthermore, during FY11, the United States Computer Emergency Readiness Team took action on more than one hundred thousand incident reports by releasing more than five thousand actionable cyber security alerts and information products. 22 The interdependence of modern infrastructures and digital based systems makes any cyber attacks on the U.S. electric grid potentially significant. The December 2008 report by the Commission on Cyber Security for the forty fourth Presidency states the challenge plainly: “America’s failure to protect cyberspace is one of the most urgent national security problems facing the new administration”. 23 The susceptibility of the grid to being compromised has resulted in a significant amount of resources being allocated to ensuring the systems security. Although a substantial amount of resources are dedicated to protecting the nation’s infrastructure, it may not be enough to ensure the continuous flow of electricity to our critical military facilities. SMRs as they are currently envisioned may be able to provide a secure and independent alternative source of electricity in the event that the public grid is compromised. SMRs may also provide additional DoD benefit by supporting the recent government initiatives related to energy consumption and by circumventing the adverse ramifications associated with building coal or natural gas fired power plants on the environment.

#### Those communication breakdowns go nuclear

Andres and Breetz 11

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The DOD interest in small reactors derives largely from problems with base and logistics vulnerability. Over the last few years, the Services have begun to reexamine virtually every aspect of how they generate and use energy with an eye toward cutting costs, decreasing carbon emissions, and reducing energy-related vulnerabilities. These actions have resulted in programs that have significantly reduced DOD energy consumption and greenhouse gas emissions at domestic bases. Despite strong efforts, however, two critical security issues have thus far proven resistant to existing solutions: bases’ vulnerability to civilian power outages, and the need to transport large quantities of fuel via convoys through hostile territory to forward locations. Each of these is explored below. Grid Vulnerability. DOD is unable to provide its bases with electricity when the civilian electrical grid is offline for an extended period of time. Currently, domestic military installations receive 99 percent of their electricity from the civilian power grid. As explained in a recent study from the Defense Science Board: DOD’s key problem with electricity is that **critical missions, such as national strategic awareness and national command authorities, are** almost **entirely dependent on the national transmission grid** . . . [which] is fragile, vulnerable, near its capacity limit, and outside of DOD control. In most cases, neither the grid nor on-base backup power provides sufficient reliability to ensure continuity of critical national priority functions and oversight of strategic missions in the face of a long term (several months) outage.7 The grid’s fragility was demonstrated during the 2003 Northeast blackout in which 50 million people in the United States and Canada lost power, some for up to a week, when one Ohio utility failed to properly trim trees. The blackout created cascading disruptions in sewage systems, gas station pumping, cellular communications, border check systems, and so forth, and demonstrated the interdependence of modern infrastructural systems.8 More recently, awareness has been growing that the grid is also vulnerable to purposive attacks. A report sponsored by the Department of Homeland Security suggests that a coordinated cyberattack on the grid could result in a third of the country losing power for a period of weeks or months.9 Cyberattacks on critical infrastructure are not well understood. It is not clear, for instance, whether existing terrorist groups might be able to develop the capability to conduct this type of attack. It is likely, however, that some nation-states either have or are working on developing the ability to take down the U.S. grid. In the event of a war with one of these states, it is possible, if not likely, that parts of the civilian grid would cease to function, taking with them military bases located in affected regions. Government and private organizations are currently working to secure the grid against attacks; however, it is not clear that they will be successful. Most military bases currently have backup power that allows them to function for a period of hours or, at most, a few days on their own. If power were not restored after this amount of time, the results could be disastrous. First, military assets taken offline by the crisis would not be available to help with disaster relief. Second, **during an extended blackout, global military operations could be seriously compromised; this disruption would be particularly serious if the blackout was induced during major combat operations**. During the Cold War, this type of event was far less likely because the United States and Soviet Union shared the common understanding that **blinding an opponent with a grid blackout** **could escalate to nuclear war**. America’s current **opponents**, however, **may not share this fear or be deterred by this possibility**. In 2008, the Defense Science Board stressed that DOD should mitigate the electrical grid’s vulnerabilities by turning military installations into “**islands**” of energy self-sufficiency. The department has made efforts to do so by promoting efficiency programs that lower power consumption on bases and by constructing renewable power generation facilities on selected bases. **Unfortunately, these programs will not come close to reaching the goal of islanding the vast majority of bases**. Even with massive investment in efficiency and renewables, most bases would not be able to function for more than a few days after the civilian grid went offline Unlike other alternative sources of energy, **small reactors have the potential to solve DOD’s vulnerability to grid outages**. Most bases have relatively light power demands when compared to civilian towns or cities. Small reactors could easily support bases’ power demands separate from the civilian grid during crises. In some cases, the reactors could be designed to produce enough power not only to supply the base, but also to provide critical services in surrounding towns during long-term outages. Strategically, islanding bases with small reactors has another benefit. One of the main reasons an enemy might be willing to risk reprisals by taking down the U.S. grid during a period of military hostilities would be to affect ongoing military operations. Without the lifeline of intelligence, communication, and logistics provided by U.S. domestic bases, American military operations would be compromised in almost any conceivable contingency. Making bases more resilient to civilian power outages would reduce the incentive for an opponent to attack the grid. An opponent might still attempt to take down the grid for the sake of disrupting civilian systems, but the powerful incentive to do so in order to win an ongoing battle or war would be greatly reduced.

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

King 11

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

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

#### DoD bypasses regulatory hurdles and safety hazards

Loudermilk 11

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

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

#### DOD facilities in Alaska vulnerable to grid disruptions—climate and geography makes

Warwick , 10

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

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

#### No defense applies—federal laws exclude Alaska from traditional grid-protection

Magnuson, 12

(September, Columnist-National Defense Magazine, Feds Fear Coordinated Physical, Cyber-Attacks on Electrical Grids,

http://www.nationaldefensemagazine.org/archive/2012/september/Pages/FedsFearCoordinatedPhysical,Cyber-AttacksonElectricalGrids.aspx)

Electrical grids in the United States are vulnerable to both cyber-attacks and space weather, federal officials have said. But an assault that combines the skills of a hacker with a physical attack on key parts of a grid’s infrastructure may result in hundreds of millions of U.S. homes and businesses losing electricity. “I am most concerned about coordinated physical and cyber-attacks intended to disable elements of the power grid or deny electricity to specific targets, such as government or business centers, military installations, or other infrastructures,” Gerry Cauley, president and CEO of the North American Electric Reliability Corp., said at a recent Senate hearing. Scott Pugh, of the Department of Homeland Security’s interagency program office, said at an energy conference in April that there are maps — not available for public viewing — that “show you a handful of substations — six or so — [where] you could take out those six substations and black out most of the U.S. east of the Mississippi, if you knew which six [they] were. And in many cases you could do it with a hunting rifle from a couple hundred yards away.” There are some 1,500 companies that generate electricity in the United States, and the hodgepodge of federal agencies that oversee them have limited statutory authorities to force them to protect themselves against attacks, the Senate Energy and Natural Resources Committee hearing revealed. “Limitations in federal authority do not fully protect the grid against physical and cyberthreats,” Joseph McClelland, director of the office of reliability at the Federal Energy Regulatory Commission, said. Legislation passed in 2005 gave the agency the authority to impose reliability standards on “bulk,” or large-scale, power systems. That law excludes local distribution facilities, federal installations located inside grids, and major cities such as New York. Hawaii and **Alaska** also **don’t fall under the commission’s jurisdiction.** Officials are concerned about two threats: electromagnetic pulses, which come from solar storms or weapons, and cyber-attacks, particularly on “smartgrids,” which it turns out, are not very “smart” when it comes to protecting against hackers. “No single security asset, technique, procedure or standard — even if strictly followed — will protect an entity from all potential cyberthreats,” said Gregory Wilshusen, director of information security issues at the Government Accountability Office. “The cybersecurity threat environment is constantly changing and our defenses must keep up.” However, in the case of smartgrids, utilities continue to employ them without the necessary safeguards, the GAO has found. There is a lack of security features consistently being integrated into smartgrids and the current regulatory environment makes it difficult to ensure that power companies are properly protecting them. Physical attacks against the grid can cause equal or greater destruction than cyber-attacks, McClelland said. An electromagnetic pulse, or EMP event, could seriously degrade or shut down large swaths of the nation. Depending on the attack, a significant part of the infrastructure could be “out of service for periods measured in months to a year or more,” he said. “The self-reporting requirements, the enforcement provisions under the existing standards are important,” he said. “But at the end of the day, if there’s no enforcement provisions, there’s no teeth behind the provisions.” The National Institute of Standards and Technology has guidelines for utilities to gird themselves from physical and cyber-attacks, but they do not address coordinated attacks, said Wilshusen. NIST “guidelines did not address an important element essential to securing smartgrid systems — the risk of attacks using both cyber and physical means.”

#### Alaska’s unique—high risk of grid disruptions

Pickett, 8

(Chairman, Regulatory Commission of Alaska, 12/8, “Electric Utility Regulation in Alaska - Law Seminars International”)

**The challenges faced by Alaska’s electric utilities are immense. Extreme volatility in fuel prices has come at a most difficult time.** Many rural electric utilities are struggling with staggering fuel oil price increases this winter, and some were unable to secure adequate fuel supplies to carry them through next spring. Financial, technical and managerial capacity issues are a threat to the long-term survival of a number of rural utilities. The railbelt electric utilities are facing their most significant organizational and capital investment decisions in a generation. These decisions will be made at a time when the financial markets are in disarray, and long term utility planning assumptions are under assault. This is the current environment surrounding electric utility regulation in Alaska.

#### SMRs on Alaskan bases solve

Holdmann, 11

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

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

## 2

#### Advantage one is the Arctic

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

Schanz, 8

(Associate Editor-Airforce Magazine, “Strategic Alaska,” http://www.airforce-magazine.com/MagazineArchive/Pages/2008/November%202008/1108alaska.aspx)

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

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

#### Strengthening Alaskan bases is the key internal link to stopping all-out Arctic war

Dowd, 11

(MA-Indiana University, Senior Fellow of the Fraser Institute, “The Big Chill: Energy Needs Fueling Tensions in the Arctic,” https://www.fraserinstitute.org/research-news/news/display.aspx?id=2147483979)

One reason a military presence will be necessary is the possibility of accidents caused by drilling and shipping. In addition, competition for Arctic resources could lead to confrontation. Adm. James Stavridis, who serves as NATO’s military commander, concedes that the **Arctic could become “a zone of conflict**” (UPI). To brace for that possibility and thwart Russia’s Arctic fait accompli, the United States, Canada, Denmark and Norway—all NATO members and Arctic nations—should follow the Cold War playbook: build up the assets needed to defend their interests, use those assets to deter aggression, and deal with Moscow from a posture of strength and unity. The challenge is to remain open to cooperation while bracing for worst-case scenarios. After all, Russia is not the Soviet Union. Even as Putin and his puppets make mischief, Moscow is open to making deals. Russia and Norway, for instance, recently resolved a long-running boundary dispute, paving the way for development in 67,000 square-miles of the Arctic. Moreover, the U.S., Russia, Canada, Denmark and Norway have agreed on Arctic search-and-rescue responsibilities (Cummins). In a world of increasingly integrated markets, we know there is much to gain from Arctic cooperation and much to lose from protracted military standoff. But we also know that dealing naively with Moscow carries a heavy cost—and that integration is a two-way street. “Russian leaders today yearn not for integration,” the Brookings Institution’s Robert Kagan concludes, “but for a return to a special Russian greatness.” In short, Russia is more interested in recreating the autarky of some bygone era than in the shared benefits of globalization. Framework for Partnership Dealing with Russia is about power. As Churchill once said of his Russian counterparts, “There is nothing they admire so much as strength, and there is nothing for which they have less respect than for weakness.” When the message is clear—or “hard and consistent,” to use Putin’s language—Russia will take a cooperative posture. When the message is unclear, Russia will take what it can get. Just consider Russia’s contrasting treatment of its neighbors: Moscow blusters about Poland and the Baltic states but keeps its hands off, largely because they are protected by the U.S.-NATO umbrella. Conversely, Russia bullies Ukraine, garrisons its troops—uninvited—in Moldova, and occupies Georgian territory. The common denominator of these unfortunate countries: They have no U.S. security guarantee. Russia should be given an opportunity to participate as a responsible partner in Arctic development. But if Russia continues to take Putin’s hard line, the U.S. and its allies are left with few other options than standing together or allowing Russia to divide and conquer. To avoid that, the allies may need to agree among themselves on lines of demarcation, transit routes and exploration rights—and then pool their resources to protect their shared interests. **This will require investment in Arctic capabilities**. For instance, the U.S. has only three polar icebreakers, two of which have exceeded their projected 30-year lifespan (O’Rourke). Russia can deploy 20 icebreakers. “We have extremely limited Arctic response capabilities,” explains Adm. Robert Papp, USCG commandant. Noting that the Coast Guard has “the lead role in ensuring Arctic maritime safety, security and stewardship,” Papp urges Congress “to start building infrastructure up there” (Joling and Papp). Washington’s defense cuts will only exacerbate these gaps, especially as Russia’s oil-aided boom enables it to retool its armed forces. Investing just 1.1 percent of its GDP on defense, Canada faces even greater challenges in defending its Arctic interests. But if the allies can combine their Arctic capabilities—each filling a niche role—and agree on a common approach to Arctic security, the framework to put those capabilities into practice is arguably already in place. Jointly operated by the U.S. and Canada, NORAD could serve as the model for an Arctic security partnership. Just as NORAD defends North American airspace, an allied maritime arrangement under the NORAD rubric could provide for security in Arctic waters. It’s worth noting that maritime surveillance was added to NORAD’s responsibilities in 2006. And in 2011, the Pentagon shifted responsibility for most Arctic operations to Northern Command (NORTHCOM), headed up by the same person who commands NORAD (Elliot). Preparing Bracing for military eventualities in the Arctic is not armchair alarmism. In fact, Gen. Gene Renuart, former NORTHCOM commander, reported in 2008 that U.S. officials were beginning to explore ways to “posture NORAD…to provide the right kind of search and rescue, military response, if need be, and certainly security for whatever activities occur in the Arctic.” **“In order to ensure a peaceful opening of the Arctic**,” adds Adm. James Winnefeld, current NORTHCOM commander, “**DOD must anticipate today the Arctic operations that will be expected of it tomorrow.”** In other words, the goal in preparing for worst-case scenarios and shoring up allied resolve in the Arctic is not to trigger a military confrontation, but to prevent one.

#### Only US leadership can stop war

Borgerson, 8

(International Affairs Fellow at the Council on Foreign Relations and a former Lieutenant Commander in the U.S. Coast Guard, Foreign Affairs, March/April, Arctic Meltdown Subtitle: The Economic and Security Implications of Global Warming, Lexis)

**Washington cannot afford to stand idly by**. The Arctic region is not currently governed by any comprehensive multilateral norms and regulations because it was never expected to become a navigable waterway or a site for large-scale commercial development. Decisions made by Arctic powers in the coming years will therefore profoundly shape the future of the region for decades. **Without U.S. leadership** to help develop diplomatic solutions to competing claims and potential conflicts, the region **could erupt in an armed mad dash for its resources.**

#### Risk of conflict high—most recent evidence

Tassinari, 9/7

(Non-resident Senior Fellow at the German Marshall Fund and the Head of Foreign Policy and EU Studies at the Danish Institute for International Studies, “Avoiding a Scramble for the High North”, http://blog.gmfus.org/2012/09/07/avoiding-a-scramble-for-the-high-north/http://blog.gmfus.org/2012/09/07/avoiding-a-scramble-for-the-high-north/)

BERLIN - The geopolitics of the Arctic are stuck in a paradox: The more regional players restate the importance of international cooperation, the more some pundits and policymakers seem to conclude that the Arctic risks descending into competition and even conflict. The world is awakening to the growing strategic importance of the High North. As the Arctic ice melts due to global warming, it opens up new opportunities, from shorter shipping lanes to newly accessible oil and gas reserves; respectively, about 13 percent and 30 percent of the world’s undiscovered resources are in the Arctic, according to the U.S. Geological Survey. These discoveries are usually followed by declarations of the littoral nations to the effect that any potential disagreements over them will be resolved peacefully. However, beneath expressions of goodwill, the Arctic debate is often characterized by a sense of urgency, and even forms of alarmism. In recent years, instances of growing securitization of the Arctic have abounded. Back in 2008, a paper by Javier Solana, then the EU’s foreign policy’s chief, and the European Commission warned about “potential conflict over resources in Polar regions” as they become exploitable due to melting ice. In 2010, NATO’s supreme allied commander in Europe, Adm. James Stavridis, argued that “for now, the disputes in the North have been dealt with peacefully, but climate change could alter the equilibrium.” Then there are actions that speak louder than prepared speeches — from the famous August 2007 expedition that planted a Russian flag on the North Pole’s seabed to the annual summer military exercises carried out by Canada to assert its sovereignty in the North. Although the Russian stunt was most likely aimed at nationalist domestic audiences, some observers view these exercises as the expressions of competing national interests. As the scholar Scott Borgerson ominously put it: “The Arctic powers are fast approaching diplomatic gridlock, and that could eventually lead to the sort of armed brinkmanship that plagues other territories.” The geopolitical constellation in and around the region provides a ready justification for such an assessment. While no-one really imagines the United States, Canada, Norway, **and** Denmark fighting over the Arctic, some of their politicians have occasionally framed rhetoric in more peppered terms than one might expect. Russia, the fifth Arctic littoral nation, typically treads a fine line between declarations of cooperation and an innate instinct for great-power competition. Add to that the EU, which is seeking to carve its own role, and Asia’s giants, above all China, for which the opening of the Northeast passage may reduce sailing distance with Europe by some 40 percent, and it is not hard to conjure up the prospect of an Arctic race building up.

#### Best scholarship proves our impact

Murray 12

(Professor of Political Science @ Alberta, “Arctic politics in the emerging multipolar system: challenges and consequences,” The Polar Journal, 2.1)

