### AT: Ethanol

#### Tech solves.

McNeill, history prof- Georgetown, 05 (J.R., Diamond in the Rough: Is There a Genuine Environmental Threat to Security?, Intl Security, 30.1)

With all this in mind, it seems hard to dispute that the current ecological regime with its existing trends is radically unsustainable. Yet does this necessarily imply collapse, either generally or for this state or that society? I think not. First of all, the trends will change. It is nearly impossible that the next hundred years will see, for example, a fourfold expansion of human population as did the last century. No one forecasts a world with 25 billion people in the year 2100. Economists normally expect the price mechanism to intervene in decisive ways, bringing us, for example, new energy sources when oil gets more expensive, as they brought alternative construction materials when and where timber ran short. This will indeed surely happen, on some (unknowable) scale [End Page 188] and at some (unknowable) pace. It is of course faith-based economics to assume that substitutions will happen soon enough and broadly enough to avoid immiseration and political turbulence. But it is equally unwise to assume they will not. Second, as optimists expect, science and technology will resolve some of our ecological vulnerabilities. This has already happened in some cases and will surely happen again. The hole in the ozone shield, for example, grew very rapidly from the 1960s to the 1990s. It implied various forms of peril for many life forms on Earth, including us. But in the 1970s atmospheric scientists detected the hole, explained it, recognized its dangers, and made a compelling public case about them. This provoked effective political action, which in turn spurred technical change in the industries that used chlorofluorocarbons (the agents that, when released into the atmosphere and after drifting to the stratosphere, rupture ozone molecules). In this case it turned out to be an easy nut to crack, both politically and technically. Others, such as climate change, have proven much tougher. Some of our ecological vulnerabilities will surely be resolved in happy ways on account of scientific understanding and technological change, presumably the easiest cases first. There are encouraging trends in postindustrial economies, in which less ore, less fuel, less timber, and so on are required to generate a given dollar of gross national product. In the United States, Japan, and most of Europe, a fairly rapid "dematerialization" of the economy is under way, and a "decarbonization" too, partly as a result of technological change and partly owing to sectoral shifts toward services and a knowledge economy. But there will surely be some ecological vulnerabilities that resist technological solution.

### AT: Climate Change

#### **SMRs solve warming**

Rosner & Goldberg, Physics Prof @ U Chicago, ’11

[Robert Rosner, William E. Wrather, Distinguished Service Professor, Departments of Astronomy and Astrophysics, and Physics at The University of Chicago, Director, Energy Policy Institute, Harris School of Public Policy, Stephen Goldberg, Professor of Law Emeritus at Northwestern Law, “Small Modular Reactors – Key to Future Nuclear Power Generation in the U.S.,” Energy Policy Institute at The University of Chicago, November 2011]

As stated earlier, SMRs have the potential to achieve significant greenhouse gas emission reductions. They could provide alternative baseload power generation to facilitate the retirement of older, smaller, and less efficient coal generation plants that would, otherwise, not be good candidates for retrofitting carbon capture and storage technology. They could be deployed in regions of the U.S. and the world that have less potential for other forms of carbon-free electricity, such as solar or wind energy. There may be technical or market constraints, such as projected electricity demand growth and transmission capacity, which would support SMR deployment but not GW-scale LWRs.

#### China is pursuing nuclear power now – US export leadership is key to Asian influence

Cullinane ‘11

[Scott Cullinane is a graduate student at the Institute of World Politics in Washington, D.C <http://www.ensec.org/index.php?option=com_content&view=article&id=319:america-falling-behind-the-strategic-dimensions-of-chinese-commercial-nuclear-energy&catid=118:content&Itemid=376>]