It is no overstatement to say that the end of the Cold War was one of the most important events in recent world history. Scholars from many areas of study have used the fall of the Soviet Union as a starting point to explain shifts in security, globalization, humanitarianism and institutional integration, all of which played important roles in world affairs in the immediate post-Cold War era. Since 1991, explanatory models for international and global politics have broadened their scope to include variables such as individual preferences, capitalist oppression, ideational construction, environmentalism, gender and sexual politics, and discursive power to levels previously unforeseen throughout the Cold War years. As such, we now see the world as a far more complex and nefarious arena in which power and dominance are exercised each day. At the systemic level, the fall of the Soviet Union equated to nothing short of a monumental shift in the way states would make foreign and defence strategy. For 50 years, the bipolar system was dominated by two superpowers constantly competing and building arms in an effort to balance one another. The end of the Cold War signalled a major shift in systemic arrangement, as the system went from being bipolar to the world entering what was often referred to as the “unipolar moment.”1 The era of unipolarity and American hegemony in the international system has been marked by stability in an interstate sense, and the realignment of various spheres of influence in the wake of the Soviet Union’s demise. Far from being just a theoretical notion, the unipolar moment has also provided states with an environment in which to pursue their national self-interest where the likelihood of conflict is decreased and great power security competition has been minimized.2 As such, new areas of foreign affairs and defence strategy have become far more important than they could have been throughout the bipolar constrained Cold War years. One of the most notable examples in this regard has been the increased desire for territorial protection and extension in the Arctic region. In an era of state preoccupation with humanitarianism, terrorism and economic recession, it is being suggested by some observers that the Arctic has become the primary stage through which states, both great and minor in power, can pursue their self-interest in a way that combines soft power cooperation through bodies of governance with hard power and military build-up. As things presently stand, there are a variety of nations and institutions all seek- ing to claim governing authority over different parts of the circumpolar region. Nations making claims to parts of the Arctic Ocean or other northern waters include Canada, Russia, the United States, Norway, Iceland and Denmark/Greenland. On the institutional side, Arctic governance has been debated and defined by bodies such as the United Nations, the European Union, the United Nations Convention on the Law of the Sea (UNCLOS) and the Arctic Council.3 To date, no clear resolution to competing claims is in sight, and in some cases the situation is on the verge of becoming far more competitive as nations such as Russia have resorted to asserting possible military solutions to contested Arctic issues to bolster their declarations. It is important to note the increased levels of interest over Arctic relations between states, but, on this point, little attention has been given to the influence of the international system over this situation. If the unipolar moment has been defined as an era of relative stability and diplomatic coexistence, and tensions in the Arctic are already on the rise, what is to happen when the multipolar system finally emerges in the near future? Since 2005, the status of the United States as systemic hegemon has been in decline due to economic, military and political strains placed on American power capabilities throughout the Bush era and beyond. This decrease in relative power preponderance has been even further exacerbated by the economic recession starting in 2008 and the nation’s inability to stabilize its markets. As such, the predictions of those like Christopher Layne and John Mearsheimer are on the verge of coming to fruition, in that the unipolar moment is about to end.4 New great powers are rising, the United States is no longer able to prevent these nations from balancing their power, and the once obvious prevalence of American power is far murkier than it was a decade ago. As the multipolar era becomes increasingly likely, one must ponder the effects this shift might have on state foreign and defence strategy- making, especially towards the Arctic region. To date, though its relative power position has declined significantly in recent years, the United States remains the hegemon of the international system, but it is contended here that such status is soon to evaporate. In this context, this article argues that the emergence of a multipolar systemic arrangement is very likely to increase security competition in the system as a whole, and the Arctic will be at the epicentre of such conflict. To lend support to this hypothesis, an examination of the impending shift from unipolarity to multipolarity will be made, as will an account of current security dynamics in the circumpolar region. The article concludes with a stark warning that without some kind of real action towards settling competing Arctic claims, it will be left to states to secure their own territorial assertions through hard power and forceful means. The system is unipolar ... for now In order to evaluate the polarity of the international system in a given historical period, one must identify the hierarchy of power in terms of the number of super or great powers dominating international outcomes. Counting great or super powers can be somewhat difficult in contemporary international relations, as scholars have begun to expand the notions of power and capabilities, but the clearest guideline for being able to identify great powers is through determining capabilities. The reason it is essential to understand the great powers in international relations is that they, above all other states, institutions, non-state actors and ideational forces, are responsible for the daily conduct of behaviour in the international system, and they have been historically accountable for substantial alterations to power distribution since the 1648 Peace of Westphalia. Measuring capabilities allows observers to explain which states are most likely to affect the behaviour of other states, to use force or violence; also, the number of great powers in a given era determines how stable or unstable the international system will be. Identifying great powers is literally done by evaluating each state’s capabilities in essential areas of political life that can maximize security or extend one’s power. When discussing the distribution of power across states, there is a clear hierarchy of capabilities among states that leads observers to classify these utility maximizing, rational actors as super, great, major, middle or minor powers in the international system. In terms of actual measurement, Kenneth Waltz argues: “Their rank depends on how they score on all of the following items: size of population and territory, resource endowment, economic capability, military strength, political stability and competence.”5 Once these various factors are taken into account, one can clearly determine the given polarity of the system at a given moment in history. Why is polarity important? According to structural realist theory, the number of great powers in the system determines how conflictual, violent or stable international politics will be. While the overall structure of the system remains anarchic, meaning a clear absence of a governing authority above states that can control their actions, there can be consequential variations within the anarchic structure that can impact how states will evaluate their foreign and defence policy strategies and affect their overall behaviour. Waltz claims that “ ‘consequential’ variations in number are changes of number that lead to different expectations about the effect of structure on units.”6 There are three types of structure within the system that have been determined throughout the history of the modern state system – unipolarity, bipolarity and multipolarity. The consequential variations described by Waltz take place when great powers either rise or fall, and induce shifts from one type of polarity to another. The rise and fall of great powers is perhaps the most important explanatory aspect of international politics because it is these states that “inherently possess some offensive military capability, which gives them the wherewithal to hurt and possibly destroy each other.”7 Though the primary motivation for all states is security maximization, great powers become the most important actors because while they are capable of defending themselves, they also have the ability to extend their sphere of influence in offensive posturing. It is in this context that the polarity of the system becomes even more vital, in that the more great powers there are, the greater likelihood of violence and conflict there is. In each systemic arrangement, the abilities of great powers to pursue their ultimate goal, which is hegemony, dictates whether foreign and defence policy strategies will be overtly defensive or potentially offensive. All states are like-units, in that they all strive for survival by making rational calculations about how to best pursue their interests in an anarchic system. Of course, strategies of states will differ greatly based on the distribution of power, meaning that great powers are able to pursue their goals more freely than minor powers because they can operate without allies or institutions in achieving their goals. Lesser powers, however, typically try to increase their power position in world affairs through various alliance blocs and institutional binding. In doing so, it is hoped that middle and minor powers are able to guarantee their survival by aligning themselves with powers larger than themselves. Given the arrangement of the system, the number of alliances or blocs of power will differ, which also contributes to just how stable or violent the system will be. Conflict, or the possibility of it, is a constant problem in international relations due to the anarchic structure of the international system. Anarchy, by its definition, denotes a lack of overarching authority and thus states, especially the most powerful states, are able to behave as they would like, without any external body capable of controlling their actions. Robert Art and Robert Jervis aptly define anarchy by arguing: “States can make commitments and treaties, but no sovereign power ensures compliance and punished deviation. This – the absence of a supreme power – is what is meant by the anarchic environment of international politics.”8 In anarchy, just as in the state of nature or war prior to the establishment of civilized human society, there is no harmony and actors are left to their own inclinations to pursue their self-interest. The key elements of anarchy that precipitate conflict are the constant distrust of others’ motives, the assumption that other actors may not be as rational as oneself, and, as Waltz notes, “a state will use force to attain its goals if, after assessing the prospects for success, it values those goals more than it values the pleasures of peace.”9 The constant tensions between states, and the ability of great powers to more freely pursue their national interests, contributes to a system where security and survival are at a premium, and the polarity of the system matters to all states. By definition, bipolar systems are the most stable. According to Mearsheimer, this assumption is made based on three criteria: First, the number of conflict dyads is fewer, leaving fewer possibilities for war. Second, deterrence is easier, because imbalances of power are fewer and more easily averted. Third, the prospects for deterrence are greater because miscalculations of relative power and opponents’ resolve are fewer and less likely.10 By contrast, multipolar systems have a far greater probability of conflict, tension and distrust among states. War is far more likely in multipolar systems because major power dyads are more numerous, each posing the potential for conflict. Conflict could also erupt across dyads involving major and minor powers. Dyads between minor powers could also lead to war [...]. Wars in a multipolar world involving just minor powers or only one major power are not likely to be as devastating as a conflict between two major powers. However, local wars tend to widen and escalate. Hence there is always a chance that a small war will trigger a general conflict.11 While bipolarity is considered to be the most stable arrangement, and multipolarity the least stable, there is also the rare time when the system is unipolar in character. Put simply, unipolarity occurs when there is such a preponderance of power by one state that others are incapable of balancing against it. According to William Wohlforth, unipolarity is also a stable and peaceful arrangement: unipolarity favors the absence of war among the great powers and comparatively low levels of competition for prestige or security for two reasons: the leading state’s power advantage removes the problem of hegemonic rivalry from world politics, and it reduces the salience and stakes of balance-of-power politics among the major states.12 The status of the hegemonic power in a unipolar system allows for the expansion of its normative agenda, but also allows it to pacify international affairs because it lacks both a hegemonic rival and the effects of balance of power politics.13 As such, unipolar systems can be stable, depending on whom the hegemon is and what its vision for dominance might be. Since the end of World War II, only two types of polarity have been seen. Between 1945 and 1991, the system was bipolar, in that there were only two super- powers dominating the affairs of international politics. This bipolar arrangement was surprisingly stable and though smaller proxy wars erupted throughout the years of the Cold War, the relations between the two dominant powers, namely the United States and the Soviet Union, never came to a head. There are various explanations for why this was the case, but John Mearsheimer provides perhaps the most concise and accurate explanations as he contends that the absence of war in Europe and beyond throughout the Cold War can be attributed to three specific factors: the bipolar distribution of military power on the [European] Continent; the rough military equality between the two states comprising the two poles in Europe, the United States and the Soviet Union; and the fact that each superpower was armed with a large nuclear arsenal.14 At the conclusion of the Cold War, there was a clear and major shift in the distribution of power in the system, which translated into the unipolar moment. With the fall of the Soviet Union, the United States retained its superpower status and held a preponderance of power in virtually all areas of capabilities measurement. Christopher Layne contends that American hegemony is contingent upon two factors: First, the United States enjoys a commanding preeminence in both military and economic power. Second, since the Soviet Union’s disappearance, no other great power has emerged to challenge US preponderance. In this sense, US hegemony is the result of objective material conditions.15 Throughout the Clinton and early years of the Bush administrations, the role of the United States as systemic hegemon was virtually unquestioned, and it seemed as if American hegemony could last for a very long time. It was not until the latter years of the Bush administration that the waning of American hegemony began to become apparent. One of the key reasons the system remains unipolar is that there has yet to be a state that can balance against US power in either the hard or soft power senses. That said, the main reason for the decline in American hegemony has been a costly set of irrational and ill-advised foreign policy decisions, combined with years of economic overvaluation that eroded the hegemonic position of the world’s lone superpower.16 Both the intervention into Iraq, starting in 2003, and the fallout of the 2008 recession have served to substantially weaken the United States in both the hard and soft power contexts, and thus it is clear that a multipolar system is on the horizon. As Layne notes, “although a new geopolitical balance has yet to emerge, there is considerable evidence that other states have been engaging in balancing against the United States – including hard balancing.”17 The emerging great powers, especially China and Russia, will have a profound impact on the conduct of international relations in the years to come. Perhaps the most important area of security competition that has gone under- scrutinized from a systemic standpoint is the increased level of interest in the Arctic. Currently, the competing claims for the circumpolar region are mostly peaceful and focusing on diplomatic and legal battles, but recent trends suggest that non-violent strategy may not continue. As the era of American hegemony comes to an end, and a multipolar system begins to emerge, the impact on the Arctic region is likely to be profound due to the militaristic nature of state security strategies, unpredictability and a potential retreat from cooperation normally seen in multipolar structures. The Arctic in the unipolar moment One of the cornerstones of America’s unipolar moment has been the remarkable decline in interstate conflict. Since the fall of the Soviet Union in 1991, the international system has not been on the verge of any major war, nor have great powers aggressively pursued policies that would balance against American power in a way that would be taken seriously. According to many scholarly studies, the world since the end of the Cold War has become far more secure in the interstate sense, and security and defence policies of states are now preoccupied more with human- centric and intrastate variables than anything else. Though it is difficult to deny that the world has become more stable at the systemic level, the role of hard power and military capabilities did not disappear with the Soviet Union; instead, the use of militarism to achieve national goals in the unipolar moment greatly decreased as a direct result of the values and grand strategy of the United States. The impact of a unipolar systemic arrangement on state behaviour is best explained by the hegemonic stability theory.18 According to this theory, a unipolar structure is able to pacify the relations of states because there is recognition of the hegemon’s ability to control or intervene in conflicts that may threaten its power, or the order of the system. Wohlforth summarizes the basic precept of hegemonic stability theory by contending: The theory stipulates that especially powerful states (“hegemons”) foster international orders that are stable until differential growth in power produces a dissatisfied state with the capability to challenge the dominant state for leadership. The clearer and larger the concentration of power in the leading state, the more peaceful the international order associated with it will be [...] If the system is unipolar, the great power hierarchy should be much more stable than any hierarchy lodged within a system of more than one pole. Because unipolarity is based on a historically unprecedented concentration of power in the United States, a potentially important source of great power conflict – hegemonic rivalry – will be missing.19 It is essential to note two things about the status of the United States as systemic hegemon throughout the immediate post-Cold War era – first, that its preponderance of power in every area of capability measurement created a stable and less tense system in which states were able to interact; and second, that the United States’ time as hegemon has fostered the growth of multilateral institutions and agreements rather than a bullying type of unipolarity.20 From a systemic standpoint, it would seem that there is little reason to be concerned about military aggression, arms racing and distrustful competition in the modern system, but one vital concern to note is that much of the unipolar and hegeomic stability literature completely ignores the role of the Arctic in state security calculations. Throughout an era of institutional binding, regional integration, humanitarianism and soft power growth, the competition for the Arctic was following much of the same pattern, with states preferring to make their claims in institutional or legal settings. Yet, as the unipolar moment has started to decline, and multipolarity is on the horizon, the competition in the circumpolar region has taken on a very different tone. Competing claims over Arctic territories, such as the Northwest Passage, Beaufort Sea and other maritime boundaries, and the use of the region as a space for military exercises are by no means new and they have not come to the forefront of the strategic security agendas of states since the post-9/11 era. Rather, throughout the Cold War, the Arctic was a realm of constant supervision, not because either superpower wanted to develop the region, but more because of the mutual fear each side had of offensive attacks being launched over the pole. Even throughout the unipolar moment, the Arctic has been a space for sovereignty competition, but the nature of the competition had been mostly legal, institutional or soft power focused.21 Worth noting as well is the very complex nature of reasons for state interests in the Arctic. Mark Nuttall effectively summarizes the complexities of the high north as he claims: In the post-Cold War world [the Arctic] is seen as a natural scientific laboratory, under- stood as a homeland for indigenous peoples, a place of sovereignty conflicts, an emerging hydrocarbon province with which the world is coming to think of as one of the last major frontiers for oil and gas, and a region of dramatic environmental change.22 Though the intricacies of Arctic competition are intriguing to note, it is how states are strategically asserting their claims that is of particular importance. The start of America’s hegemonic decline has allowed states to revisit their approaches to the Arctic as nations jockey for position by balancing or rivalling American preferences. As a result, the nature of Arctic competition has incorporated both soft power and hard power elements. Further, the nature of militarism and hard power tension has increased due to the recent spending and strategic shifts by many Arctic states in recent years, including Canada, Norway, Sweden and Russia.23 The reasons for America’s decline are relatively unsurprising – military overextension in Afghanistan and Iraq; the lack of international support for American foreign policy objectives throughout the Bush era; the 2008 economic recession; and the utter dis- trust by most states, including close American allies, of the United States’ political objectives.24 The system remains unipolar, of course, but as stated above, the preponderance of power capabilities has substantially diminished, opening the door for others to balance and rival American power in the coming years. Coincidentally, it has also been the revelations of science in recent years that have also promoted a faster pace for those states making Arctic claims. The role of climate change and its impact over the Arctic has allowed for states to more freely move into the region and pursue strategies previously unavailable.25 According to Lotta Numminen, climate change has recently affected states’ perceptions of the possible economic opportunities in the Arctic in four ways: first, that the subsurface of the Arctic Ocean floor is assumed to contain substantial oil and gas reserves, to which there will be increased access; second, that melting waters will provide new waters for international fisheries; third, the increase in research strategies; and fourth, is the greater access to sea passages.26 One of the main reasons states see the Arctic region as such a lucrative area is the potential for increasing their respective economic and natural resource capabilities. Previously, the northern ice caps prevented states from entering most of the Arctic Ocean and surrounding areas, but as these environmental situations change, states have readily identified the high north as a priority in both their security and economic strategies. Among the main reasons the Arctic has not been more readily seen as a potential area for security competition and conflict is the interpretation that the United States has little or no interest in the circumpolar region at all. According to Stephen Brooks and William Wohlforth, American hegemony throughout the post-Cold War era was seen as passive, stable and enduring because of the lack of counter power being demonstrated in the system: Bounded by oceans to the east and west and weak, friendly powers to the north and south, the United States is both less vulnerable than previous aspiring hegemons and also less threatening to others. The main potential challengers to its unipolarity, meanwhile – China, Russia, Japan, and Germany – are in the opposite position. They can- not augment their military capabilities so as to balance the United States without simultaneously becoming an immediate threat to their neighbors. Politics, even international politics, is local. Although American power attracts a lot of attention globally, states are usually more concerned with their own neighborhoods than with the global equilibrium. Were any of the potential challengers to make a serious run at the United States, regional balancing efforts would almost certainly help contain them, as would the massive latent power capabilities of the United States, which could be mobilized as necessary to head off an emerging threat.27 Almost completely omitted from such interpretations, however, are America’s north- ern borders over Alaska and into the Arctic. Latitudinal thinking would seem to indicate that Brooks and Wohlforth are correct in terms of America’s interests in many areas of the globe, but this ignores what has been happening at the top of the world in the high north. It is not as if the United States has been ignorant of its own decline in power, especially regarding the Arctic. In 2009, the United States issued National Security Presidential Directive 66 and Homeland Security Presidential Directive 25 that deal exclusively with American Arctic policy. According to these directives, the alterations to national policies of other states regarding the Arctic compelled the United States to clearly outline the security and development strategies they would use to protect its Arctic interests. Among the first, and most clear, elements of the directives is the clear intention of the United States to defend their national security interests. According to Article III, subsection B 1 of the directives: The United States has broad and fundamental national security interests in the Arctic region and is prepared to operate either independently or in conjunction with other states to safeguard these interests. These interests include such matters as missile defense and early warning; deployment of sea and air systems for strategic sealift, strategic deterrence, maritime presence, and maritime security operations; and ensuring freedom of navigation and overflight.28 The contemporary changes to the international system as the era of American hegemony has begun to wane, the effects of climate change and greater access, and the increasingly militaristic strategies of most every Arctic state have led to a situation where tensions are at an all time high, and that legal or institutional processes are unlikely to resolve anything amicably. As the system continues its transition away from unipolarity, observers are left to ponder what might come next after an era of relative interstate stability. Multipolarity and the circumpolar In their 2002 article on the nature of United States primacy and the enduring aspects of American hegemony, Brooks and Wohlforth argue that the United States would have to act as a benevolent hegemon in order to prevent counterbalancing and to be able to build effective regimes worldwide. They argue: Magnanimity and restraint in the face of temptation are tenets of successful statecraft that have proved their worth from classical Greece onward. Standing taller than leading states of the past, the United States has unprecedented freedom to do as it pleases. It can play the game for itself alone or for the system as a whole; it can focus on small returns today or larger ones tomorrow. If the administration truly wants to be loved as well as feared, the policy answers are not hard to find.29 The problem with such analyses of American hegemony is that the Bush administration chose to ignore utterly such warnings and, rather than acting magnanimously, post-9/11 American foreign policy did precisely what it should not have. Pre-emption, coercion and irrational interventions, combined with a major economic recession, all serve to explain why American hegemony began to decline by 2005 in terms of both actual power levels and perceptions of legitimate hegemonic status.30 The clearest sign that American exceptionalism has been decreasing is the aggressive and regional balancing dynamics taking place between states in the Arctic region. Security strategy in the circumpolar region has altered dramatically since 2005, with more states showing interest, hard power spending increasing, and legal processes being coupled by at times overtly offensive strategy.31 Russia, Canada and a number of European states, especially Norway and Sweden, exemplify this line of argument about how sovereignty claims have become focused on traditional inter- state arms racing and militarism while soft power components, like governance structures and legal processes, continually evolve.32 As mentioned previously, even the United States has woken up to see that, as their hegemony declines, other states have begun to balance against them in the Arctic, thus provoking the 2009 Presidential Directives. Even so, Arctic interested nations have not yielded to American claims, nor has there been any evidence of America’s closest allies backing down in the face of its Arctic assertions, most clearly evidenced by Canada’s continued claims over the Northwest Passage.33 In the international relations canon, most observers point to either India or China as emerging great powers that are the most likely to counterbalance American power. The 2004 American National Intelligence Council report highlights this theory by stating: The likely emergence of China and India as new major global players – similar to the rise of Germany in the 19th century and the United States in the early 20th century – will transform the geopolitical landscape, with impacts potentially as dramatic as those of the previous two centuries. In the same way that commentators refer to the 1900s as the American Century, the early 21st century may be seen as the time when some in the developing world led by China and India came into their own.34 Both China and India have recently expressed their interest in Arctic affairs, but no power is as close to rivalling or challenging American power in hard power terms than Russia. This is especially true in the Arctic, as Russia’s Arctic policies have made its intentions towards asserting its control over territory it deems to be sovereign very clear. The role of the Arctic in Russian foreign policy cannot be understated. According to Russia’s 2008 Arctic policy document, the region is seen as the epicentre of Russia’s military and socio-economic development. The top two priorities for Russian Arctic interests are defined as follows: (a) In the sphere of socio-economic development – the expansion of the resource base of the Arctic Zone of the Russian Federation, in order to substantially satisfy Russia’s needs in hydrocarbon resources, hydro-biological resources, and other types of strategic raw materials; (b) In the sphere of military security, defense, and safekeeping of the state borders of the Russian Federation located in the Arctic Zone of the Russian Federation – the upkeep of a favorable operational regime in the Arctic Zone of the Russian Federation, including the maintenance of the required combat potential of military groupings under the Armed Forces of the Russian Federation, other troops, military formations and agencies in this region [...]35 In order to achieve these goals, the Russians have created a unique military brigade to be permanently posted in the Arctic, have placed a Russian Federation flag on the Arctic Ocean seabed, have conducted various missile tests, have sailed their nuclear submarines through contested waters and have openly challenged the abilities of other states to enforce their own claims. In response to Russian offensive posturing and the inability of the United States to dissuade security competition in the area, middle and minor powers have begun to use hard power as a means of trying to enforce their sovereignty. Perhaps the best example here is Canada, whose military capabilities are extremely weak, but strong rhetoric and a drastically increased level of high-north military spending since 2006 seems to indicate that the Canadian government cannot rely on its American alliances to protect its interests, and that posturing by states like Russia or even Denmark clearly threaten Canada’s national interests. As Norway, Sweden and Denmark have begun to put an emphasis on hard power capabilities to extend or defend northern claims, Canada has done the same. Worth noting as well in the Canadian context is that, while great powers like Russia and the United States can easily defeat any middle or minor power, Canada’s capabilities are being either rivalled or surpassed by European states like Norway.36 Canada’s realization of the evolving security and environmental climate in the Arctic has compelled changes to its domestic and foreign security policies, each seeking to assert Canadian sovereignty over areas of the Arctic, especially the Northwest Passage. One of the main components of now Prime Minister Harper’s 2005–06 campaign was to bolster Arctic security resources, as many Canadians have identified the region as an essential part of Canada’s national security and identity.37 Rob Huebert argues: The Harper government has increasingly recognized the significance of maintaining a strong presence in the Arctic and has vigorously begun to improve Canada’s northern abilities [...] The Harper government has also made a series of promises to consider- ably expand Canada’s northern capability [...] If these promises are implemented, Canada will have significantly improved its ability to control activity in its Arctic.38 In virtually any other area of the world, Canadian national security cannot be divorced from the United States, which is a partial explanation for why Canada has traditionally been considered a middle power since the end of World War II.39 Yet, since the start of American decline, the Canadian government has recognized that its fate in the Arctic will be its own, and not intrinsically tied to the protection of the United States, as the Americans have their own interests in the region and have shown a complete disregard for Canadian claims over the Northwest Passage and the Beaufort Sea. As the world moves towards multipolarity, it has become increasingly obvious that the Arctic region represents an area of increased security competition and a potentially conflictual region in the future. Multipolar systems are the most unstable, and history has shown these to produce military conflict due to the natural effects brought by a larger number of self-interested powers vying for power and security. Further, as new great powers begin to emerge, American strategic considerations will be spread so thin that they will be unable to prevent against their eventual loss of hegemony. The largest mistake being made at this time by international security scholars and policymakers is their normal obsession with China, India and latitudinal thinking. The next area of major war is not likely to be the Middle East, the Indian Ocean or the South China Sea, due to traditional security balancing, deterrence and economic interests in each of these areas. Multipolarity naturally brings the possibility of war. Mearsheimer contends that war is far more likely in multipolar systems for three reasons: First, there are more opportunities for war, because there are more potential conflict dyads in a multipolar system. Second, imbalances of power are more commonplace in a multipolar world, and thus great powers are more likely to have the capability to win a war, making deterrence more difficult and war more likely. Third, the potential for miscalculation is greater in multipolarity: states might think they have the capability to coerce or conquer another state when, in fact, they do not.40 Presently, there is little reason to believe that tension and strategic posturing will lead to the outbreak of war in the near future. That said, **as America’s influence continues to wane, other states have shown their desire to take full advantage of the United States’ inability to control northern affairs. If** the United States does lose its hegemony, which many commentators believe is inevitable, there will be at least four dyads in security calculations, with Russia, China and India entering the fray, and two of those states have Arctic borders and a historical legacy of conflict. Power imbalance in the Arctic is already apparent, with only Russia and the United States as great powers, while the other Arctic states are middle or minor powers with no hope of preventing a great power from doing as it pleases. Lastly, miscalculation is evident in the present context, as Sweden and Norway are both arming for possible Russian aggression, though Russia has shown little or no overtly aggressive tendencies towards Nordic nations. Unipolarity was not going to last forever, but as it fades the probability of northern conflict is ever increasing. The shift to hard power strategies, the effects of cli- mate change, and the decline of the United States all speak to the fact that multipolarity can increase levels of tension and mistrust, thus altering the currently stable nature of Arctic affairs. Efforts at Arctic governance through institutional binding or legal claims, as seen in the Arctic Council and UNCLOS, are able at present to mitigate the ongoing and ever increasing security competition in the high north, but as the system changes from unipolarity to multipolarity, constraining state behaviour becomes increasingly difficult. As such, observers must be mindful of the systemic variables at play when explaining and forecasting Arctic politics, as changes to the structure are very likely to translate into changes to state security strategies.

#### Goes nuclear

Wallace, 10

(Professor Emeritus at the University of British Columbia, March, “Ridding the Arctic of Nuclear Weapons A Task Long Overdue”, http://www.arcticsecurity.org/docs/arctic-nuclear-report-web.pdf)

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

#### Extinction

Corcoran 9

(PhD, Senior Fellow @ Global Security, Frmr. Strategic Analyst at the US Army War College where he chaired studies for the Office of the Deputy Chief of Operations and member of the National Advisory Board for the Alsos Digital Library for Nuclear Issues, we win the qualification game, 4/21, http://sitrep.globalsecurity.org/articles/090421301-strategic-nuclear-targets.htm)

That brings us to Russia, our former main adversary, now a competitive partner and still a potential future adversary, particularly as relations have gradually soured in recent years. Russia is the only other nation with a formidable arsenal of some three thousand strategic weapons. Our opposing arsenals were built up in the period when Mutually Assured Destruction (MAD) was the underlying strategic concept -- each side deterred from striking the other by the prospect of assured retaliatory destruction. The situation became even madder as both sides worked to develop a capability to destroy the other's strike force with a crippling first strike. This resulted in further large increases in the sizes of the arsenals, as well as early warning systems and hair-trigger launch-on-warning alert procedures. The final result was an overall system in which each side could destroy the other in a matter of minutes. And it also raised another chilling specter, Nuclear Winter, in which the atmospheric dust raised from a major nuclear exchange would block sunlight for an extended period and essentially destroy human civilization globally. The collapse of the Soviet Union collapsed this threat, but did not eliminate it. US and Russian nuclear forces remained frozen in adversarial positions. The May 2002 Moscow Treaty began to address this legacy and is leading to a reduction in strategic nuclear forces down to levels of about two thousand on each side by 2012. These levels are still sufficient to destroy not only both nations but also human civilization. It is hard to even construct scenarios where the use of even a few strategic nuclear weapons does not risk a total escalation. Strikes on Russian warning facilities or strike forces would almost certainly bring a wave of retaliatory strikes. Strikes on hardened command centers would be of questionable effectiveness and also risk total escalation. In addition, successful elimination of Russian leaders could greatly complicate any efforts to stop escalation short of a total nuclear exchange.

## 3

#### Advantage two is air power

#### Energy vulnerability cracks Alaska’s ability to be used for air power

Katkus, 10

(Adjutant General for the Alaska National Guard and the Commissioner of the Department of Military and Veterans Affairs. “AMFAST: Short-Term Strategic Plan,” 3/1, http://dmva.alaska.gov/content/amfast/AMFAST%20Short-Term%20Strategic%20Plan%20Final%20Copy.pdf)

Advancements and efficiencies in aircraft technology spawned air travel routes that intersect Alaska and established the state as a crucial cross roads. Alaska military assets provide rapid deployment of resources that follow these same patterns that provide some of the shortest distances to current threat nations. Alaska’s vast size, coupled with a relatively small population density and minimal metropolitan footprint, provide immense areas for training range development. Alaska has little pressure on its air space and few people encroaching on large tracts of land. There is relatively little urban development, negligent electronic or signal interference, minimal civilian use conflict, or public media access and attention. As a result, joint military training opportunities abound. Large maneuver areas allow for the combination of military forces from all services in sizes no other location in the U.S. could allow. Military units can exercise in realistic and challenging environments that thoroughly tests the limits of endurance and capability. The changing weather and environmental conditions, logistical challenges, terrain, and engagement areas provide unmatched realistic conditions for training exercises. The continued development and employment of the Joint Pacific Alaska Range Complex (JPARC) capitalizes on Alaska’s unmatched resource. Alaska’s immense and unencumbered area also provides advantage to testing and training of new technologies in unmanned systems. The rapid advance and development of unmanned weapon systems depend on safe testing operations in areas with little interference or risk to unrelated bystanders. These systems are an increasingly important asset to military operations. The Unmanned Aircraft Systems (UAS) is an excellent example that is rapidly becoming the cornerstone to the U.S. military. Alaska offers optimal space for training, testing, and development. Alaska’s polar location offers an immense advantage in the development of space launch capacity. Safety, remote launch areas, uninhabited impact ranges, and minimal consequence to urban areas provide facility development unparalleled advantage over similar infrastructure in other areas of the U.S. **Alaska presents tremendous opportunity that is often over shadowed by expense**. Remote and undeveloped tracts of land come with additional cost factors. Ground access to these areas is limited due to infrastructure and transportation system development. Unpredictable extreme weather patterns affect reliable and consistent regimens required for some training applications. **Energy sources from petroleum, and coal are** abundant but **expensive due to little production infrastructure**. Extensive environmental oversight provides numerous constraints and limitations on development and activity without thorough study, plans, and mitigation resources in place. Federal and State **budget constraints**, an extended war in two theaters and today’s economic environment, limit the monies available for new military expansion and investment without careful and deliberate planning. Synergy generated through synchronization is vital to the development of strategy. Emphasis on the unique attributes that only Alaska provides is critical to the advancement of our efforts. We must sell the strengths the state offers and offset perceived and actual weaknesses related to access, transportation, or energy costs. Our plan must include those areas where Alaska is clearly willing to invest capital and get “skin in the game.” Cooperation, shared vision, and unity of purpose are central to the advancement of both our robust military and our state economy.

#### Alaska key to airpower—necessary to address every conflict contingency in Asia

Schanz, 8

(Associate Editor-Airforce Magazine, “Strategic Alaska,” http://www.airforce-magazine.com/MagazineArchive/Pages/2008/November%202008/1108alaska.aspx)

Atkins said the Pacific Theater’s tyranny of distance makes it no accident that the only C-17 squadrons permanently stationed outside the continental US are in Hawaii and Alaska. Today, eight C-17s call Elmendorf home—part of Elmendorf’s mission transition to take advantage of the base’s strategic operating location. Previously, C-17s flying from the continental US would have to lay over in Alaska or Hawaii before proceeding west, to allow for crew swaps or rest time. Due to Alaska’s location, a C-17 is now a day closer to most destinations across the Pacific—and only eight hours from Germany over the North Pole. In May, US Pacific Command used two C-17s, one flying from Elmendorf, to speed over 175,000 pounds of relief supplies to China in response to the devastating Sichuan earthquake. "We can reach any critical point in the world in less than 10 hours," Lt. Col. Dave Almand, commander of Elmendorf’s 517th Airlift Squadron, said last year. In addition to a new strategic lift capability, Alaska is one of two locations outside the continental US that will host the Air Force’s top-of-the-line combat aircraft—the F-22A Raptor. Elmendorf’s 90th Fighter Squadron gained a squadron of Raptors in 2007—the first squadron outside the continental US. The 525th FS reactivated, and also received Raptors. (One F-15C squadron, the 19th FS, remains at Elmendorf.) At Eielson, the Air Force stood up a new aggressor squadron for Red Flag-Alaska. The base brought in Block 30 F-16s for the 18th Aggressor Squadron. "The ability for our pilots to leverage that capability is tied to the right airspace and range environments," Atkins said of the Raptor. "And Alaska affords that." A Training Ideal

By the end of 2009, about 40 Raptors will be stationed at Elmendorf, said Sanchez, the 525th FS DO. Other than the extreme climate, Alaska is **prime Raptor training space.** In Alaska, Sanchez’s pilots can train with an E-3 AWACS squadron—which is just across the ramp—as well as F-15Cs, he said. Coupled with the new aggressors at Eielson and the tanker support of the Alaska Air National Guard’s 168th Air Refueling Wing, the Raptor is well-supported to train for a variety of missions over Alaska’s sprawling military airspaces—the Pacific Alaskan Range Complex. "It’s going to grow into another **premier fighter training ground**," Sanchez, a former F-15C weapons officer and USAF Weapons School instructor, said of Alaska. "Most bases, to get that kind of training, they would have to deploy to a Red Flag or Nellis. ... We have a pretty good training setup, with Northern Edge and Red Flag-Alaska." Alaska’s capabilities are of **great importance in a wide range of contingencies and war plans across the Pacific**. "We’re not in [war plans] as a maybe. We’re in as a must," said Tinsley. The 3rd Wing’s F-22 Raptors deployed to Guam for the first time this July. While much of Alaska’s new capabilities have bedded down, the near future holds more change. A big push will be to get appropriate hangar space for arriving aircraft. Elmendorf currently features a seven-bay hangar, used by Raptor maintainers, which formerly housed C-130s and F-4s. A new facility is due by 2011, Sanchez said. Currently, the F-22s and F-15Cs share ramp space, but the milcon program is well under way to expand facilities. "Eventually we will have hangared space for all the aircraft," Sanchez said. "We’d prefer to have [the crew chiefs] inside, but we ... have space for major maintenance" right now. The base is in the middle of significant infrastructure upgrades for the new fighters. A Low Observable Component Repair Facility—a climate-controlled repair structure for stealth materials—was completed this past summer, and a new operations and maintenance squadron building is anticipated by 2011. On the mobility side, upgrades and construction on the books include a new dual-bay hangar, new operations buildings, and improvements to assault landing zones on the PARC. In July, the 517th Airlift Squadron performed the first dirt assault landing with a C-17 in Alaska on a strip near Ft. Greely. Alaska’s range space, what commanders call some of the best in the world, will also be the focus of increased investment. The large investment being made in improving the capabilities of the PARC—upward of $57 million over the next several fiscal years—will directly benefit Raptor training and the Red Flag-Alaska exercise. From bombing ranges to simulated integrated air defense systems, Raptor pilots will be getting a more robust experience up north as the ranges mature. The Air National Guard’s 176th Wing at Kulis Air National Guard Base will also move its HC-130s, C-130s, and HH-60s to Elmendorf—and a raft of modifications to older structures and new construction will follow the BRAC-directed move. For all of the shifts and changes, this much is clear: The cumulative power of airpower in the state is great. It is only fitting for a place that Brig. Gen. Billy Mitchell, way back in 1935, called "**the most strategic place in the world."**

#### Alaska vital to air mobility---only way to quickly project power in the Asia

King, 8

(JD-University of Pittsburgh School of Law & cum laude graduate of Harvard, Former staff member of the Chief of Naval Operations & field historian with the Navy, Alaska: “The Most Important Strategic Place in the World,” Part III, http://whiskeyandgunpowder.com/the-importance-of-alaska-part-ii/)

Hester stated that **the Pacific arena is critical for the next 100 years**. Hester expanded on this theme, saying, “When you don’t know where the fight is going to be, then you need to balance all of the pieces…Alaska is the place.” Here is the essence of strategic thinking and planning, distilled to a few words at a public welcoming ceremony. Hester went on, speaking in terms of time, space, and force, the trinity of the strategist and planner. “If I need F-22s somewhere deep in the Pacific, I can get there the fastest from Alaska. If I need them in Europe, they go right across the pole and jump into Europe. And in the Mideast, if they’re needed there, I can get them there.” Hester’s point was that by starting from Alaska, U.S. air power can reach those distant strategic points —the ones Billy Mitchell called **the “vital centers” — upon which great events pivot.** At the same time, Raptor aircraft in Alaska can defend the home turf, as well. Alaska is, of course, a key part of U.S. national security today. Alaska is a vital center of U.S. security, both geographically and geologically. After decades of hard work and tens of billions of dollars of capital investment, Alaska now holds immense and proven energy wealth. This treasure is contained in the form of known reserves and additional measured and inferred resources. This wealth begins with the oil and natural gas of the North Slope, which moves south every day through the Trans-Alaska Pipeline. And beyond the known areas of the North Slope, Alaska holds much more in terms of energy and mineral wealth. From the National Petroleum Reserve west of Prudhoe Bay to the gold of Donlin Creek, and much more, Alaska is a fabulously rich land. There is more of pretty much everything in the almost endless valleys and mountains of Alaska. In 100 years, people will still be making new discoveries. Strategic Alaska So yes, as the general said last August, “Alaska is the place.” Alaska is important. Alaska is strategic to the U.S. And as Alaska is the back door to North America, so it is strategic to our Canadian friends, as well. Alaska may have been “strategically insignificant” during World War II, but it sure is worth defending today. This is the strategic reality. And it is important to know and appreciate this reality. It has now been 73 years since Billy Mitchell told Congress that Alaska is “the most important, strategic place in the world.” So was Mitchell correct? Yes. From the standpoint of long-term security, Mitchell was absolutely correct. If U.S. policymakers — let alone the U.S. public — have finally come to appreciate how important Alaska is, then the realization comes not a moment too soon. But next comes a question that touches on a different sort of resource, namely the national budget. Alaska may be worth defending, but is it worth defending with F-22s? Some people argue that the F-22 is an expensive military relic. The Air Force began to design the F-22 during the days of the Cold War, and the Cold War is over. So who needs F-22s, right? Aren’t the Raptors just legacies of a U.S.-Soviet confrontation that has passed? Why buy Raptors? And why deploy them for “make work” jobs in Alaska, right? The Cold War Has Evolved Into…What? So is the Cold War really over? Have two great nations moved past the bad old days of U.S. airplanes and Russian bombers chasing each other across the skies near Alaska? Or has the Cold War evolved into something else? Is there another confrontation going on? This is not just some misplaced nostalgia for the good old days of eyeball-to-eyeball military stalemates. It is certainly not an atavistic desire for national leaders to revert to the behavior of Dr. Strangelove in the war room. Of course, the world has changed from a few years ago. But as the world changes, it is not moving backward. The Cold War has passed, but it is not over. The Cold War has evolved into a new, world-spanning strategic game that is just beginning.

#### Alaskan key to contain global conflicts

Katkus, 10

(Adjutant General for the Alaska National Guard and the Commissioner of the Department of Military and Veterans Affairs. “AMFAST: Long-Term Strategic Plan,” 7/1, http://dmva.alaska.gov/content/amfast/AMFAST%20Long-Term%20Strategic%20Plan%20FINAL.pdf)

**Alaska’s strategic global positioning is central to nearly every aspect of our incredible military history**. From the lend- lease program in World War II, to our nation’s current ground-based mid-course defense at Fort Greely, **the catch phrase location, location, location, is Alaska’s bread and butter**. **Future military investment capitalizes on the relevance of location. Alaska holds a critical geographic location that provides vital benefit and advantage to our military**. Our national military commanders and political leadership are quickly understanding and implementing ways to capitalize on this unique resource. The AMFAST long-term strategic plan crafts areas of focus that capitalize on Alaska’s unique location. The plan provides objectives that incorporate this advantage in making the United States military better and more potent in the future. It also identifies opportunities for our great state to provide a support structure that is **second to none in quality, flexibility, and reliability**. Global security concerns place Alaska at the forefront for arctic issues, natural resource production, and foreign affairs. Rearward positioned military personnel and assets in Alaska enjoy a secure location within our nation’s border, while simultaneously being forward deployed. This provides unmatched advantage for quick movement to any point in the northern hemisphere in less than nine hours. Alaska also offers **premier training space for all branches of our armed services**. The Gulf of Alaska Naval Training Area combined with the Joint Pacific Alaska Range Complex each provides incredibly large areas for unencumbered military exercise and maneuver training. These areas are free from civilian encroachment and development. They allow **full deployment of weapons, technology, logistics, and equipment** in support of the most comprehensive, military and security challenging, and realistic training available to our military formations as well as supporting an environment for research and development that is unmatched. Alaska holds roughly 20-percent of the entire United States’ land mass. The corresponding airspace allows for easily controlled commercial and private air traffic. Military air traffic flows without interference or danger to the public. As today’s security issues and threats evolve, Alaska’s strategic importance becomes increasingly relevant. As a nation, we must capitalize on this resource. We have an obligation and an unmatched opportunity to train and develop our military **to fight and win our nation’s wars.** The AMFAST long-term strategic plan is the guide to achieve and maintain a stable and healthy military presence in Alaska. Our great men and women in uniform deserve our very best support.

#### Air power solves multiple scenarios for war

Khalilzad and Lesser, 1

(PhD from the University of Chicago, counselor at CSIS, permanent representative to the UN, \*\*Senior Transatlantic Fellow at the US German Marshall Fund, former Vice President and Director of Studies at the Pacific Council on International Policy, RAND, “Sources of Conflict in the 21st Century”, p.164-5, http://www.rand.org/pubs/monograph\_reports/MR897/MR897.chap3.pdf)

This subsection attempts to synthesize some of the key operational implications distilled from the analyses relating to the rise of Asia and the potential for conflict in each of its constituent regions. The first key implication derived from the analysis of trends in Asia suggests that American air and space power will continue to remain critical for conventional and unconventional deterrence in Asia. This argument is justified by the fact that several subregions of the continent still harbor the potential for full-scale conventional war. This potential is most conspicuous on the Korean peninsula and, to a lesser degree, in South Asia, the Persian Gulf, and the South China Sea. In some of these areas, such as Korea and the Persian Gulf, the United States has clear treaty obligations and, therefore, has preplanned the use of air power should contingencies arise. U.S. Air Force assets could also be called upon for operations in some of these other areas. In almost all these cases, U.S. air power would be at the forefront of an American politico-military response because (a) of the vast distances on the Asian continent; (b) the diverse range of operational platforms available to the U.S. Air Force, a capability unmatched by any other country or service; (c) the possible unavailability of naval assets in close proximity, particularly in the context of surprise contingencies; and (d) the heavy payload that can be carried by U.S. Air Force platforms. These platforms can exploit speed, reach, and high operating tempos to sustain continual operations until the political objectives are secured. The entire range of warfighting capability—fighters, bombers, electronic warfare (EW), suppression of enemy air defense (SEAD), combat support platforms such as AWACS and J-STARS, and tankers—are relevant in the Asia-Pacific region, because many of the regional contingencies will involve armed operations against large, fairly modern, conventional forces, most of which are built around large land armies, as is the case in Korea, China-Taiwan, India-Pakistan, and the Persian Gulf.