Due to a confluence of events the United States has recently focused more attention on nuclear weapons policy than it has in previous years; however, the proliferation of commercial nuclear technology and its implications for America’s strategic position have been largely ignored. While the Unites States is currently a participant in the international commercial nuclear energy trade, America’s own domestic construction of nuclear power plants has atrophied severely and the US risks losing its competitive edge in the nuclear energy arena.¶ Simultaneously, the People’s Republic of China (PRC) has made great strides in closing the nuclear energy development gap with America. Through a combination of importing technology, research from within China itself, and a disciplined policy approach the PRC is increasingly able to leverage the export of commercial nuclear power as part of its national strategy. Disturbingly, China does not share America’s commitment to stability, transparency, and responsibility when exporting nuclear technology. This is a growing strategic weakness and risk for the United States. To remain competitive and to be in a position to offset the PRC when required the American government should encourage the domestic use of nuclear power and spur the forces of technological innovation.¶ History has recorded well American wartime nuclear developments which culminated in the July 1945 Trinity Test, but what happened near Arco, Idaho six years later has been overlooked. In 1951, scientists for the first time produced usable electricity from an experimental nuclear reactor. Once this barrier was conquered the atom was harnessed to generate electricity and permitted America to move into the field of commercial nuclear power. In the next five years alone the United States signed over 20 nuclear cooperation agreements with various countries. Not only did the US build dozens of power plants domestically during the 1960s and 1970s, the US Export-Import Bank also distributed $7.1 billion dollars in loans and guarantees for the international sale of 49 reactors. American built and designed reactors were exported around the world during those years. Even today, more than 60% of the world’s 440 operating reactors are based on technology developed in the United States. The growth of the US civilian nuclear power sector stagnated after the Three Mile Island incident in 1979 – the most serious accident in American civilian nuclear power history. Three Mile Island shook America’s confidence in nuclear power and provided the anti-nuclear lobby ample fuel to oppose the further construction of any nuclear power plants. In the following decade, 42 planned domestic nuclear power plants were cancelled, and in the 30 years since the Three Mile Island incident the American nuclear power industry has survived only through foreign sales and merging operations with companies in Asia and Europe. Westinghouse sold its nuclear division to Toshiba and General Electric joined with Hitachi. Even the highest levels of the American government came to cast nuclear power aside. President Bill Clinton bragged in his 1993 State of the Union Address that “we are eliminating programs that are no longer needed, such as nuclear power research and development.” ¶ America’s slow pace of reactor construction over the past three decades has stymied innovation and caused the nuclear sector and its industrial base to shrivel. While some aspects of America’s nuclear infrastructure still operate effectively, many critical areas have atrophied. For example, one capability that America has entirely lost is the means to cast ultra heavy forgings in the range of 350,000 – 600,000 pounds, which impacts the construction of containment vessels, turbine rotors, and steam generators. In contrast, Japan, China, and Russia all possess an ultra heavy forging capacity and South Korea and India plan to build forges in this range. Likewise, the dominance America enjoyed in uranium enrichment until the 1970s is gone. The current standard centrifuge method for uranium enrichment was not invented in America and today 40% of the enriched uranium US power plants use is processed overseas and imported. Another measure of how much the US nuclear industry has shrunk is evident in the number of companies certified to handle nuclear material. In the 1980s the United States had 400 nuclear suppliers and 900 holders of N-stamp certificates (N-stamps are the international nuclear rating certificates issued by the American Society of Mechanical Engineers). By 2008 that number had reduced itself to 80 suppliers and 200 N-stamp holders. A recent Government Accountability Office report, which examined data from between 1994 and 2009, found the US to have a declining share of the global commercial nuclear trade. However, during that same period over 60 reactors were built worldwide. Nuclear power plants are being built in the world increasingly by non-American companies.¶ The American nuclear industry entered the 1960s in a strong position, yet over the past 30 years other countries have closed the development gap with America. The implications of this change go beyond economics or prestige to include national security. These changes would be less threatening if friendly allies were the ones moving forward with developing a nuclear export industry;however, the quick advancement of the PRC in nuclear energy changes the strategic calculus for America.