Risk of territorial disputes is high in the Pacific

Webb 9/20/12

(Jim, Sen. Foreign Relations Committee, Former Secretary of the Navy, also served as the first Assistant Secretary of Defense for Reserve Affairs, “Hearing on Maritime Territorial Disputes and Sovereignty Issues in Asia” Opening Remarks, September 20, 2012, Congressional Testimony)

Today, the East Asian and Pacific Affairs Subcommittee will consider the impact of recent and ongoing maritime territorial disputes and sovereignty in Asia, one of the most critical issues of strategic importance for the United States and for the entire Pacific region. I have written and spoken about this issue for many years, since long before I entered the Senate. It was the subject of the first substantive hearing I held as chairman of this subcommittee, in July 2009 and it probably will be the subject of the last substantive hearing that I am holding as the chairman of this subcommittee. Unfortunately, since that time the disagreements over sovereignty and the potential for conflict have only increased. In addition to the much-publicized “pivot” into East Asia, it is imperative that the United States policy be based on a clear set of principles that everyone here at home and in the region can understand, and from which our enduring relationships can continue to grow. Throughout my entire professional life I have worked to emphasize the importance of a strong United States presence in East and Pacific Asia. To state the obvious, the United States has strong, enduring, vital interests in East Asia, and East Asia would be a far more volatile place if the United States were to recede from the region. Since World War II, our country has proved to be the essential guarantor of stability in this region, even as the power cycle shifted from Japan to the Soviet Union and most recently to China. Economically and politically, all of East Asia and the Pacific has benefited from the stability that has been made possible by our involvement in this region. I reiterate this point in order to emphasize that neither this hearing nor any other comments and writings that have been made over the years by me are intended to diminish or discourage the evolution of our larger relations with China. The great value that the United States has added to the complex historical mix of East Asia transcends any one country. The concerns that are raised today would have been raised just as quickly if they were directed at Japan during the 1930s, or the Soviet Union when I was a Department of Defense executive in the 1980s. The United States does not seek hegemony in this region, nor does it seek containment. Its vital interest is stability, which allows countries of all different populations and sizes the opportunity to resolve their differences without fear of intimidation or the tragic consequences of war. And history teaches us that when stability is lost in East Asia, violence replaces it. The strong presence of the United States in the Pacific Asia region since World War II has been invaluable in the economic development and growth of more mature political systems throughout the region. This was true even in our frequently misunderstood effort in Vietnam. As Minister Mentor Lee Kuan Yew of Singapore commented in his memoir From Third World to First, “Although American intervention failed in Vietnam, it bought time for the rest of Southeast Asia….America’s action enabled non-communist Southeast Asia to put their own houses in order….Had there been no U.S. intervention, the will of these countries to resist would have melted, and Southeast Asia would have most likely gone communist. The prosperous emerging market economies of ASEAN were nurtured during the Vietnam War years.” During the Cold War, American policy encouraged a stronger relationship with China partly as a way to counter Soviet influence in East Asia. But massive American investment in China, coupled with the abrupt fall of the Soviet Union, helped enable a rapid and continuing power shift in favor of China, at the same time that American concerns in Pacific Asia were placed on the back burner due to the manner in which our attention was distracted by the volatility of events in Iraq, Afghanistan, and the Muslim world. In April 2001, following the collision of a Chinese fighter with a U.S. reconnaissance aircraft in international airspace, I warned of this development in an article in The Wall Street Journal, noting that “China engaged in a massive modernization program, fueled largely by purchases of Russian weaponry and bolstered by the acquisition of American technology,” which was having an impact on sovereignty claims in the East China Sea and the South China Sea. I warned in that article that China “has laid physical claim to the disputed Paracel and Spratly Island groups, thus potentially straddling one of the most vital sea lanes in the world… has made repeated naval excursions into Japanese territorial waters, a cause for long-term concern as China still claims Japan’s Senkaku Islands … and has never accepted the legitimacy of Okinawa’s 1972 reversion to Japan.” In 2006, in the final debate of my campaign for the United States Senate, I was allowed to ask my opponent one question. I asked him what he thought we should do about the sovereignty disputes in the Senkaku Islands. For a region in relative peace compared to the rest of the world, East Asia has a significant number of open territorial disputes, mostly with maritime borders. China and Japan both claim the Senkaku Islands in the East China Sea. China, Vietnam, the Philippines, Brunei, Malaysia, and Taiwan all claim sovereignty over all or part of the Spratly Islands, also in the South China Sea. Japan and Korea claim sovereignty over the Liancourt Islands, also known as Takeshima by Japan and Dokdo by Korea. Japan and Russia claim the Kuril Islands. These are open, active disputes. They involve not only claims to the land features but also claims to surrounding waters. And as all of these Asian nations have grown more prosperous, their sovereignty claims have become more fierce. It is the policy and the desire of the United States to pursue harmonious relations with each of these countries. We also recognize that these countries have long and complicated histories with each other which impact these claims. We take no sides in the resolution of such historical disputes. But we should not refrain from using our influence to discourage the use of military force or the unilateral expansion of claims of sovereignty. And it should be within the creative energy of our leadership to seek proper venues for the resolution of these disputes, particularly in the area of the South China Sea. What we have been witnessing over the past several years is not simply a series of tactical disputes. They are an accumulation of tactical incidents designed to pursue a larger strategic agenda. Virtually every country in the region understands that. It is the duty of the United States to respond, carefully and fully, to it. In the past week, our most important ally in Asia—Japan—has come to the brink of open conflict with our largest creditor—China—over claims to the Senkaku Islands. This latest incident represents years of growing tension. In 2008, Japan and China agreed to develop oil and gas resources in waters near the Senkaku Islands, in an effort to focus on the benefits of economic cooperation. This cooperation was cut short in 2010 when a Chinese fishing captain rammed a Japanese coast guard vessel near the islands. Last week, Japan’s government announced that it would purchase land on the Senkaku Islands from its private Japanese owner, in an attempt prevent the governor of Tokyo from purchasing this land and perhaps using it to stoke further controversy. A move that the Japanese government expected to relieve tensions was met with widespread misunderstanding, including a blast by China. Last Friday, China sent six maritime surveillance ships into waters around the islands—the largest-ever intrusion by China into this area. Anti-Japanese protests in China have reached a new height. These protests, abetted by the Chinese government, have damaged Japanese-owned businesses and caused considerable harm. On Tuesday, following a meeting with Secretary of Defense Panetta in Beijing, China’s defense minister stated that China reserves the right to act further against Japan in this dispute—which can only be read as a threat of the use of force. This threat has direct consequences for the United States. In 2004, the Bush administration stated clearly that the Japanese-U.S. Security Treaty obligations extended to the Senkaku Islands, which according to accepted principles of international law, are under the administrative control of Japan. Secretary Clinton reiterated this position in 2010 following the incident with the Chinese fishing boat. Given the recent incursion by China into waters around the Senkaku Islands, it is vital that we continue to state clearly our obligations under this security treaty. For several years, China has also demonstrated an increased willingness to use force in the South China Sea. Its claims in this area are based upon a roughly defined “9-dashed line”, the so-called “cow’s tongue,” encircling the South China Sea. In 2009, Chinese vessels harassed a U.S. maritime surveillance ship, the USNS Impeccable, and then a Chinese submarine collided with the sonar cable of the guided-missile destroyer USS John S. McCain while it was operating in the South China Sea. Last year on three separate occasions in March, May and June, China interfered with the maritime surveillance activities of Vietnamese and Filipino ships by cutting their cables. Following those incidents, I introduced a Senate resolution deploring the use of force by China and reaffirming U.S. support for the peaceful resolution of maritime territorial disputes. This resolution passed the Senate unanimously. This year in April, tensions in the Scarborough Shoal—an area less than 200 miles from the Philippines coast—escalated as a Filipino coast guard vessels investigated illegal fishing by China. In response, Chinese maritime enforcement ships, backed by PLA naval vessels, roped off the mouth of the lagoon denying access to the territory. China also retaliated through trade measures by blocking Filipino banana exports. In June, Filipino ships withdrew from the standoff due to weather concerns, but Chinese ships remained and are there today. In July, the Chinese government began implementing a decision to assert administrative control over this entire region. It established a prefectural-level government called Sansha on Woody Island located in the Paracel Islands chain, and appointed 45 legislators, a Standing Committee, a mayor and a vice mayor. Woody Island, also called Yongxing, has no indigenous population, no natural water supply. The jurisdiction of this new prefecture extends to more than 200 islets and over 2 million square kilometers of water—in other words, virtually the entire South China Sea. This political shift has been matched by economic and military expansion. In late June, the China National Offshore Oil Corporation (CNOOC) opened bidding on oil blocks that fall within Vietnam’s exclusive economic zone and establishing overlap with oil blocks that Vietnam itself is developing—some in partnership with United States firms. Within days of the Sansha prefecture, China’s Central Military Commission announced that it would deploy a garrison of soldiers to guard the area, and conduct regular combat-readiness patrols in the South China Sea. Other countries in the South China Sea have been actively working to reinforce their claims in the face of such developments. In June, Vietnam passed a new Maritime Law that restates Vietnam’s claim to the Paracel Islands and Spratly Islands. The Philippines has been working through the United Nations Commission on the Limits of the Continental Shelf to delimit its expanded continental shelf and clearly define its maritime boundaries. All countries are seeking to benefit from the resources in the region, claiming mineral development rights or fishing rights. However, China’s actions this past year go a step farther in attempting to expand administrative and physical control over areas in the South China Sea previously out of its internationally recognized jurisdiction. These incidents have coincidentally been occurring near the anniversary of Japan’s September 18, 1931, invasion of Manchuria. Historian Barbara Tuchman noted that the failure of the international community, and particularly the League of Nations to respond to the Mukden incident at that time “brewed the acid of appeasement that…opened the decade of descent to war” in Asia and beyond. The precedent for Munich was set in Manchuria and China lived through the consequences of the international community’s failure to address the unilateral actions taken against its territory. One hopes the present government of China will appreciate the usefulness of international involvement in finding solutions to the increasingly more hostile sovereignty issues in Northeast Asia and in the South China Sea. All of East Asia is watching the United States’ response to these recent Chinese actions in the South China Sea and East China Sea, particularly the countries of ASEAN, with whom we have shared expanding relations, and Japan and the Philippines, two countries with whom we share the solemn commitment of being treaty allies.

Goes nuclear

Chakraborty 10

(United Service Institution of India“The Initiation & Outlook of ASEAN Defence Ministers Meeting (ADMM) Plus Eight,” pg online @ <http://www.usiofindia.org/Article/?pub=Strategic%20Perspective&pubno=20&ano=739>)

The first ASEAN Defence Ministers Meeting Plus Eight (China, India, Japan, South Korea, Australia, New Zealand, Russia and the USA) was held on the 12th of October. When this frame work of ADMM Plus Eight came into news for the first time it was seen as a development which could be the initiating step to a much needed security architecture in the Asia Pacific. Asia Pacific is fast emerging as the economic center of the world, consequently securing of vulnerable economic assets has becomes mandatory. The source of threat to economic assets is basically unconventional in nature like natural disasters, terrorism and maritime piracy. This coupled with the conventional security threats and flashpoints based on territorial disputes and political differences are very much a part of the region posing a major security challenge. As mentioned ADMM Plus Eight can be seen as the first initiative on such a large scale where the security concerns of the region can be discussed and areas of cooperation can be explored to keep the threats at bay. The defence ministers of the ten ASEAN nations and the eight extra regional countries (Plus Eight) during the meeting have committed to cooperation and dialogue to counter insecurity in the region. One of the major reasons for initiation of such a framework has been the new face of threat which is non-conventional and transnational which makes it very difficult for an actor to deal with it in isolation. Threats related to violent extremism, maritime security, vulnerability of SLOCs, transnational crimes have a direct and indirect bearing on the path of economic growth. Apart from this the existence of territorial disputes especially on the maritime front plus the issues related to political differences, rise of China and dispute on the Korean Peninsula has aggravated the security dilemma in the region giving rise to areas of potential conflict. This can be seen as a more of a conventional threat to the region. The question here is that how far this ADMM Plus Eight can go to address the conventional security threats or is it an initiative which would be confined to meetings and passing resolution and playing second fiddle to the ASEAN summit. It is very important to realize that when one is talking about effective security architecture for the Asia Pacific one has to talk in terms of addressing the conventional issues like the territorial and political disputes. **These issues serve as bigger flashpoint which can snowball into a major conflict which has the possibility of turning into a nuclear conflict**.

#### Alaskan missile defense will be rendered ineffective because it’s connected to the grid

Clayton, 12

(CSM Staff Writer, 4/25, Weakness in Systems used by Pentagon Power Grid, http://www.csmonitor.com/USA/2012/0425/America-s-Stuxnet-Weakness-found-in-systems-used-by-Pentagon-power-grid)

An amateur enthusiast has found evidence that hackers could exploit a security vulnerability in the systems of a company that serves power plants and military installations. An amateur cybersecurity researcher who bought industrial computer networking equipment on e-Bay for fun has discovered a critical weakness in equipment that helps run railroads, power grids, and even **military installations nationwide.** The vulnerability means that hackers or other nations could potentially take control of elements within crucial American infrastructure – from refineries to power plants to **missile systems – sabotaging their ability to operate from within.** Analysts say the problem is likely fixable, but the enthusiast says he has gone public only because the company that manufactures the equipment, RuggedCom of Concord, Ontario, has declined to address the issue since he made it known to them a year ago. “It’s clearly a huge risk,” says Dale Peterson, CEO of Digital Bond, a control systems security firm in Sunrise, Fla. “Anytime someone can take down your network infrastructure, essentially cause a loss of control of the process – or your ability to monitor it, very dangerous things can happen.” The vulnerability has to do with what is known as a digital “back door.” The back door is a secret login that allows the manufacturer to get into the equipment’s control systems without anyone knowing about it – even the purchaser. In theory, manufacturers could use their back doors to send updates to the equipment, but since they are secret, their use is not well known. The discovery of back doors built into digital industrial control systems is not unprecedented. In fact, RuggedCom was recently acquired by a subsidiary of Siemens AG, the giant German industrial engineering company that has been criticized for using hidden, yet vulnerable, back doors in its control systems. What is unusual is that RuggedCom’s equipment is often used as a digital fortress, protecting from hackers far more vulnerable systems that throw mechanical switches or close and open valves. Also surprising, experts say, is that the password needed to enter through this back door appears to be relatively easy to hack. If hackers can get through the back door of RuggedCom’s routers and digital switches, the entire system that they are a part of becomes vulnerable. For example, Stuxnet, the world’s first publicly identified cyber super weapon, in 2009 wreaked havoc on Iran‘s nuclear centrifuge refining system by exploiting a password hidden inside a Siemen’s operating system. “It is a very serious threat,” says Robert Radvanovsky, a cybersecurity researcher and cofounder of Infracritical, a think tank focused on shoring up cyber weaknesses in critical infrastructure. “The big concern is that these devices are what connect to the control systems that run the substations where power gets routed.” RuggedCom sells “hardened” equipment designed to run around the clock in any temperature or weather condition. So it has a variety of clients seeking such robust machinery. Defense-industry customers mentioned on the RuggedCom website include big names like Boeing and Lockheed Martin, while power-industry customers include several of the nation’s largest utilities – American Electric Power, National Grid, Pepco, and others. The systems are also used by transportation authorities in the cities of Houston, Lakeland, Fla., and in Washington State and Wisconsin. Pipelines, refineries, traffic lights, trains, **military systems** – all **are at greater risk, especially to adept hackers belonging to nation-state intelligence agencies**. The “good news,” Peterson says, is that even though the vulnerable systems are widespread, the problem is likely fixable, unless the RuggedCom operating system is too reliant on the back door login and its weak password-encryption system. A RuggedCom spokesman, responding to an e-mail query, wrote that the company would be unable to respond Wednesday to Monitor queries about the vulnerability. Feeling the company was dragging its heels and might never fix the problem was a key motivator for Justin W. Clarke, the San Francisco-based researcher who finally decided to reveal the threat a year after he first informed RuggedCom managers about it. RuggedCom said in mid-April that it would need three more weeks to notify customers but did not say whether it planned to fix the back door access with a firmware upgrade, Mr. Clarke says. “I didn’t do this for money – I didn’t get paid for this,” he says. “I just wanted the problem fixed and nothing I heard from the company ever indicated that would happen.” Everywhere he went during his day, he says, he saw the systems he knew how to hack sitting there vulnerable – from traffic light control boxes to power substations. He learned about the vulnerabilities after buying the company’s devices off e-Bay “when they showed up cheap,” says Clarke in an interview. “This is something I do in my spare time with own money. I’m just this guy on street who knows how to do very bad things to important equipment, and I couldn’t stand that feeling so many systems – even in our military – were so vulnerable.” He hopes a fix will come out now that the US-Computer Emergency Readiness Team, a federal cyberwatchdog, issued a vulnerability warning Tuesday, and its sister agency focused on industrial computerized control systems put out its own warning Wednesday. Testimonials on the RuggedCom website show how deeply embedded its equipment is inside some of the most important US systems. Located at the end of the Alaska’s Aleutian island chain, about 300 miles from the coast of Siberia, the Shemya Island power plant **provides power to National Missile Defense Authority facilities on the island.**

#### Energy insecurity collapses Alaskan missile defense—vital to solve ICBM threats

Begich, 9

(The Honorable Mark Begich-US Senator from Alaska, “Alaska's Strategic Role in the Defense of the United States and the Vital Role of Missile Defense

9/10, http://www.heritage.org/research/lecture/alaskas-strategic-role-in-the-defense-of-the-united-states-and-the-vital-role-of-missile-defense)

Over the past six years, the military has run 34 hit-to-kill interceptor tests, almost all of them successful. Now, in the face of a belligerent North Korea and an increasingly isolated Iran, funding for the missile defense initiative has been slated to be cut by $1.4 billion. While the world is changing, America and our allies still need to be defended from these growing missile threats. Today, I'm very pleased to welcome a special guest to contribute to this important national conversation. Senator Mark Begich was elected to the U.S. Senate from the state of Alaska last November. Before that, having been born and raised in Anchorage, he served on the City Council of Anchorage; he served on numerous state committees and commissions; and he served most recently before his Senate service as mayor of Anchorage, which is Alaska's biggest city. He has been on the Board of Regents of the university. He knows the challenges facing Alaska very well. More important, he serves on very significant committees: Commerce, Science and Transportation, Veterans, and -- most important for today's discussion, not only for Alaska, but for the entire United States -- the Senate Armed Services committee. We are particularly pleased he could join us today because, as many of you know, right now, at this very moment on the Senate floor, the Defense Authorization bill is being debated. Edwin J. Feulner, Ph.D., is President of The Heritage Foundation. The Honorable Mark Begich: I sit as a Democrat from Alaska on the Armed Services Committee. It's the first time anyone from Alaska has been on that committee since 1968. It's a very interesting time, and Alaska is a very different state. I was born and raised there, and I know. In my own caucus, first, they wonder why I'm here today talking to your group. They wondered, "Are you sure you have the right building?" I said, "Absolutely." But several other Democrats were actually very supportive of me coming over. I'm a Democrat that has a little different view. I come to the Senate with a pro-defense, pro-gun, pro-development, pro-privacy viewpoint. Alaskans are very libertarian in that area of privacy. We're very strong on defense. We just had a vote, as a matter of fact, on the Thune amendment, which was about concealed-carry laws for guns. It was interesting because when the bill first came out, about two or three months ago, I was presiding. Listening to Senator Thune talk about this new piece of legislation, I thought, I like that. So as he was finishing, I turned to the one of the pages. I said, "Have him come up here." He came up, and I said, "I want to cosponsor that legislation." And this week, when he was preparing to present it, he says, "I have a bipartisan support on this legislation." It was like 22 Republicans and me, so I felt I was carrying an incredible load on my back and on my shoulders, but I felt good. We just took the vote. It failed by just two votes. He had to get 60, and he got 58 in the final call. I forget the exact number of Democrats, but there were about 15. A lot of them are freshmen, new Democrats, and we come from a different perspective. In a lot of ways, it's not surprising to my Alaskan voters that I would be here today. I never turn down any group to speak in front of. I don't care if it's the Alaska Independence Party who wants to secede from the United States to the Alaska Center for the Environment to Gay Pride: You name it, I go, because what people get from me is pretty straight talk, and I like to hear what people's views are. It helps me develop who I am as a person. The Northern Perspective on National Defense Today I want to discuss national defense issues from a perspective you may not have heard often: the Northern Perspective. Those of us from Alaska truly view things a little differently. Anchorage is the largest city in Alaska; it's actually 43 percent of the state's population. On top of that, we're an international city. We can touch, within nine hours from Alaska, 90 percent of the industrialized world by air. We do business with Japan, Korea, China, Russia. Probably about every four or five weeks I would do interviews with international press corps that would come to Anchorage and talk about the strategic importance of Alaska, and especially Anchorage. Just to give you one other data point, Anchorage is the second or third -- it goes back and forth -- largest cargo hauler in the world. We move more cargo than almost everywhere else, except a couple of cities, in this world. So if you're shipping anything west of the Mississippi internationally, more than likely it's coming through Anchorage. UPS as well as FedEx's international headquarters are in our city. I say that because also, from a military perspective, they understand that strategic importance. When you think back to when Alaska was set up and originally purchased in 1867, the U.S. Army helped administer it, and then the next group about 10 years later was the Navy and the U.S. Revenue Service. We ended having the Coast Guard as one of our biggest components. As time progressed and the gold rush occurred and Alaska continued to move forward, we saw -- and it was General Billy Mitchell that understood -- the air strategic location of Alaska back in 1935 when air was just becoming more aggressively part of the equation. His famous quote was, "Alaska is the most strategic place in the world from a military standpoint." As you can imagine, with World War II and the buildup of Alaska's vital role, the nation's defense grew dramatically. The Alaska Highway was constructed by the military and military equipment. I don't know if anyone's ever subjected themselves to driving the Alaska Highway; this was a road that the military constructed in record time. The idea was to move goods into Alaska for a strategic location. It was built by the Army. Also, we had a unique group of individuals. They were Alaskan people, Eskimos, Alaska Territorial Guard, who were really our eyes and ears on the shores of Alaska for the United States. A very important group. There's not many left now. As a matter of fact, I'm battling right now in the Department of Defense budget to get a little clause taken care of. These are individuals, about 26 of them, who served this country for more than 20 years, and the Army will not pay them a pension. But they get Veterans Administration benefits. It's a small group that is 86 years old. They actually paid them for a short period of time; then they cut them off and told them they might have to repay it. I said, "What are you talking about? These individuals served our country. They were on the front lines. They volunteered to serve, and then they continued to serve in the military in other capacities for another 20-plus years." So we are aggressively working on that. Iraq and Afghanistan Alaska, again, as we move into where we are today, is very vital. We have 30,000 active duty members from all branches, from all our bases, from Elmendorf, Eielson, and Clear Air Force bases, as well as Forts Richardson, Wainwright, and Greely, which are our Army bases. These bases are home to the latest and greatest military equipment. The big debate yesterday was F-22s. We have F-22s. We have a whole complement of them, and we're very proud of the fact that we have them. We also have the C-17s. If you've ever been in one of those, it's an incredible aircraft, one that is making a big difference. We also have a Stryker brigade, the Army's model deployable brigade combat team, to fight the counterinsurgency, which is critical. Our Stryker brigade already has seen activity in Iraq, and another Alaska airborne brigade combat team has recently been deployed to Afghanistan. I'm sure you've seen the recent accounts of PFC Bowe Bergdahl, who is from Fort Richardson, originally from Idaho but stationed at Fort Richardson. Alaska also is the home to 75,000 veterans, the highest per capita in the nation, 11 percent of our population. I want to give you this background so you see the backdrop of what I deal with as a person who sits on the Armed Services Committee and is involved heavily in the issues that surround the military in Alaska, but also our country. Five us recently came back from Afghanistan and Pakistan. Tom Carper (D-DE), Mark Udall (D-CO), Kay Hagan (D-NC), and Jeanne Shaheen (D-NH) went on this trip, along with myself, to really understand what's going on in Afghanistan and Pakistan. We got there just as things started to move. We left one of the cities, and it was bombed the next day or so. We were there in the heightened area. But it was important to understand, because I wanted to know what makes sense, what do we need to do, especially as we deal with what affects our troops. Alaska has nearly 10,000 troops deployed in Afghanistan and Iraq. When you think of our state, a lot of people say it's just a small state up north. But if you think of the volume, we're the sixth among all states and territories in volume of personnel serving in Iraq and Afghanistan. The trip was an eye-opener, to be very frank with you. It gave me a sense of where we need to be and how the counterinsurgency is working; but also, spending time in Pakistan was very important. We were there right when the shift was starting to occur, where the military in Pakistan was finally realizing they have to move their forces over to the border with Afghanistan to make some impact; otherwise they're going to be overrun. So for us, it's important; for this world, I think it's important. We want a stable government in Pakistan. We want to make sure that the Taliban does not take control of their government in any form or any way. We were there right when this was all starting to move and shift, so when you talk about being at the right place at the right time, this may have been yes on one day but no on the next, because you weren't sure what was going to happen next. Also, as we finished there, North Korea was getting active. We were travelling and then starting to get reports as we went with regard to North Korea and what's going on there. Alaska and Missile Defense As you know, in Fort Greely, we're very fortunate to have the ground missile defense system. Greely currently has capacity for 26 missile interceptors, maintained by members of the Alaskan National Guard. The interceptors can be launched to intercept an incoming enemy missile. It's hard to describe this to people who are not aware of it. It's a bullet hitting a bullet. That's the technology. It's an incredible technology that has developed over the last several years. One of the arguments early on was, it doesn't work. Well, that's why you're testing it. I could never understand that argument. As soon as you got it up and running, they said it doesn't work. No, you're testing it, you're improving it, you're advancing the technology. If you ask the military today, as we have done in the Armed Services Committee, about the missile defense system overall, it's 90 percent accuracy. That's not too bad, and it's because of robust testing and the issues that the military has been homing in on involving better technology. As you know, the President had proposed cuts to not only the ground base, but also some other programs within the missile defense system. The budget that's in front of us today has, on the ground missile defense system, the continuation to a certain extent of that program, but it also still has a termination of the Multi Kill Vehicle as well as the Airborne Laser Tail 2. This is mainly because in the eyes of the committee, as well as the individuals that were developing the systems, we were jumping to production, and they want to continue to focus on the experimental stage, which seems rational. But we have to be very careful that people don't just throw out the whole missile defense system because they think that's old technology and that's not where we are today. That's an incorrect view. The GMD system, as you know, is in Alaska and California, and it's supported by an array of radars deployed all around the world. It's an American-based defense system to protect our nation. It's the only operational missile defense system. The decision to reduce the total number of deployed operational interceptors from 44 to 30 was the President's proposal. The investment strategy may have changed, but the threat clearly hasn't. Consider the quantity of missile testing that North Korea has done since this budget proposal was presented by the Administration. North Korea has launched 16 ballistic missiles and conducted one underground test, as well as a multi-stage long-range missile. The latest launch on July 4 means that 70 percent of the missile tests that they have done since 1988 have occurred since April of this year. Maybe it's a coincidence, but I'm not sure I like that coincidence. As they do these tests, they're perfecting their technology, but they're also showing their wares. First, they want to improve their technology. Second, they want other countries to see what they have, because they're in the business of selling too. That's what they do. That's part of their hard cash economy. So it's not just about North Korea and what they might do; it's what North Korea will do and who they will sell it to. We have to keep that all in perspective. Robust Testing and the Long-Term View Fort Greely is the home of most of our Ground-Based Midcourse Defense Interceptors. Alaska soon will be the home of the Sea-Based X-Band Radar, which is currently going through some testing and will be located in Adak. Along with that, the Kodiak, Alaska, launch is important because it's also a launch facility for testing to replicate enemy threats and launches. This is in Alaska. The good news on this front is that Secretary of Defense Robert Gates made it very clear that he wants robust testing, and, again, we're very supportive of that. We think that's important. If you don't have robust testing, you cannot perfect the technology. In the weeks since the announcement to reduce the number of Alaska-based interceptors by the Administration, the Missile Defense Agency has had to do some fast analysis. Part of the problem is deteriorating conditions for what's called Missile Field 1. In Alaska, you have Missile Field 1; then you have completed Missile Field 3, and then Missile Field 2 that we're now doing. What they quickly found as we were going through this discussion in our committee was that Missile Field 1, which was originally six silos for the interceptors, was designed to be a test facility and was put together very quickly. Because of that, it has leaking antifreeze, has mold contamination, outdated copper pipes that are freezing and thawing, and a variety of other things which, as you can imagine, for a missile silo are not good to have. We learned this through the discussion of the committee, which was not public until we brought it out. And what we found was, even under the robust plan as they claim they had in the Administration, what was about to happen was that they were going to have less capacity because the first six silos are inadequate and are deteriorating. It was important for us to make that point. Also, the plan for Missile Field 2 is to stop the construction, close it down, seal it up, move on. We debate a lot about cost overruns, expensive things we're doing. The problem with that is, why would you take all the work that's being done there, shift it out of there, all the people and equipment, and then, now that we've got to replace the six that are deteriorating, bring them all back and do the next six or seven? What we argued for in committee, and were successful in Missile Field 2, was to make sure that the next seven silos be finished. So, as they figure out how to decommission the first six, there's seven silos to move forward until they finish their long-term planning in regards to the Defense Review as well as the Ballistic Missile Defense Review. Our view was, why would you make a decision when you don't have a plan yet of what you want to do with ballistic missile defense systems? The argument was received in a positive way by the committee. It worked, and they were unanimous in the final outcome. Also, we made sure to ensure that Congress has all the information available at the time of the budget submission in the future, which is critical because we did not have it this time. I know how the system works; I used to be a manager as a mayor, and when you control the information, you deliver as you see fit. In this situation, we've made it very clear in Section 243 of the Defense Authorizing bill to provide future-year defense plans annually that provide a schedule and plans for testing, sustainment, development, and deployment of GMD. What we were working on when we were doing this budget was a 2010 kind of budget only. With missile defense, it's a long-term view you have to have. You have to see the whole picture, and we were only being delivered this short-term picture. When we started asking questions about 2011, 2012, 2013, that's when we started to learn about Field 1 and what was happening with that. They had no plan yet to deal with that, so we had to help develop it through the process. This will make it clear that they must work through this process with us and show us the long-term picture. Energy Independence and National Security Finally, **the whole issue of energy independence is critical if we are to have more flexibility in our national defense strategies and in our world strategies when it comes to international affairs**. What I'm finding is that oil and gas issues are not necessarily high on the list of a lot of folks in the Democratic caucus. Now, I said that six months ago; today, it's a little different. We have more Democratic Senators coming from Western states now: Montana, the Dakotas, Colorado, New Mexico, Alaska -- what I call the Rocky Mountain Western states.

#### NMD failure leads to extinction

Lambakis, 7

(Sr. Analyst-National Institute for Public Policy & Editor-Comparative Strategy, PhD-Catholic University, Missile Defense From Space, 2/1, http://www.hoover.org/publications/policy-review/article/6124)

The ballistic missile threat to the United States, its deployed forces, and allies and friends has been well defined.6 This is a threat we downplay at our peril. Nations such as North Korea and Iran — which also have significant programs to develop nuclear, biological, and chemical weapons — as well as nonstate groups can pose significant, even catastrophic, dangers to the U.S. homeland, our troops, and our allies. Russia and China, two militarily powerful nations in transition, have advanced ballistic missile modernization and countermeasure programs. Indeed, despite the reality that trade relations with China continue to expand, its rapid military modernization represents a potentially serious threat. Whether these nations become deadly adversaries hinges on nothing more than a political change of heart in their respective capitals. The intelligence community’s ability to provide timely and accurate estimates of ballistic missile threats is, by many measures, poor. Our leaders have been consistently surprised by foreign ballistic missile developments. Shortened development timelines and the ability to move or import operational missiles, buy components, and hire missile experts from abroad mean the United States may have little or no warning before it is threatened or attacked. There is no escaping the uncertainty we face. And the stakes couldn’t be higher. A ballistic missile delivering a nuclear payload to an American city would be truly devastating. For comparison, the Insurance Information Institute estimates total economic loss so far from Hurricane Katrina at more than $100 billion. By some calculations, it is going to take New Orleans 25 years to recover fully, and the cost of rebuilding the city is predicted to be as high as $200 billion. The direct cost to the New York City economy following the September 11, 2001, terrorist attacks was between $80 billion and $100 billion. These figures do not include indirect costs or the incalculable human losses. Now just imagine the costs imposed by a ballistic missile nuclear strike against a U.S. city. The economic toll from a single nuclear attack against a major city, which would involve extensive decontamination activities and impact the national economy, could rise above $4 trillion.7 The economy could also be devastated by the electromagnetic pulse generated by a high-altitude nuclear explosion. The resulting electromagnetic shock would fry transformers within regional electrical power grids.8 The interdependent telecommunications (including computers), transportation, and banking and financial infrastructures that people and businesses rely on would be significantly damaged. Such an event would leave us, in some cases, with nineteenth-century technologies. **This situation could jeopardize the very viability of society and the survival of the nation.**

#### Asian multilateralism fails

**Kurlantzick 12** (Joshua Kurlantzick CFR Fellow for Southeast Asia, 7/24/2012, "South China Sea: From Bad to Worse?", http://www.cfr.org/china/south-china-sea-bad-worse/p28739)

Tensions in the South China Sea have risen to their highest level in at least two years in the wake of the disastrous breakup of the Association of Southeast Asian Nations (ASEAN) foreign ministers meeting in Phnom Penh. Secretary-General Surin Pitsuwan, an eternal optimist, admitted that the summit was an "unprecedented" failure in ASEAN's history, and Indonesia's foreign minister rushed to mediate tensions between ASEAN members lest they explode again. At nearly the same time, a Chinese naval frigate ran aground in a disputed area of the sea, raising regional suspicions that Beijing was trying to bolster its claim to the entire South China Sea. As it has over the past three years, the Obama administration has taken a cautious but firm position on South China Sea sovereignty and adjudication of disputes. While noting that the United States does not have any claim on the South China Sea, the Obama administration has more vocally backed the ASEAN claimants' rights on territorial claims, even saying that freedom of navigation and a resolution of claims accepted by all nations was a U.S. "national interest." The administration also has upped its assistance to mainland Southeast Asia, such as announcing earlier this month $50 million in new funding for the Lower Mekong Initiative, a project for Mekong River nations like Laos. Regional partners of the United States like the Philippines are rapidly buying up arms, while at the same time, China and most of the Southeast Asian claimants of portions of the sea (Vietnam, the Philippines, Malaysia, Brunei, and Taiwan) are ramping up rhetoric about their claims and increasingly sending naval and "civilian" fishing boats into the sea to test adversaries' positions. Yet at the same time, there remains some room for compromise among all sea claimants and the United States. Chinese officials recognize that their increasingly vocal positions on the sea have alienated many Southeast Asian nations and pushed countries like Vietnam and the Philippines closer to the United States. At the same time, though some ASEAN nations like Cambodia are drawing nearer to China, while others such as the Philippines are moving closer to Washington, all ASEAN nations realize that Southeast Asian states must generally provide a united front on issues if they are to be treated as a major power in East Asia. Hardening Territorial Claims Tensions over the South China Sea, which is strategically vital and believed to contain rich deposits of petroleum, go back decades, but over the past two years they have escalated dramatically. China, which in theory claims nearly the entire sea, has in recent years publicly advocated its claims more forcefully. This can be attributed to various causes: Perhaps U.S. economic problems distracted it from Asia in the latter half of the 2000s; China's leadership recognizes Beijing's own rising naval strength; China's government is responding to growing nationalism; China's resources companies want to expedite exploration of the sea; or some combination of these and other factors. Then last summer, ASEAN appeared willing to simply let China move any resolution down the road by publicly celebrating the drafting of an agreement between Southeast Asian states and China to resolve South China Sea disputes peacefully. But the agreement was not a binding code of conduct, and it skirted any real resolution of key issues like overlapping territorial claims to the sea and exploration of its potential undersea resources. ASEAN's weak stand may have encouraged Beijing to take a harder-line position this year. This spring and summer, the Southeast Asian claimants (except Malaysia, which has taken a more passive role) and China have hardened their positions by putting into place more physical manifestations of their claims. The sides have turned virtually uninhabited rocks into new provinces and states. Earlier this year, China announced that the disputed Paracel and Spratly Islands, as well as another area of the sea, have become a Chinese administrative area called Sansha City, with its own governing officials. The dispute also has done serious damage to ASEAN claims to be able to handle important regional issues and, in the future, drive regional integration They have begun staking out oil and gas claims as another physical manifestation of their power: China National Offshore Oil Company recently invited foreign oil companies to offer it bids to explore potential blocks that are just off of the coast of Vietnam. And they have increasingly used non-military boats to make their points. Last month, for instance, Beijing declared that it would expand the fleets of fishing vessels it will be sending to disputed regions of the sea. Many Southeast Asian diplomats claim that these boats are essentially paramilitary vessels, yet Vietnam and the Philippines increasingly use the same types of boats to stake their claims. Meanwhile, Philippine officials are increasingly pressing Washington for higher-quality military equipment. Vietnam and the Philippines also have been inviting foreign petroleum companies to engage in joint exploration projects in contested areas. Following the ASEAN foreign ministers' meeting, several critical indicators will show whether all sides are willing to step back from the dispute, which now increasingly threatens to turn into a shooting war. (After considerable arm-twisting from Indonesian leaders on July 20, ASEAN eventually reached what it called a consensus on the sea, but this simply papered over divisions and had little new of substance.) Observers are watching to see how publicly China discusses the new "territory" of Sansha. And many Southeast Asian officials are watching to see whether Beijing disburses large new grants or low-interest loans to Cambodia and Malaysia, the two ASEAN nations that have taken a much lower-profile approach to the sea (Cambodia virtually advocated the Chinese position during the summit). Ultimately, Beijing's signals that it was willing to once again begin negotiating a code of conduct that would govern how ships act in disputed maritime waters would be the sign that China is stepping back from the brink. On the Southeast Asian side, Vietnam and the Philippines' willingness to call back some of their fishing boats, as well as Hanoi's willingness to stop passing resolutions in its legislature claiming portions of the sea, would be important calming signs. ASEAN's Divisions More than at any other time, the dispute this year also has done serious damage to ASEAN claims to be able to handle important regional issues and in the future drive regional integration. Even some of the most ardent backers of the organization now wonder whether ASEAN's traditional consensus style is defunct. This is hardly the first time the consensus approach has proven counterproductive: ASEAN failed, in the past, to take strong positions even on conflict within Southeast Asia, as occurred in East Timor in 1999, because of this adherence to consensus and noninterference, a sharp contrast from some other regional organizations like the African Union.

#### Asia uniquely escalates

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

Asian *investment* is also at record levels. Asian countries lead the world with unprecedented infra­structure projects. With over $3 trillion in foreign currency reserves, Asian nations and businesses are starting to shape global economic activity. Indian firms are purchasing industrial giants such as Arcelor Steel, as well as iconic brands of its once-colonial ruler, such as Jaguar and Range Rover. China’s Lenovo bought IBM’s personal computer

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

#### Role of the ballot’s to simulate enactment of the plan – key to decisionmaking and fairness

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

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

During this phase, the citizen initiative attempted to overcome its defensive posture and **implement an alternative politics.** The strategy of legal and technical challenge might delay or even prevent plant construction, but it would not by itself accomplish the broader goal on the legitimation dimension, i.e., democratization. Indeed, it worked against broad participation. The activists had to find a viable means of achieving change. Citizens had proved they could contribute to a **substantive policy discussion.** Now, some activists turned to the parliamentary arena as a possible forum for an energy dialogue. Until now, parliament had been conspicuously absent as a relevant policy maker, but if parliament could be reshaped and activated, citizens would have a forum in which to address the broad questions of policy-making goals and forms. They would also have an **institutional lever** with which to pry apart the bureaucracy and utility. None of the established political parties could offer an alternative program. Thus, local activists met to discuss forming their own voting list. These discussions provoked internal dissent. Many citizen initiative members objected to the idea of forming a political party. If the problem lay in the role of parliament itself, another political party would not solve it. On the contrary, parliamentary participation was likely to destroy what political innovations the extraparliamentary movement had made. Others argued that a political party would give the movement an institutional platform from which to introduce some of the grassroots democratic political forms the groups had developed. Founding a party as the parliamentary arm of the citizen movement would allow these groups to play an active, critical role in institutionalized politics, participating in the policy debates while retaining their outside perspective. Despite the disagreements, the Alternative List for Democracy and Environmental Protection Berlin (AL) was formed in 1978 and first won seats in the Land parliament with 7.2 percent of the vote in 1981.43 The founders of the AL were encouraged by the success of newly formed local green parties in Lower Saxony and Hamburg,44 whose evolution had been very similar to that of the West Berlin citizen move-ment. Throughout the FRG, unpopular administrative decisions affect-ing local environments, generally in the form of state-sponsored indus-trial projects, prompted the development of the citizen initiative and ecology movements. The groups in turn focused constant attention on state planning "errors," calling into question not only the decisions themselves, but also the conventional forms of political decision making that produced them.45 Disgruntled citizens increasingly aimed their critique at the established political parties, in particular the federal SPD/ FDP coalition, which seemed unable to cope with the economic, social, and political problems of the 1970s. Fanned by publications such as the Club of Rome's report, "The Limits to Growth," the view spread among activists that the crisis phenomena were not merely a passing phase, but indicated instead "a long-term structural crisis, whose cause lies in the industrial-technocratic growth society itself."46 As they broadened their critique to include the political **system as a whole**, many grassroots groups found the extraparliamentary arena too restrictive. Like many in the West Berlin group, they reasoned that the necessary change would require a degree of political restructuring that could only be accomplished through their direct participation in parliamentary politics. Green/alternative parties and voting lists sprang up nationwide and began to win seats in local assemblies. The West Berlin Alternative List saw itself not as a party, but as the parliamentary arm of the citizen initiative movement. One member explains: "the starting point for alternative electoral participation was simply the notion of achieving a greater audience for [our] own ideas and thus to work in support of the extraparliamentary movements and initia-tives,"47 including non-environmentally oriented groups. The AL wanted to avoid developing structures and functions autonomous from the citizen initiative movement. Members adhered to a list of principles, such as rotation and the imperative mandate, designed to keep parliamentarians attached to the grassroots. Although their insistence on grassroots democracy often resulted in interminable heated discussions, the participants recognized the importance of experimenting with new forms of decision making, of not succumbing to the same hierarchical forms they were challenging. Some argued that the proper role of citizen initiative groups was not to represent the public in government, but to mobilize other citizens to **participate directly in politics themselves**; self-determination was the aim of their activity.48 Once in parliament, the AL proposed establishmento f a temporary parliamentaryco mmissiont o studye nergyp olicy,w hichf or the first time would draw all concernedp articipantst ogetheri n a discussiono f both short-termc hoicesa nd long-termg oals of energyp olicy. With help from the SPD faction, which had been forced into the opposition by its defeat in the 1981 elections, two such commissions were created, one in 1982-83 and the other in 1984-85.49T hese commissionsg ave the citizen activists the forum they sought to push for modernizationa nd technicali nnovation in energy policy. Although it had scaled down the proposed new plant, the utility had produced no plan to upgrade its older, more polluting facilities or to install desulfurizationd evices. With proddingf rom the energyc ommission, Land and utility experts began to formulate such a plan, as did the citizen initiative. By exposing administrative failings in a public setting, and **by producing a** modernization **plan itself**, the combined citizen initiative and AL forced bureaucratic authorities to push the utility for improvements. They also forced the authorities to consider different technological solutions to West Berlin's energy and environmental problems. In this way, the activists served as technological innovators. In 1983, the first energy commission submitted a list of recommendations to the Land parliament which reflected the influence of the citizen protest movement. It emphasized goals of demand reduction and efficiency, noted the value of expanded citizen participation and urged authorities to "investigate more closely the positive role citizen participation can play in achieving policy goals."50 The second energy commission was created in 1984 to discuss the possibilities for modernization and shutdown of old plants and use of new, environmentally friendlier and cheaper technologies for electricity and heat generation. Its recommendations strengthened those of the first commission.51 Despite the non-binding nature of the commissions' recommendations, the public discussion of energy policy motivated policy makers to take stronger positions in favor of environmental protection. III. Conclusion The West Berlin energy project eventually cleared all planning hurdles, and construction began in the early 1980s. The new plant now conforms to the increasingly stringent environmental protection requirements of the law. The project was delayed, scaled down from 1200 to 600 MW, moved to a neutral location and, unlike other BEWAG plants, equipped with modern desulfurization devices. That the new plant, which opened in winter 1988-89, is the technologically most advanced and environmen-tally sound of BEWAG's plants is due entirely to the long legal battle with the citizen initiative group, during which nearly every aspect of the original plans was changed. In addition, through the efforts of the Alter-native List (AL) in parliament, the Land government and BEWAG formulated a long sought modernization and environmental protection plan for all of the city's plants. The AL prompted the other parliamentary parties to take pollution control seriously. Throughout the FRG, energy politics evolved in a similar fashion. As Habermas claimed, underlying the **objections against particular projects** was a reaction against the administrative-economic system in general. One author, for example, describes the emergence of two-dimensional protest against nuclear energy: The resistance against a concrete project became understood simul-taneously as resistance against the entire atomic program. Questions of energy planning, of economic growth, of understanding of democracy entered the picture. . . . Besides concern for human health, for security of conditions for human existence and protec-tion of nature arose critique of what was perceived as undemocratic planning, the "shock" of the delayed public announcement of pro-ject plans and the fear of political decision errors that would aggra-vate the problem.52 This passage supports a West Berliner's statement that the citizen initiative began with a project critique and arrived at *Systemkritik*.53 I have labeled these two aspects of the problem the public policy and legitima-tion dimensions. In the course of these conflicts, the legitimation dimen-sion emergd as the more important and in many ways the more prob-lematic. Parliamentary Politics In the 1970s, energy politics began to develop in the direction Offe de-scribed, with bureaucrats and protesters avoiding the parliamentary channels through which they should interact. The citizen groups them-selves, however, have to a degree reversed the slide into irrelevance of parliamentary politics. Grassroots groups overcame their defensive posture enough to begin to **formulate an alternative politics**, based upon concepts such as decision making through mutual understanding rather than technical criteria or bargaining. This new politics required new modes of interaction which the old corporatist or pluralist forms could not provide. Through the formation of green/alternative parties and voting lists and through new parliamentary commissions such as the two described in the case study, some members of grassroots groups attempted to both operate within the political system and fundamentally change it, to restore the link between bureaucracy and citizenry. Parliamentary politics was partially revived in the eyes of West German grassroots groups as a legitimate realm of citizen participation, an outcome the theory would not predict. It is not clear, however, that strengthening the parliamentary system would be a desirable outcome for everyone. Many remain skeptical that institutions that operate as part of the "system" can offer the kind of substantive participation that grass-roots groups want. The constant tension between institutionalized politics and grassroots action emerged clearly in the recent internal debate between "fundamentalist" and "realist" wings of the Greens. Fundis wanted to keep a firm footing outside the realm of institutionalized politics. They refused to bargain with the more established parties or to join coalition governments. Realos favored participating in institutionalized politics while pressing their grassroots agenda. Only this way, they claimed, would they have a chance to implement at least some parts of their program. This internal debate, which has never been resolved, can be interpreted in different ways. On one hand, the tension limits the appeal of green and alternative parties to the broader public, as the Greens' poor showing in the December 1990 all-German elections attests. The failure to come to agreement on basic issues can be viewed as a hazard of grass-roots democracy. The Greens, like the West Berlin citizen initiative, are opposed in principle to forcing one faction to give way to another. Disunity thus persists within the group. **On the other hand**, the tension can be understood not as a failure, but as a kind of success: grassroots politics has not been absorbed into the bureaucratized system; it retains its critical dimension, both in relation to the political system and within the groups themselves. The **lively debate** stimulated by grassroots groups and parties **keeps questions of democracy on the public agenda.** Technical Debate In West Berlin, the two-dimensionality of the energy issue forced citizen activists to become both participants in and critics of the policy process. In order to defeat the plant, **activists engaged in technical debate.** They won several decisions in favor of environmental protection, often **proving to be more informed than bureaucratic experts** themselves. The case study demonstrates that grassroots groups, far from impeding techno-logical advancement, can actually serve as technological innovators. The activists' role as technical experts, while it helped them achieve some success on the policy dimension, had mixed results on the legitimation dimension. On one hand, it helped them to challenge the legitimacy of technocratic policy making. They turned back the Land government's attempts to displace political problems by formulating them in technical terms.54 By demonstrating the fallibility of the technical arguments, activists forced authorities to acknowledge that energy demand was a political variable, whose value at any one point was as much influenced by the choices of policy makers as by independent technical criteria. Submission to the form and language of technical debate, however, weakened activists' attempts to introduce an alternative, goal-oriented form of decision making into the political system. Those wishing to par-ticipate in energy politics on a long-term basis have had to accede to the language of bureaucratic discussion, if not the legitimacy of bureaucratic authorities. They have helped break down bureaucratic authority but have not yet offered a viable long-term alternative to bureaucracy. In the tension between form and language, goals and procedure, the legitima-tion issue persists. At the very least, however, grassroots action challenges critical theory's notion that technical discussion is inimical to democratic politics.55 Citizen groups have raised the possibility of a dialogue that is both technically sophisticated and democratic. In sum, although the legitimation problems which gave rise to grass-roots protest have not been resolved, citizen action has worked to counter the marginalization of parliamentary politics and the technocratic character of policy debate that Offe and Habermas identify. The West Berlin case suggests that the solutions to current legitimation problems may not require total repudiation of those things previously associated with technocracy.56 In Berlin, the citizen initiative and AL continue to search for new, more legitimate forms of organization consistent with their principles. No permanent Land parliamentary body exists to coordinate and con-solidate energy policy making.57 In the 1989 Land elections, the CDU/ FDP coalition was defeated, and the AL formed a governing coalition with the SPD. In late 1990, however, the AL withdrew from the coali-tion. It remains to be seen whether the AL will remain an effective vehi-cle for grassroots concerns, and whether the citizenry itself, now includ-ing the former East Berliners, will remain active enough to give the AL direction as united Berlin faces the formidable challenges of the 1990s. On the policy dimension, grassroots groups achieved some success. On the legitimation dimension, it is difficult to judge the results of grass-roots activism by normal standards of efficacy or success. Activists have certainly not radically restructured politics. They agree that democracy is desirable, but troublesome questions persist about the degree to which those processes that are now bureaucratically organized can and should be restructured, where grassroots democracy is possible and where bureaucracy is necessary in order to get things done. In other words, grassroots groups have tried to remedy the Weberian problem of the marginalization of politics, but it is not yet clear what the boundaries of the political realm should be. It is, however, the act of calling existing boundaries into question that keeps democracy vital. In raising alternative possibilities and encouraging citizens to take an active, critical role in their own governance, the **contribution of grassroots** environmental **groups has been significant.** As Melucci states for new social movements in general, these groups mount a "symbolic" challenge by proposing "a different way of perceiving and naming the world."58 Rochon concurs for the case of the West German peace movement, noting that its effect on the public discussion of secur-ity issues **has been tremendous**.59 The effects of the legitimation issue in the FRG are evident in increased citizen interest in areas formerly left to technical experts. Citizens have formed nationwide associations of environmental and other grassroots groups as well as alternative and green parties at all levels of government. The level of information within the groups is generally quite high, and their participation, especially in local politics, has raised the awareness and engagement of the general populace noticeably.60 **Policy concessions** and new legal provisions for citizen participation **have not quelled grassroots action.** The attempts of the established political parties to coopt "green" issues have also met with limited success. Even green parties themselves have not tapped the full potential of public support for these issues. The persistence of legitima-tion concerns, along with the growth of a culture of informed political activism, will ensure that the search continues for a space for a delibera-tive politics in modern technological society.61

# 2AC

## icebreaker

#### Arctic tensions at all time high – lack of ice-breakers make the military useless

AP 4/16/12

(“The new cold war: Militaries eying Arctic resources” April 16, 2012, Associated Press)

To the world's military leaders, the debate over climate change is long over. They are preparing for a new kind of Cold War in the Arctic, anticipating that rising temperatures there will open up a treasure trove of resources, long-dreamed-of sea lanes and a slew of potential conflicts.

By Arctic standards, the region is already buzzing with military activity, and experts believe that will increase significantly in the years ahead.

Last month, Norway wrapped up one of the largest Arctic maneuvers ever -- Exercise Cold Response -- with 16,300 troops from 14 countries training on the ice for everything from high intensity warfare to terror threats. Attesting to the harsh conditions, five Norwegian troops were killed when their C-130 Hercules aircraft crashed near the summit of Kebnekaise, Sweden's highest mountain.

The U.S., Canada and Denmark held major exercises two months ago, and in an unprecedented move, the military chiefs of the eight main Arctic powers -- Canada, the U.S., Russia, Iceland, Denmark, Sweden, Norway and Finland -- gathered at a Canadian military base last week to specifically discuss regional security issues.

[summary]

None of this means a shooting war is likely at the North Pole any time soon. But as the number of workers and ships increases in the High North to exploit oil and gas reserves, so will the need for policing, border patrols and -- if push comes to shove -- military muscle to enforce rival claims.

The U.S. Geological Survey estimates that 13 percent of the world's undiscovered oil and 30 percent of its untapped natural gas is in the Arctic. Shipping lanes could be regularly open across the Arctic by 2030 as rising temperatures continue to melt the sea ice, according to a National Research Council analysis commissioned by the U.S. Navy last year.

What countries should do about climate change remains a heated political debate. But that has not stopped north-looking militaries from moving ahead with strategies that assume current trends will continue.

Russia, Canada and the United States have the biggest stakes in the Arctic. With its military budget stretched thin by Iraq, Afghanistan and more pressing issues elsewhere, the United States has been something of a reluctant northern power, though its nuclear-powered submarine fleet, which can navigate for months underwater and below the ice cap, remains second to none.

Russia -- one-third of which lies within the Arctic Circle -- has been the most aggressive in establishing itself as the emerging region's superpower.

Rob Huebert, an associate political science professor at the University of Calgary in Canada, said Russia has recovered enough from its economic troubles of the 1990s to significantly rebuild its Arctic military capabilities, which were a key to the overall Cold War strategy of the Soviet Union, and has increased its bomber patrols and submarine activity.

He said that has in turn led other Arctic countries -- Norway, Denmark and Canada -- to resume regional military exercises that they had abandoned or cut back on after the Soviet collapse. Even non-Arctic nations such as France have expressed interest in deploying their militaries to the Arctic.

"We have an entire ocean region that had previously been closed to the world now opening up," Huebert said. "There are numerous factors now coming together that are mutually reinforcing themselves, causing a buildup of military capabilities in the region. This is only going to increase as time goes on."

[pullquote]

Noting that the Arctic is warming twice as fast as the rest of the globe, the U.S. Navy in 2009 announced a beefed-up Arctic Roadmap by its own task force on climate change that called for a three-stage strategy to increase readiness, build cooperative relations with Arctic nations and identify areas of potential conflict.

"We want to maintain our edge up there," said Cmdr. Ian Johnson, the captain of the USS Connecticut, which is one of the U.S. Navy's most Arctic-capable nuclear submarines and was deployed to the North Pole last year. "Our interest in the Arctic has never really waned. It remains very important."

But the U.S. remains ill-equipped for large-scale Arctic missions, according to a simulation conducted by the U.S. Naval War College. A summary released last month found the Navy is "inadequately prepared to conduct sustained maritime operations in the Arctic" because it lacks ships able to operate in or near Arctic ice, support facilities and adequate communications.

"The findings indicate the Navy is entering a new realm in the Arctic," said Walter Berbrick, a War College professor who participated in the simulation. "Instead of other nations relying on the U.S. Navy for capabilities and resources, sustained operations in the Arctic region will require the Navy to rely on other nations for capabilities and resources."

He added that although the U.S. nuclear submarine fleet is a major asset, the Navy has severe gaps elsewhere -- it doesn't have any icebreakers, for example. The only one in operation belongs to the Coast Guard. The U.S. is currently mulling whether to add more icebreakers.

Acknowledging the need to keep apace in the Arctic, the United States is pouring funds into figuring out what climate change will bring, and has been working closely with the scientific community to calibrate its response.

#### SMRs solve – spills over to vehicular capability

**Butler, 11**

(Lt. Col., Not Green Enough, www.mca-marines.org/gazette/not-green-enough)

Finally, Marine Corps-**SMR technology opens the pathway for related endeavors and synergetic undertakings**. The Army has several smart and influential individuals poised to partner in nuclear energy endeavors, and our naval brethren enjoy a long history of nuclear reactor expertise. **Partnerships and enhanced use leases to support SMR deployments should be leveraged**.36 **As the collective military expertise in SMR technology grows, additional capabilities, such as expeditionary and vehicular power sources, could be explored**. And **related technologies**, such as hybrid/electric vehicle power storage and recharging facilities and water desalination plants, **could collocate with nuclear plants on installations to both use the energy**.37

#### That expands the nuclear navy fleet

Pfeffer and Macon 1

(Robert A. Pfeffer is a physical scientist at the Army Nuclear and Chemical Agency in Springfield, Virginia, working on nuclear weapons effects. He is a graduate of Trinity University and has a master's degree in physics from The Johns Hopkins University. Previous Government experience includes Chief of the Electromagnetic Laboratory at Harry Diamond Laboratories (HDL) in Adelphi, Maryland, and Chief of the HDL Woodbridge Research Facility in Virginia. William A. Macon, Jr., is a project manager at the Nuclear Regulatory Commission. He was formerly the acting Army Reactor Program Manager at the Army Nuclear and Chemical Agency. He is a graduate of the U.S. Military Academy and has a master's degree in nuclear engineering from Rensselaer Polytechnic Institute. His military assignments included Assistant Brigade S4 in the 1st Armored Division. “Nuclear Power: An Option for the Army's Future” October 2001, http://www.almc.army.mil/alog/issues/SepOct01/MS684.htm)

Another proposed initiative would exploit previous Army experience in developing and using small, portable nuclear power plants for the future production of hydrogen and creation of a hydrogen fuel infrastructure. Based on recent advances in small nuclear power plant technology, it would be prudent to consider developing a prototype plant for possible military applications. The Army Nuclear Power Program The military considered the possibility of using nuclear power plants to generate alternate fuels almost 50 years ago and actively supported nuclear energy as a means of reducing logistics requirements for coal, oil, and gasoline. However, political, technical, and military considerations forced the closure of the program before a prototype could be built. The Army Corps of Engineers ran a Nuclear Power Program from 1952 until 1979, primarily to supply electric power in remote areas. Stationary nuclear reactors built at Fort Belvoir, Virginia, and Fort Greeley, Alaska, were operated successfully from the late 1950s to the early 1970s. Portable nuclear reactors also were operated at Sundance, Wyoming; Camp Century, Greenland; and McMurdo Sound in Antarctica. These small nuclear power plants provided electricity for remote military facilities and could be operated efficiently for long periods without refueling. The Army also considered using nuclear power plants overseas to provide uninterrupted power and defense support in the event that U.S. installations were cut off from their normal logistics supply lines. In November 1963, an Army study submitted to the Department of Defense (DOD) proposed employing a military compact reactor (MCR) as the power source for a nuclear-powered energy depot, which was being considered as a means of producing synthetic fuels in a combat zone for use in military vehicles. MCR studies, which had begun in 1955, grew out of the Transportation Corps' interest in using nuclear energy to power heavy, overland cargo haulers in remote areas. These studies investigated various reactor and vehicle concepts, including a small liquid-metal-cooled reactor, but ultimately the concept proved impractical. The energy depot, however, was an attempt to solve the logistics problem of supplying fuel to military vehicles on the battlefield. While nuclear power could not supply energy directly to individual vehicles, the MCR could provide power to manufacture, under field conditions, a synthetic fuel as a substitute for conventional carbon-based fuels. The nuclear power plant would be combined with a fuel production system to turn readily available elements such as hydrogen or nitrogen into fuel, which then could be used as a substitute for gasoline or diesel fuel in cars, trucks, and other vehicles. Of the fuels that could be produced from air and water, hydrogen and ammonia offer the best possibilities as substitutes for petroleum. By electrolysis or high- temperature heat, water can be broken down into hydrogen and oxygen and the hydrogen then used in engines or fuel cells. Alternatively, nitrogen can be produced through the liquefaction and fractional distillation of air and then combined with hydrogen to form ammonia as a fuel for internal-combustion engines. Consideration also was given to using nuclear reactors to generate electricity to charge batteries for electric-powered vehicles—a development contingent on the development of suitable battery technology. By 1966, the practicality of the energy depot remained in doubt because of questions about the cost-effectiveness of its current and projected technology. The Corps of Engineers concluded that, although feasible, the energy depot would require equipment that probably would not be available during the next decade. As a result, further development of the MCR and the energy depot was suspended until they became economically attractive and technologically possible. Other efforts to develop a nuclear power plant small enough for full mobility had been ongoing since 1956, including a gas-cooled reactor combined with a closed- cycle gas-turbine generator that would be transportable on semitrailers, railroad flatcars, or barges. The Atomic Energy Commission (AEC) supported these developments because they would contribute to the technology of both military and small commercial power plants. The AEC ultimately concluded that the probability of achieving the objectives of the Army Nuclear Power Program in a timely manner and at a reasonable cost was not high enough to justify continued funding of its portion of projects to develop small, stationary, and mobile reactors. Cutbacks in military funding for long-range research and development because of the Vietnam War led the AEC to phase out its support of the program in 1966. The costs of developing and producing compact nuclear power plants were simply so high that they could be justified only if the reactor had a unique capability and filled a clearly defined objective backed by DOD. After that, the Army's participation in nuclear power plant research and development efforts steadily declined and eventually stopped altogether. Nuclear Technology Today The idea of using nuclear power to produce synthetic fuels, originally proposed in 1963, remains feasible today and is gaining significant attention because of recent advances in fuel cell technology, hydrogen liquefaction, and storage. At the same time, nuclear power has become a significant part of the energy supply in more than 20 countries—providing energy security, reducing air pollution, and cutting greenhouse gas emissions. The performance of the world's nuclear power plants has improved steadily and is at an all-time high. Assuming that nuclear power experiences further technological development and increased public acceptance as a safe and efficient energy source, its use will continue to grow. Nuclear power possibly could provide district heating, industrial process heating, desalination of seawater, and marine transportation. Demand for cost-effective chemical fuels such as hydrogen and methanol is expected to grow rapidly. Fuel cell technology, which produces electricity from low-temperature oxidation of hydrogen and yields water as a byproduct, is receiving increasing attention. Cheap and abundant hydrogen eventually will replace carbon-based fuels in the transportation sector and eliminate oil's grip on our society. But hydrogen must be produced, since terrestrial supplies are extremely limited. Using nuclear power to produce hydrogen offers the potential for a limitless chemical fuel supply with near-zero greenhouse gas emissions. As the commercial transportation sector increasingly moves toward hydrogen fuel cells and other advanced engine concepts to replace the gasoline internal combustion engine, DOD eventually will adopt this technology for its tactical vehicles. The demand for desalination of seawater also is likely to grow as inadequate freshwater supplies become an urgent global concern. Potable water in the 21st century will be what oil was in the 20th century—a limited natural resource subject to intense international competition. In many areas of the world, rain is not always dependable and ground water supplies are limited, exhausted, or contaminated. Such areas are likely to experience conflict among water-needy peoples, possibly prompting the deployment of U.S. ground forces for humanitarian relief, peacekeeping, or armed intervention. A mobile desalination plant using waste heat from a nuclear reactor could help prevent conflicts or provide emergency supplies of freshwater to indigenous populations, and to U.S. deployed forces if necessary. Promising Technology for Tomorrow Compact reactor concepts based on high-temperature, gas-cooled reactors are attracting attention worldwide and could someday fulfill the role once envisioned for the energy depot. One proposed design is the pebble bed modular reactor (PBMR) being developed by Eskom in South Africa. Westinghouse, BNFL Instruments Ltd., and Exelon Corporation currently are supporting this project to develop commercial applications. A similar design is the remote site-modular helium reactor (RS-MHR) being developed by General Atomics. If proven feasible, this technology could be used to replace retiring power plants, expand the Navy's nuclear fleet, and provide mobile electric power for military or disaster relief operations. Ideally, modular nuclear power plants could be operated by a small staff of technicians and monitored by a central home office through a satellite uplink.

#### Solves coast guard environmental protection

Jones et al 7

(Professor @ UVA, Ph.D. in computer science from Carnegie-Mellon University, member of the Defense Science Board, the Charles Stark Draper Laboratory Corporation, the National Research Council Advisory Council for Policy and Global Affairs, and the MIT Corporation)

The U S Coast Guard seeks to protect the nation's natural resources by eliminating environmental damage and Ihe degradation of natural resources associated with maritime transportation, fishing, and recreational boating Closely tied to the US Coast Guard's safety prevention efforts, avoidance of accidents is a key component of protecting the U S marine environment. The US Coast Guard enforces regulations and laws protecting sensitive marine habitats, marine mammals, and endangered marine species, as well as laws preventing discharge of oil and other hazardous materials A wide range of activities addresses environmental objectives in offshore lightering zone regulation, domestic fisheries enforcement, and foreign vessel inspection. U.S. Coast Guard units are often the first on scene when a pollution incident is reported, and the Coast Guard is typically the lead agency for a pollution response effort Under the National Contingency Plan. U.S. Coast Guard captains of the port are the designated federal on-scene coordinators (FOSCs) for oil and hazardous substance incidents in all coastal and some inland areas The FOSC is responsible for forging a coordinated and elTective response elloit with a complex group of gov eminent and commercial entities, often in dangerous and emotion-laden situations

Protecting Ihe Arctic marine environment begins with ensuring the safely of vessels operating in these challenging conditions, including the availability of icebreaking assistance and comprehensive monitoring of vessel movements. Prevention might also include a regulatory regime, limiting vessels to geographic areas and seasonal periods appropriate to their ice capabilities The Canadian Arctic Shipping Pollution Prevention Regulations (ASPPR) would serve as an obvious example Increases in traffic, especially from Russian or Canadian waters, may create U.S. interest in establishing regulations, enforcement and deterrence would necessitate an on-scene presence capable of operating in ice The US Coast Guard would dearly have regulatory responsibility for this type of waterways management Responding to a major oil spill in the Arctic is challenging, as cleanup activities for an onshore spill itear PrudhoeBay in early 2006 anesl Oil cleanup offshore would be even more difficult due to Ihe dearth of infrastructure and the possibility of ice Where depth of water permits access, an icebreaker could offer command-and-control capabilities, communications, berthing, helicopters, boats, cargo space, heavyweight handling gear, tankage, and support services to smaller craft all of which would be of great benefit to cleanup operations. Direct oil recovery could also be included as an icebreaker capability POLAR SEA successfully tested a boom-mounted skimming system known as the Vessel of Opportunity Skimming System (VOSS)(as wdl as other capabilities) while participating in an oil spill exercise off Sakhalin Island in l"°8 The U.S. Coast Guard's new fleet of coastal buoy tenders is equipped with VOSS. and thought should be given to the need for new polar icebreakers to be equipped wilh the latest technology for oil spill response

#### Prevents oil spills that cause methane pollution

Schneider 12

(Conrad, Advocacy Director, Clean Air Task Force “Curb Methane Emissions,” http://energy.nationaljournal.com/2012/07/is-arctic-oil-drilling-ready-f.php?comments=expandall)

With Shell’s imminent entrance into Arctic waters, the debate is turning from “if we drill in the Arctic,” to “how and where we drill in the Arctic.” The discussion to date has primarily revolved around the key questions of oil spills and impacts to marine ecosystems. However, it is also critically important to remember that this debate starts and ends with climate change.

The melting of the Arctic due to global warming is what set off the race for Arctic oil and gas. Now, it is incumbent upon the countries and the companies that intend to develop the Arctic to make sure that it is done in the least damaging way possible, and this includes paying very close attention to the global warming pollutants coming from the production: methane, black carbon and carbon dioxide. Pointing the way forward in a new report: (www.catf.us/resources/publications/view/170),

Clean Air Task Force has laid out the primary climate risks and mitigation strategies of drilling in the Arctic. Here is a summary of some of the key findings of that report:

While oil production is the primary focus of current exploration and production activities due to high oil prices, natural gas is almost always produced along with oil, posing the problem of what to do with it. Crude oil usually contains some amount of “associated” natural gas that is dissolved in the oil or exists as a cap of free gas above the oil in the geological formation. In some cases, this represents a large volume of gas. For example, nearly 3 trillion cubic feet (Tcf) per year of gas is produced in association with oil in Alaska. The largest (but by no means only) potential source of methane pollution is from the leaks or outright venting of this “associated” natural gas. Flaring, the typical way to dispose of this “stranded” gas, is much better than venting, but it releases a tremendous amount of CO2. Worldwide, about 5 trillion cubic feet of gas is flared each year. That’s about 25 percent of the US’s annual natural gas consumption. This leads to the release of about 400 million tons of CO2 per year globally, the equivalent to the annual emissions from over 70 million cars.

Black carbon is also emitted from flares, although measurements are lacking to fully understand the potential burden from flaring. What we do know is that the black carbon that flaring will release in the Arctic is particularly harmful, since it is so likely to settle out on snow or ice, where the dark pollutant rapidly warms the white frozen surface.

Many technologies and best practices exist to reduce the impact of oil and gas production both to the Arctic and the global climate. If we are going to extract the oil from the Arctic, we need to do it in a way that does not exacerbate the very real problem that climate change is already posing there. In order to do so, the US must take the lead in ensuring that only the best practices are acceptable when it comes to Arctic exploration and drilling. The technologies and practices below can dramatically reduce the emissions associated with oil and natural gas, in some cases by almost 100%.

#### Extinction

WWF 10

(“Drilling for Oil in the Arctic Too Soon Too Risky” http://worldwildlife.org/publications/drilling-for-oil-in-the-arctic-too-soon-too-risky)

The Arctic and the subarctic regions surrounding it are important for many reasons. One is their enormous biological diversity: a kaleidoscopic array of land and seascapes supporting millions of migrating birds and charismatic species such as polar bears, walruses, narwhals and sea otters. Economics is another: Alaskan fisheries are among the richest in the world. Their $2.2 billion in annual catch fills the frozen food sections and seafood counters of supermarkets across the nation. However, there is another reason why the Arctic is not just important, but among the most important places on the face of the Earth. A keystone species is generally defined as one whose removal from an ecosystem triggers a cascade of changes affecting other species in that ecosystem. The same can be said of the Arctic in relation to the rest of the world. With feedback mechanisms that affect ocean currents and influence climate patterns, the Arctic functions like a global thermostat. Heat balance, ocean circulation patterns and the carbon cycle are all related to its regulatory and carbon storage functions. Disrupt these functions and we effect far-reaching changes in the conditions under which life has existed on Earth for thousands of years. In the context of climate change, the Arctic is a keystone ecosystem for the entire planet. Unfortunately, some of these disruptions are happening already as climate change melts sea ice and thaws the Arctic tundra. The Arctic’s sea ice cover reflects sunlight and therefore heat. As the ice melts, that heat is absorbed by the salt water, whose temperature, salinity and density all begin to change in ways that impact global ocean circulation patterns. On land, beneath the Arctic tundra, are immense pools of frozen methaneℐa greenhouse gas far more potent than carbon dioxide. As the tundra thaws, the risk of this methane escaping increases. 4 Were this to happen, the consequences would be dire and global in scope. As we continue not just to spill but to burn the fossil fuels that cause climate change, we are nudging the Arctic toward a meltdown that will make sea levels and temperatures rise even faster, with potentially catastrophic consequences for all life on Earth: no matter where one lives it. For the sake of the planet, losing the Arctic is not an option. Mitigating the impact of climate change there ultimately depends upon our getting serious about replacing fossil fuels with non-carbon-based renewable energies. Until we demonstrate the will and good sense to do that, however, the Arctic needs to be protected from other environmental threats that, compounded by the stress of climate change, undermine its resiliency and hasten its demise. Chief among those threats is offshore drilling ℐespecially in the absence of any credible and tested means of responding effectively to a major spill.

## tradeoff

#### The pivot does nothing

Aaron L. Friedberg 12, Professor of Politics and International Affairs at the Woodrow Wilson School of Public and International Affairs at Princeton University and the author of A Contest for Supremacy: China, America, and the Struggle for Mastery in Asia. From 2003 to 2005, he served as a Deputy Assistant for National Security Affairs in the Office of the Vice President, “Bucking Beijing”, Foreign Affairs, September / October

The problem with the pivot is that to date it has lacked serious substance. The actions it has entailed either have been merely symbolic, such as the pending deployment of a small number of U.S. marines to Australia, or have involved simply the reallocation of existing air and naval assets from other theaters. Apart from vague references to a new "air-sea battle" concept, which the Pentagon describes, in typical jargon, as "networked, integrated, attack-in-depth to disrupt, destroy and defeat" opposing forces, the administration has not made clear how it actually intends to respond to China's increasing military capabilities. To the contrary, having announced the new approach, Defense Department spokespeople have been at pains to avoid acknowledging the obvious fact that it will be aimed primarily at China. Especially in the current fiscal climate, it is hard to see how any administration could mobilize the public support necessary to maintain a favorable balance of power in Asia if it is not willing to be far more candid about the nature of the challenge posed by China's growing strength.

#### Obama and DoD action on renewables now—triggers spending and politics

Colman 12

Zack Colman, The Hill, 8/7/12, White House to seek $7B in green energy contracts for military, thehill.com/blogs/e2-wire/e2-wire/242593-army-announces-renewable-energy-contracts-as-white-house-continues-green-push

The White House announced Tuesday it is inviting contract proposals from green energy firms to boost the Army’s use of renewable energy.

The administration is making **$7 billion available** for the U.S. Army Corps of Engineers to spend on locally-generated biomass, geothermal, solar or wind energy for up to 30 years.

The move is part of a broader White House-led push to green the armed forces, **over GOP opposition**, **which claims the efforts are a waste of taxpayer dollars**.

The Defense Department has set ambitious targets, aiming for renewable sources to account for 25 percent of its energy by 2025, with the Army working toward getting 1 gigawatt of power from green sources by that year.

Heather Zichal, the White House deputy assistant for energy and climate change, praised the DOD’s “extraordinary work” to promote renewable energy usage, in a media call on Tuesday.

She said alternative energy will reduce costs and enhance national security.

Republicans, however, have pressed the White House and military to abandon some alternative energy programs. They say the efforts cost too much with budget sequestration threatening to slash the defense budget by $492 billion over 10 years.

Zichal, though, said **the president was fully behind the push** and believed the military’s turn toward alternative energy was “operationally necessary, financially prudent and mission critical.”

She also lauded the Navy’s July demonstration of its “Great Green Fleet” aircraft carrier strike group. That Pacific Rim exercise tested a fuel that combined a $26-per-gallon biofuel with conventional petroleum.

On Monday, the Army, along with the Interior Department, announced it would integrate green energy electricity sources such as wind and solar at military installations. Interior and the Army said those power generators would keep the lights on should the commercial electric grid fail.

**The military-centric announcements are** one **part of a larger White House renewable energy blitz** this week.

Earlier Tuesday, the administration revealed it would fast-track seven solar and wind electricity projects on federal lands and also held a news conference celebrating the completion of the first wind farm on federal lands in Nevada.

#### Link’s non-unique

**GAO 12**,

“Renewable Energy Project Financing: Improved Guidance and Information Sharing Needed for DOD Project-Level Officials”, April, <http://gao.gov/assets/590/589883.pdf>

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.

## clean tech

#### Biofuel purchases and requirements now

Cardwell 12

Diane Cardwell, NYTimes, 8/27/12, Military SPending on Biofuels Draws Fire, www.nytimes.com/2012/08/28/business/military-spending-on-biofuels-draws-fire.html?pagewanted=all

When the Navy put a Pacific fleet through maneuvers on a $12 million cocktail of biofuels this summer, it proved that warships could actually operate on diesel from algae or chicken fat.

“It works in the engines that we have, it works in the aircraft that we have, it works in the ships that we have,” said Ray Mabus, secretary of the Navy. “It is seamless.”

The still-experimental fuels are also expensive — about $27 a gallon for the fuel used in the demonstration, compared with about $3.50 a gallon for conventional military fuels.

And that has made them a **flash point in a larger political battle** over government financing for new energy technologies.

“**You’re not the secretary of energy**,” Representative Randy Forbes, a Republican from Virginia, told Mr. Mabus as he criticized the biofuels program at a hearing in February. “You’re the secretary of the Navy.”

The House, controlled by Republicans, has already approved measures that would all but kill Pentagon spending on purchasing or investing in biofuels. A committee in the Senate, led by Democrats, has voted to save the program. **The fight will heat up again** when Congress takes up the Defense Department’s budget again in the fall.

The naval demonstration — known as the Great Green Fleet — was part of a $510 million three-year, multiagency program to help the military develop alternatives to conventional fuel. It is a drop in the ocean of the Pentagon’s nearly $650 billion annual budget.

Warming won’t cause extinction

Barrett, professor of natural resource economics – Columbia University, ‘7

(Scott, Why Cooperate? The Incentive to Supply Global Public Goods, introduction)

First, climate change does not threaten the survival of the human species.5 If unchecked, it will cause other species to become extinction (though biodiversity is being depleted now due to other reasons). It will alter critical ecosystems (though this is also happening now, and for reasons unrelated to climate change). It will reduce land area as the seas rise, and in the process displace human populations. “Catastrophic” climate change is possible, but not certain. Moreover, and unlike an asteroid collision, large changes (such as sea level rise of, say, ten meters) will likely take centuries to unfold, giving societies time to adjust. “Abrupt” climate change is also possible, and will occur more rapidly, perhaps over a decade or two. However, abrupt climate change (such as a weakening in the North Atlantic circulation), though potentially very serious, is unlikely to be ruinous. Human-induced climate change is an experiment of planetary proportions, and we cannot be sur of its consequences. Even in a worse case scenario, however, global climate change is not the equivalent of the Earth being hit by mega-asteroid. Indeed, if it were as damaging as this, and if we were sure that it would be this harmful, then our incentive to address this threat would be overwhelming. The challenge would still be more difficult than asteroid defense, but we would have done much more about it by now.

Existing carbon triggers the impact

Daniel **Rirdan 12**, founder of The Exploration Company, “The Right Carbon Concentration Target”, June 29, <http://theenergycollective.com/daniel-rirdan/89066/what-should-be-our-carbon-concentration-target-and-forget-politics?utm_source=feedburner&utm_medium=feed&utm_campaign=The+Energy+Collective+%28all+posts%29>

James Hansen and other promi­nent cli­ma­tol­o­gists are call­ing to bring the CO2 atmos­pheric level to 350 parts per million. In fact, an orga­ni­za­tion, 350.org, came around that ral­ly­ing cry. This is far more radical than most politicians are willing to entertain. And it is not likely to be enough. The 350ppm target will not reverse the clock as far back as one may assume. It was in 1988 that we have had these level of car­bon con­cen­tra­tion in the air. But wait, there is more to the story. 1988-levels of CO2 with 2012-levels of all other green­house gases bring us to a state of affairs equiv­a­lent to that around 1994 (2.28 w/m2). And then there are aerosols. There is good news and bad news about them. The good news is that as long as we keep spewing mas­sive amounts of particulate matter and soot into the air, more of the sun’s rays are scattered back to space, over­all the reflec­tiv­ity of clouds increases, and other effects on clouds whose over­all net effect is to cool­ing of the Earth sur­face. The bad news is that once we stop polluting, stop run­ning all the diesel engines and the coal plants of the world, and the soot finally settles down, the real state of affairs will be unveiled within weeks. Once we fur­ther get rid of the aerosols and black car­bon on snow, we may be very well be worse off than what we have had around 2011 (a pos­si­ble addi­tion of 1.2 w/m2). Thus, it is not good enough to stop all green­house gas emis­sions. In fact, it is not even close to being good enough. A carbon-neutral econ­omy at this late stage is an unmit­i­gated disaster. There is a need for a carbon-negative economy. Essentially, it means that we have not only to stop emitting, to the tech­no­log­i­cal extent pos­si­ble, all green­house gases, but also capture much of the crap we have already out­gassed and lock it down. And once we do the above, the ocean will burp its excess gas, which has come from fos­sil fuels in the first place. So we will have to draw down and lock up that carbon, too. We have taken fos­sil fuel and released

## t – substantial

#### Incentives can create a market – in that context, plan is obvi substantial

EIA 2001 (Renewable Energy 2000: Issues and Trends, Report prepared by the US Energy Information Administration, “Incentives, Mandates, and Government Programs for Promoting Renewable Energy”, http://tonto.eia.doe.gov/ftproot/renewables/06282000.pdf)

Over the years, incentives and mandates for renewable energy have been used to advance different energy policies, such as ensuring energy security or promoting environmentally benign energy sources. Renewable energy has beneficial attributes, such as low emissions and replenishable energy supply, that are not fully reflected in the market price. Accordingly, governments have used a variety of programs to promote renewable energy resources, technologies, and renewable-based transportation fuels.1 This paper discusses: (1) financial incentives and regulatory mandates used by Federal and State governments and Federal research and develop- ment (R&D),2, 3 and (2) their effectiveness in promoting renewables.

A financial incentive is defined in this report as providing one or more of the following benefits:

• A **transfer of economic resources** by the Government to the buyer or seller of a good or service that has the effect of reducing the price paid, or, increasing the price received, respectively;

• Reducing the cost of production of the good or service; or,

• **Creating or expanding a market for producers**.

The intended effect of a financial incentive is to increase the production or consumption of the good or service over what it otherwise would have been without the incentive. Examples of financial incentives are: tax credits, production payments, trust funds, and low-cost loans. Research and development is included as a support program because its effect is to decrease cost, thus enhancing the commercial viability of the good(s) provided.4

Regulatory mandates include both actions required by legislation and regulatory agencies (Federal or State). Examples of regulatory mandates are: requiring utilities to purchase power from nonutilities and requiring the incorporation of environmental impacts and other social costs in energy planning (full cost pricing). Another example is a requirement for a minimum percentage of generation from renewable energy sources (viz., a “renewable portfolio standard,” or, RPS). Regulatory mandates and financial incentives can produce similar results, but regulatory mandates generally require no expenditures or loss of revenue by the Government.

#### Substantially means “of ample or considerable amount” – that’s dictionary.com

(http://dictionary.reference.com/browse/substantial)

#### Substantially is subjective

Hopkins 9

Starting and Managing a Nonprofit Organization: A Legal Guide, p. google books

 Bruce R. Hopkins

Senior Partner

Polsinelli Shughart PC

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(Cass, Clay, Jackson & Platte Cos.)

The\* true\* measure of substantiality remains elusive. In reports accompanying tax legislation over the years, the Senate Finance Committee has characterized the state of affairs well. In 1969, the Committee wrote that the "standards as to the permissible level of (legislative) activities under the present law are so vague as to encourage subjective application of the sanction." Liter, in iy7t>, the Finance Committee portrayed the dilemma Litis way: "Many believe that tine standards as to the permissible level of (legislative] activities under present law are too vague and thereby tend to encourage subjective and selective enforcement."

#### “Substantial” can mean fundamental

Dictionary.com (http://dictionary.reference.com/browse/substantial)

4.

basic or essential; **fundamental**: two stories in substantial agreement.

#### Plan is a fundamental incentive – limits out lots of indirect affs, which actually hurt neg ground

Webb 93 – lecturer in the Faculty of Law at the University of Ottawa (Kernaghan, “Thumbs, Fingers, and Pushing on String: Legal Accountability in the Use of Federal Financial Incentives”, 31 Alta. L. Rev. 501 (1993) Hein Online)

In this paper, "financial incentives" are taken to mean disbursements 18 of public funds or contingent commitments to individuals and organizations, intended to encourage, support or induce certain behaviours in accordance with express public policy objectives. They take the form of grants, contributions, repayable contributions, loans, loan guarantees and insurance, subsidies, procurement contracts and tax expenditures.19 Needless to say, the ability of government to achieve desired behaviour may vary with the type of incentive in use: up-front disbursements of funds (such as with contributions and procurement contracts) may put government in a better position to dictate the terms upon which assistance is provided than contingent disbursements such as loan guarantees and insurance. In some cases, the incentive aspects of the funding come from the conditions attached to use of the monies.20 In others, the mere existence of a program providing financial assistance for a particular activity (eg. low interest loans for a nuclear power plant, or a pulp mill) may be taken as government approval of that activity, and in that sense, an incentive to encourage that type of activity has been created.21 Given the wide variety of incentive types, it will not be possible in a paper of this length to provide anything more than a cursory discussion of some of the main incentives used.22 And, needless to say, the comments made herein concerning accountability apply to differing degrees depending upon the type of incentive under consideration.

By limiting the definition of financial incentives to initiatives where *public funds are either disbursed or contingently committed*, a large number of regulatory programs with incentive *effects* which exist, but in which no money is forthcoming,23 are excluded from direct examination in this paper. Such programs might be referred to as *indirect* incentives. Through elimination of indirect incentives from the scope of discussion, thedefinition of the incentive instrument becomes both more manageable and more particular. Nevertheless, it is possible that much of the approach taken here may be usefully applied to these types of indirect incentives as well.24 Also excluded from discussion here are social assistance programs such as welfare and *ad hoc* industry bailout initiatives because such programs are not designed primarily to *encourage* behaviours in furtherance of specific public policy objectives. In effect, these programs are assistance, but they are not incentives.

## renewables cp

#### Only smr’s solve the grid – renewables fail

Charles Barton 11, founder of the Nuclear Green Revolution blog, MA in philosophy, “Future storm damage to the grid may carry unacceptable costs”, April 30, <http://nucleargreen.blogspot.com/2011_04_01_archive.html>

Amory Lovins has long argued that the traditional grid is vulnerable to this sort of damage. Lovins proposed a paradigm shift from centralized to distributed generation and from fossil fuels and nuclear power to renewable based micro-generation. Critics have pointed to flaws in Lovins model. Renewable generation systems are unreliable and their output varies from locality to locality, as well as from day to day, and hour to hour. In order to bring greater stability and predictability to the grid, electrical engineers have proposed expanding the electrical transmission system with thousands of new miles of transmission cables to be added to bring electricity from high wind and high sunshine areas, to consumers. This would lead, if anything, to greater grid vulnerability to storm damage in a high renewable penetration situation. Thus Lovins renewables/distributed generation model breaks down in the face of renewables limitations. Renewables penetration, will increase the distance between electrical generation facilities and customer homes and businesses, increasing the grid vulnerable to large scale damage, rather than enhancing reliability. Unfortunately Lovins failed to note that the distributed generation model actually worked much better with small nuclear power plants than with renewable generated electricity. Small nuclear plants could be located much closer to customer's homes, decreasing the probability of storm damage to transmission lines. At the very worst, small NPPs would stop the slide toward increased grid expansion. Small reactors have been proposed as electrical sources for isolated communities that are too remote for grid hookups. If the cost of small reactors can be lowered sufficiently it might be possible for many and perhaps even most communities to unhook from the grid while maintaining a reliable electrical supply. It is likely that electrical power will play an even more central role in a post-carbon energy era. Increased electrical dependency requires increased electrical reliability, and grid vulnerabilities limit electrical reliability. Storm damage can disrupt electrical service for days and even weeks. In a future, electricity dependent economy, grid damage can actually impede storm recovery efforts, making large scale grid damage semi-self perpetuating. Such grid unreliability becomes a threat to public health and safety. Thus grid reliability will be a more pressing future issue, than it has been. It is clear that renewable energy sources will worsen grid reliability, Some renewable advocates have suggested that the so called "smart grid" will prevent grid outages. Yet the grid will never be smart enough to repair its own damaged power lines. In addition the "smart grid" will be venerable to hackers, and would be a handy target to statures. A smart grid would be an easy target for a Stuxnet type virus attack. Not only does the "smart grid" not solve the problem posed by grid vulnerability to storm damage, but efficiency, another energy approach thought to be a panacea for electrical supply problems would be equally useless. Thus, decentralized electrical generation through the use of small nuclear power plants offers real potential for increasing electrical reliability, but successful use of renewable electrical generation approaches may worsen rather than improved grid reliability.

#### Empirics

Andres and Breetz 11

Richard Andres, Professor of National Security Strategy at the National War College and a Senior Fellow and Energy and Environmental Security and Policy Chair in the Center for Strategic Research, Institute for National Strategic Studies, at the National Defense University, and Hanna Breetz, doctoral candidate in the Department of Political Science at The Massachusetts Institute of Technology, Small Nuclear Reactorsfor Military Installations:Capabilities, Costs, andTechnological Implications, [www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf](http://www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf)

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

## acquisition cp

#### Obtain means to acquire

SCOTUS 3, Scheidler v. National Organization for Women, Inc. - 537 U.S. 393 (2003), <http://supreme.justia.com/cases/federal/us/537/393/case.html>

(a) Petitioners did not commit extortion within the Hobbs Act's meaning because they did not "obtain" property from respondents. Both of the sources Congress used as models in formulating the Hobbs Act-the New York Penal Code and the Field Code, a 19th-century model penal code-defined extortion as, inter alia, the "obtaining" of property from another. This Court has recognized that New York's "obtaining" requirement entailed both a deprivation and acquisition of property, see United States v. Enmons, 410 U. S. 396, 406, n. 16, and has construed the Hobbs Act provision at issue to require both features, see, e. g., id., at 400. It is undisputed that petitioners interfered with, disrupted, and in some instances completely deprived respondents of their ability to exercise their property rights. Likewise, petitioners' counsel has acknowledged that aspects of his clients' conduct were criminal. But even when their acts of interference and disruption achieved their ultimate goal of shutting down an abortion clinic, such acts did not constitute extortion because petitioners did not "obtain" respondents' property. Petitioners may have deprived or sought to deprive respondents of their alleged property right of exclusive control of their business assets, but they did not acquire any such property. They neither pursued nor received "something of value from" respondents that they could exercise, transfer, or sell. United States v. Nardello, 393 U. S. 286, 290. To conclude that their actions constituted extortion would effectively discard the statutory "obtaining" requirement and eliminate the recognized distinction between extortion and the separate crime of coercion. The latter crime, which more accurately describes the nature of petitioners' actions, involves the use of force or threat of force to restrict another's freedom of action. It was clearly defined in the New York Penal Code as a separate, and lesser, offense than extortion when Congress turned to New York law in drafting the Hobbs Act. Congress' decision to include extortion as a violation of the Hobbs Act and omit coercion is significant here, as is the fact that the AntiRacketeering Act, the predecessor to the Hobbs Act, contained sections explicitly prohibiting both. The Hobbs Act omission is particularly significant because a paramount congressional concern in drafting that Act was to be clear about what conduct was prohibited, United States v. Culbert, 435 U. S. 371, 378, and to carefully define the Act's key terms, including "extortion," id., at 373. Thus, while coercion and extortion overlap to the extent that extortion necessarily involves the use of coercive conduct to obtain property, there has been and continues to be a recognized difference between these two crimes. Because the Hobbs Act is a criminal statute, it must be strictly construed, and any ambiguity must be resolved in favor of lenity. Enmons, supra, at 411. Culbert, supra, at 373, distinguished. If the distinction between extortion and coercion, which controls these cases, is to be abandoned, such a significant expansion of the law's coverage must come from Congress, not from the courts. pp.400-409.

#### No land

King et al 11

Marcus, LaVar Huntzinger • Thoi Nguyen, CNA, March, “Feasibility of Nuclear Power on U.S. Military Installations” <https://cna.org/sites/default/files/research/Nuclear%20Power%20on%20Military%20Installations%20D0023932%20A5.pdf>

There are liabilities to having a nuclear power plant located on a military installation. First, the military installation must find and give up all other use of asmall area where the site is to be built. The site would need to be “not too near” to certain types of facilities. For example, not too near a hospital and not too near a facility that stores and handles explosives.Finding a specific site on an installation that is appropriate and suitable may be difficult. In addition, having a nuclear power plant on a military installation would almost certainly impose some restrictions on how land and airspace in the immediate vicinity of the nuclear plant could be used thereafter.

#### Or expertise

King et al 11 (Marcus, LaVar Huntzinger • Thoi Nguyen, CNA, March,“Feasibility of Nuclear Power on U.S. Military Installations” <https://cna.org/sites/default/files/research/Nuclear%20Power%20on%20Military%20Installations%20D0023932%20A5.pdf>)

A principal advantage of DoD ownership or operation would be the possibility to tailor a project to best fit needs, objectives, and concerns that might not be adequately expressed in contracts. If the objectives and concerns are simply that the plant is safe and efficient, that can be written into contract terms, and there is little advantage to DoD ownership or operation. A significant liability to DoD ownership and operation is having full responsibility for all risks associated with such an undertaking. The risks are made worse by the fact that such an undertaking would require expertise that is outside DoD core capabilities. All aspects of preparing for, building, and operating nuclear power plants are both complicated and technically challenging. DoD cannot expect to own and/or operate such a project with satisfactory results without devoting considerable time and resources to developing a competent team. Since the expertise of those involved in such a team would be outside core DoD capabilities, it would be difficult for DoD to maintain a satisfactory career path for those personnel. There could be some advantages to creating shore assignments for Navy personnel that would be similar to assignments managing and operating nuclear reactors on ships and submarines. The degree of similarity that would be possible would depend on the type of nuclear power plant built on a DoD installation.

#### Non-unique

Joe **Loper et al 8**, Vice President for Policy and Research at the Alliance to Save Energy, “Reducing Greenhouse Gas Emissions In Federal Buildings, Facilities and Vehicles”, April, <http://www.climateactionproject.com/docs/PCAP_Final_FEMP_Chapter_4-18-08.pdf>

Appropriations for energy-efficiency improvements historically have been insufficient to exploit more than a small fraction of the energy-saving opportunities in federal facilities.130 In response, EPAct 1992 authorized agencies to upgrade buildings using energy services performance contracts (ESPCs) and utility energy services contracts (UESCs). Under an ESPC, energy service companies (ESCOs) finance and implement energy-saving projects in federal facilities. The ESCO guarantees the savings will be realized. By law, the savings must be at least as great as the contractor payments – if the savings are not realized, the contractor does not get paid. The contract periods may be up to 25 years, and there is no limit on the amount of investment that can be provided. UESCs allow electric and gas utilities to provide financing for energy-efficiency projects, as well as offer rebates and technical assistance to federal agencies through their demand-side management programs. Similar to ESPCs, utility investments under UESCs are repaid from the utility bill savings due to the projects. Agencies have relied heavily on these alternative financing sources, which have provided funding for nearly half of the federal efficiency investments made since 1985. Of the $6.3 billion invested in energy-efficiency improvements by the federal government since 1985, $3.19 billion has come from appropriations, $1.95 billion has come from ESPCs and $1.16 billion has come from UESCs.131 At their peak a few years ago, ESPCs and UESCs were providing more than $500 million per year for energy-efficiency investments in federal buildings and facilities (Figure 15).132 Cumulative net savings from ESPCs alone are estimated at $1.4 billion, with annual savings of 17.6 trillion Btu,133 equal to about $290 million per year.134 In September 2003, authority to enter into new ESPCs lapsed. This authority was reinstated by Congress in 2004, extended through 2016 in EPAct 2005,135 and made permanent in EISA.136 The use of these financing tools has nearly bounced back to previous levels. While investments in ESPCs and UESCs remained considerably lower in Fiscal Year 2005 than they had been before the authority expired, by Fiscal Year 2006, investments through ESPCs totaled $314 million, while UESCS totaled $70 million. Projections for Fiscal Year 2007 are even higher (Figure 15). The drop off in alternative financing of government efficiency projects in Fiscal Years 2004 and 2005 most likely led to fewer implemented efficiency improvements during those years. The dramatically reduced level of ESPCs corresponds with the authority lapse. The drop-off in UESCs is less clear.

## elections

#### No difference between Obama and Romney on foreign policy

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

I raise the idea to drive home a broader point. Despite his campaign rhetoric, Romney would be quite comfortable carrying out President Obama's foreign policy because it accords so closely with his own. And that brings up an extraordinary fact. What has emerged in the second decade after 9/11 is a remarkable consensus among Democrats and Republicans on a core approach to the nation's foreign policy. It's certainly not a perfect alignment. But rarely since the end of the Cold War has there been this level of consensus. Indeed, while Americans may be divided, polarized and dysfunctional about issues closer to home, we are really quite united in how we see the world and what we should do about it. Ever wondered why foreign policy hasn't figured all that prominently in the 2012 election campaign? Sure, the country is focused on the economy and domestic priorities. And yes, Obama has so far avoided the kind of foreign-policy disasters that would give the Republicans easy free shots. But there's more to it than that: Romney has had a hard time identifying Obama's foreign-policy vulnerabilities because there's just not that much difference between the two. A post 9/11 consensus is emerging that has bridged the ideological divide of the Bush 43 years. **And it's going to be pretty durable**. Paradoxically, both George W. Bush's successes and failures helped to create this new consensus. His tough and largely successful approach to counterterrorism -- specifically, keeping the homeland safe and keeping al Qaeda and its affiliates at bay through use of special forces, drone attacks, aggressive use of intelligence, and more effective cooperation among agencies now forms a virtually unassailable bipartisan consensus. As shown through his stepped-up drone campaign, Barack Obama has become George W. Bush on steroids. And Bush 43's failed policies -- a discretionary war in Iraq and a mismanaged one in Afghanistan -- have had an equally profound effect. These adventures created a counter-reaction against ill-advised military campaigns that is now bipartisan theology as well. To be sure, there are some differences between Romney and Obama. But with the exception of Republicans taking a softer line on Israel and a tougher one on Russia -- both stances that are unlikely to matter much in terms of actual policy implementation -- there's a much greater convergence. Yes, in the interests of winning votes, Romney will hone a few choice attacks in the campaign to come: "The president is weak and an apologizer, I'm not!" "The president doesn't believe in American leadership, I do!" These tropes, however, are either meaningless or inaccurate, and aren't likely to resonate much with a foreign policy-fatigued public.

#### Romney will win Alaska no matter what

Cohen 7/18/12

<http://fivethirtyeight.blogs.nytimes.com/2012/07/18/its-not-exactly-sarah-palins-alaska/>

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For 67 days in 2008, Alaska was a leading player in American politics, pulled — in tow with then-Gov. Sarah Palin — by the McCain campaign into the national dialogue. Ms. Palin — who had an approval rating of about 80 percent in Alaska when she joined the McCain ticket – brought the state’s culture with her, and reporters and pundits were suddenly talking about moose meat and hockey moms. Today, Ms. Palin and the Last Frontier are hard to find in political reporting. Ms. Palin is heard from very little beyond her role as a contributor on Fox News. The latest story about Ms. Palin centered on whether she would be invited to speak at the Republican National Convention in Tampa, Fla. Alaska voters also seem to have moved past the Palin era. An Ivan Moore Research poll in late 2011 found that just 29 percent of registered voters in Alaska had positive feelings about Ms. Palin. “I have a sense that today she would have a very hard time getting elected here,” said Margaret Stock, an adjunct instructor in the department of political science at the University of Alaska Anchorage. “I don’t think she could get elected to anything,” said Donald C. Mitchell, who has written extensively about Alaska Natives and Alaska politics. While no longer enamored with Ms. Palin, Alaska is still a conservative state and Mitt Romney should have little trouble winning its three electoral votes.

#### More like LOLaska amirite – but seriously, no one cares

Peterson 7/16/12

J. Philip Peterson, a graduate with a BFA from the Philadelphia College of Art, (now University of the Arts)

<http://iceagenow.info/2012/07/anchorage-coldest-1st-july/>

Nobody cares about Alaska in the lower 48. All of Alaska is a National Park. Untouchable for any new natural resources. Let the Alaska Pipeline run dry. That’s what the current administration wants.

#### Romney’s micro-targeting, but it’ll fail

The Week, 9/28/12, Mitt Romney's strategy to win Virginia: Lyme Disease?, news.yahoo.com/mitt-romneys-strategy-win-virginia-lyme-disease-162000153--election.html

The GOP candidate ignores big-ticket issues in a campaign mailer about ticks The image: The Weekly Standard reports that voters in Virginia are starting to receive their first mailers from the Romney campaign — and the top issue isn't the lackluster economy or the bloated budget deficit, but Lyme Disease. (See an image of the full mailer here.) "It's a disease that begins from a small bug," reads the mailer. "But Lyme Disease has quickly become the most common vector-borne disease in the United States." The mailer, which describes Lyme Disease as a "massive epidemic threatening Virginia," promises that a President Romney would take action to bring the disease under control. The mailer is apparently part of Romney's micro-targeting strategy, which seeks to engage voters on the local issues they care most about. The reaction: Well, "it's tough to micro-target any deeper than a mailer talking about ticks," says Tim Murphy at Mother Jones. But remember, Virginia is an immensely important battleground state where Romney needs to establish his bona fides on the economy and other presidential-level issues. Indeed, a micro-targeting campaign won't be much use to Romney, says Josh Kraushaar at National Journal, since he "badly needs an overarching vision that appeals to Americans dissatisfied with Obama's performance in office and struggling in a stagnant economy."

#### Ground game and early voting outweighs new info

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

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

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

and his campaign outsourced turnout to the Republican National Committee. (By setting up “hundreds” of field offices, Obama boosted his 2008 vote total by more than 3 points in some states, according to one study.)

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#### Most projects use appropriations

**GAO 12**, “Renewable Energy Project Financing: Improved Guidance and Information Sharing Needed for DOD Project-Level Officials”, April, <http://gao.gov/assets/590/589883.pdf>

The military services have varied in their use of up-front appropriations and alternative-financing approaches for renewable energy projects on military installations. Based on our analysis of DOD’s data on renewable energy projects, of the nearly 600 projects that were in design, under construction, or currently operating in fiscal year 2011, the military services funded about 85 percent of the projects with up-front appropriations. Table 3 shows the number of renewable energy projects the military services identified as being in design, under construction, or currently operating in fiscal year 2011 and the financing approaches used for the projects.

#### Not mutually exclusive.

**GAO 12**, “Renewable Energy Project Financing: Improved Guidance and Information Sharing Needed for DOD Project-Level Officials”, April, <http://gao.gov/assets/590/589883.pdf>

To finance renewable energy projects on military installations, the military services use up-front appropriations, such as operation and maintenance funds or military construction funds, and alternative-financing approaches that generally rely on private capital, such as Energy Savings Performance Contracts or power purchase agreements. Each of the financing approaches has its own requirements and legal authorities. These financing approaches are not necessarily mutually exclusive and different approaches can sometimes be combined to finance the same project. For example, the Army is developing a project at Fort Irwin in which the Army would lease land to a private contractor for up to 50 years through an enhanced-use lease, the developer would build a large solar array on the property, and the installation would purchase energy that is produced by the project through a power purchase agreement. Table 2 provides a summary of selected approaches available to finance renewable energy projects on DOD installations and appendix II provides a more detailed description of these financing approaches and legal authorities.

#### alternative financing can acquire tech

Leonard Leos et al 7, MBA from the Naval Postgraduate School, “Budget Scoring of Alternative Financing Methods for Defense Requirements”, June, http://www.dtic.mil/dtic/tr/fulltext/u2/a473232.pdf

In a 2003 study by the GAO, PPPs were identified as the most prevalent alternative financing method, with over 54 different agreements in existence within U.S. 16 agencies (GAO, 2003, August). PPPs are a particularly popular alternative-financing technique for the DoD due to their great flexibility and ability to apply private-sector capital and expertise to public needs and resources. In this symbiotic relationship, each party benefits from its participation in the partnership. The government is unable to be the most efficient provider of all necessary services and equipment items for the public sector. OMB Circular A-76 acknowledges this reality and provides guidelines with which to outsource public requirements to the private sector and promote efficiency (OMB, 2003). In some cases, adaptable technologies or industrial capacity already exist in the private sector that could address the requirements of the military. A PPP can be formed to exploit these opportunities in a manner conventional full-funding procurement cannot. Despite the efficiencies of PPPs, the scoring of PPP legislation has become increasingly conservative—limiting the flexibility originally granted by statuary authority to several Federal agencies. The CBO and OMB believe that Federal agencies are using special purpose public-private ventures as a way to access private capital without triggering lease-purchase guidelines and to avoid recording obligations up-front in their budgets. This section will discuss these concerns and other scoring issues using several examples from the DoD’s privatization of military housing and the VA’s enhanced-use lease authority. The majority of PPPs involve the Federal Government’s real property or other underutilized assets that can be developed, revitalized, or managed by the private sector. The key element of a PPP is that the government possesses some non-monetary asset that has value to the private sector. In a typical fully funded contract, the government must set aside funds sufficient to cover all obligations in the first year of the project. In PPP agreements, the government is able to barter an asset or use existing conditions in lieu of full payment to reduce their obligations. These assets can include loan guarantees, longer lease terms, debt issuance, guaranteed minimum rates of occupancy, or even the transfer of the asset at the completion of the lease term. Figure 1 depicts the wide degree of versatility of PPP contracts in managing responsibility throughout the life of an asset. Below is a listing of the most common PPP relationships in existence. The Design-Build (DB): Under this model, the government contracts with a private partner to design and build a facility in accordance with the requirements set by the government. After completing the facility, the government assumes responsibility for operating and maintaining the facility. This method of procurement is also referred to as Build-Transfer (BT). Design-Build-Maintain (DBM): This model is similar to Design-Build except that the private sector also maintains the facility. The public sector retains responsibility for operations. Design-Build-Operate (DBO): Under this model, the private sector designs and builds a facility. Once the facility is completed, the title for the new facility is transferred to the public sector, while the private sector operates the facility for a specified period. This procurement model is also referred to as Build-Transfer-Operate (BTO). Design-Build-Operate-Maintain (DBOM): This model combines the responsibilities of design-build procurements with the operations and maintenance of a facility for a specified period by a private-sector partner. At the end of that period, the operation of the facility is transferred back to the public sector. This method of procurement is also referred to as Build-Operate-Transfer (BOT). Build-Own-Operate-Transfer (BOOT): The government grants a franchise to a private partner to finance, design, build and operate a facility for a specific period of time. Ownership of the facility is transferred back to the public sector at the end of that period. Build-Own-Operate (BOO): The government grants the right to finance, design, build, operate and maintain a project to a private entity, which retains ownership of the project. The private entity is not required to transfer the facility back to the government. Design-Build-Finance-Operate/Maintain (DBFO, DBFM or DBFO/M): Under this model, the private sector designs, builds, finances, operates and/or maintains a new facility under a long-term lease. At the end of the lease term, the facility is transferred to the public sector. In some countries, DBFO/M covers both BOO and BOOT. PPPs can also be used for existing services and facilities in addition to new ones. Some of these models are described below. Service Contract: The government contracts with a private entity to provide services the government previously performed. Management Contract: A management contract differs from a service contract in that the private entity is responsible for all aspects of operations and maintenance of the facility under contract. Lease: The government grants a private entity a leasehold interest in an asset. The private partner operates and maintains the asset in accordance with the terms of the lease. Concession: The government grants a private entity exclusive rights to provide, operate and maintain an asset over a long period of time in accordance with performance requirements set forth by the government. The public sector retains ownership of the original asset, while the private operator retains ownership over any improvements made during the concession period. Divestiture: The government transfers an asset, either in part or in full, to the private sector. Generally, the government will include certain conditions with the sale of the asset to ensure that improvements are made and citizens continue to be served (Dovey & Eggers, 2007, p. 5).

## no solve

#### Private ownership’s key to maintenance and expertise

**GAO ‘12**

“Renewable Energy Project Financing: Improved Guidance and Information Sharing Needed for DOD Project-Level Officials”, April, <http://gao.gov/assets/590/589883.pdf>

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

#### The gov votes aff

**DOE 11**, “Funding Federal Energy and Water Projects”, July, <http://www.nrel.gov/docs/fy11osti/52085.pdf>

The U.S. Department of Energy (DOE) Federal Energy Management Program (FEMP) helps Federal agencies identify and obtain funding for energy efficiency, renewable energy, water conservation, and greenhouse gas (GHG) management projects.

Federal agencies cannot rely on Congressional appropriations alone to fund the energy projects needed to meet Federal requirements. Additional funding options are available, including:

• Energy savings performance contracts (ESPCs)

• Utility energy service contracts (UESCs)

• Power purchase agreements (PPAs)

• Energy incentive programs

Carefully matching available funding options with specific situations can make the difference between a stalled, unfunded project and a successful project generating energy and cost savings. This often means combining Congressional appropriations and project funding mechanisms.

## non unique

#### Agencies are already required to maximize it

**The White House 99**, “Executive Order: Greening the Government through Efficient Energy Management”, June 3, <http://wbdg.org/ccb/FED/FMEO/eo13123.pdf>

(a) Financing Mechanisms. Agencies shall maximize their use of available alternative financing contracting mechanisms, including Energy-Savings Performance Contracts and utility energy-efficiency service contracts, when life-cycle cost-effective, to reduce energy use and cost in their facilities and operations. Energy-Savings Performance Contracts, which are authorized under the National Energy Conservation Policy Act, as modified by the Energy Policy Act of 1992, and utility energy-efficiency service contracts provide significant opportunities for making Federal facilities more energy efficient at no net cost to taxpayers.

## warming

#### Competitiveness not key to heg

Brooks and Wohlforth, 8

[Stephen G. Brooks is Assistant Professor and William C. Wohlforth is Professor in the Department of Government at Dartmouth College, “World out of Balance, International Relations and the Challenge of American Primacy,” p. 32-35]

American primacy is also rooted in the county's position as the world's leading technological power. The United States remains dominant globally in overall R&D investments, high-technology production, commercial innovation, and higher education (table 2.3). Despite the weight of this evidence, elite perceptions of U.S. power had shifted toward pessimism by the middle of the first decade of this century. As we noted in chapter 1, this was partly the result of an Iraq-induced doubt about the utility of material predominance, a doubt redolent of the post-Vietnam mood. In retrospect, many assessments of U.S. economic and technological prowess from the 1990s were overly optimistic; by the next decade important potential vulnerabilities were evident. In particular, chronically imbalanced domestic finances and accelerating public debt convinced some analysts that the United States once again confronted a competitiveness crisis.23 If concerns continue to mount, this will count as the fourth such crisis since 1945; the first three occurred during the 1950s (Sputnik), the 1970s (Vietnam and stagflation), and the 1980s (the Soviet threat and Japan's challenge). None of these crises, however, shifted the international system's structure: multipolarity did not return in the 1960s, 1970s, or early 1990s, and each scare over competitiveness ended with the American position of primacy retained or strengthened.24

Our review of the evidence of U.S. predominance is not meant to suggest that the United States lacks vulnerabilities or causes for concern. In fact, it confronts a number of significant vulnerabilities; of course, this is also true of the other major powers.25 The point is that adverse trends for the United States will not cause a polarity shift in the near future. If we take a long view of U.S. competitiveness and the prospects for relative declines in economic and technological dominance, one takeaway stands out: relative power shifts slowly. The United States has accounted for a quarter to a third of global output for over a century. No other economy will match its combination of wealth, size, technological capacity, and productivity in the foreseeable future (tables 2.2 and 2.3).

The depth, scale, and projected longevity of the U.S. lead in each critical dimension of power are noteworthy. But what truly distinguishes the current distribution of capabilities is American dominance in all of them simultaneously. The chief lesson of Kennedy's 500-year survey of leading powers is that nothing remotely similar ever occurred in the historical experience that informs modern international relations theory. The implication is both simple and underappreciated: the counterbalancing constraint is inoperative and will remain so until the distribution of capabilities changes fundamentally. The next section explains why.