¶ The shifting strategic landscape¶ While America’s nuclear industry has languished, current changes in the world’s strategic layout no longer allow America the option of maintaining the status quo without being surpassed. The drive for research, development, and scientific progress that grew out of the Cold War propelled America forward, but those priorities have long since been downgraded by the US government. The economic development of formerly impoverished countries means that the US cannot assume continued dominance by default. The rapidly industrializing PRC is seeking its own place among the major powers of the world and is vying for hegemony in Asia; nuclear power is an example of their larger efforts to marshal their scientific and economic forces as instruments of national power.¶ The rise of China is a phrase that connotes images of a backwards country getting rich off of exporting cheap goods at great social and environmental costs. Yet, this understanding of the PRC has lead many in the United States to underestimate China’s capabilities. The Communist Party of China (CPC) has undertaken a comprehensive long-term strategy to transition from a weak state that lags behind the West to a country that is a peer-competitor to the United States. Nuclear technology provides a clear example of this. ¶ In 1978, General Secretary Deng Xiaoping began to move China out of the destructive Mao era with his policies of 'reform and opening.' As part of these changes during the 1980s, the CPC began a concerted and ongoing effort to modernize the PRC and acquire advanced technology including nuclear technology from abroad. This effort was named Program 863 and included both legal methods and espionage. By doing this, the PRC has managed to rapidly catch up to the West on some fronts. In order to eventually surpass the West in scientific development the PRC launched the follow-on Program 973 to build the foundations of basic scientific research within China to meet the nation’s major strategic needs. These steps have brought China to the cusp of the next stage of technological development, a stage known as “indigenous innovation.”¶ ¶ In 2006 the PRC published their science and technology plan out to 2020 and defined indigenous innovation as enhancing original innovation, integrated innovation, and re-innovation based on assimilation and absorption of imported technology in order improve national innovation capability. The Chinese seek to internalize and understand technological developments from around the world so that they can copy the equipment and use it as a point to build off in their own research. This is a step beyond merely copying and reverse engineering a piece of technology. The PRC sees this process of absorbing foreign technology coupled with indigenous innovation as a way of leapfrogging forward in development to gain the upper hand over the West. The PRC’s official statement on energy policy lists nuclear power as one of their target fields. When viewed within this context, the full range of implications from China’s development of nuclear technology becomes evident. The PRC is now competing with the United States in the areas of innovation and high-technology, two fields that have driven American power since World War Two. China’s economic appeal is no longer merely the fact that it has cheap labor, but is expanding its economic power in a purposeful way that directly challenges America’s position in the world.¶ ¶ The CPC uses the market to their advantage to attract nuclear technology and intellectual capital to China. The PRC has incentivized the process and encouraged new domestic nuclear power plant construction with the goal of having 20 nuclear power plants operational by 2020. The Chinese Ministry of Electrical Power has described PRC policy to reach this goal as encouraging joint investment between State Owned Corporations and foreign companies. 13 reactors are already operating in China, 25 more are under construction and even more reactors are in the planning stages. ¶ In line with this economic policy, China has bought nuclear reactors from Westinghouse and Areva and is cooperating with a Russian company to build nuclear power plants in Taiwan. By stipulating that Chinese companies and personnel be involved in the construction process, China is building up its own domestic capabilities and expects to become self-sufficient. China’s State Nuclear Power Technology Corporation has partnered with Westinghouse to build a new and larger reactor based on the existing Westinghouse AP 1000 reactor. This will give the PRC a reactor design of its own to then export. If the CPC is able to combine their control over raw materials, growing technical know-how, and manufacturing base, China will not only be a powerful economy, but be able to leverage this power to service its foreign policy goals as well.¶ Even though the PRC is still working to master third generation technology, their scientists are already working on what they think will be the nuclear reactor of the future. China is developing Fourth Generation Fast Neutron Reactors and wants to have one operational by 2030. Additionally, a Chinese nuclear development company has announced its intentions to build the “world’s first high-temperature, gas-cooled reactor” in Shandong province which offers to possibility of a reactor that is nearly meltdown proof. A design, which if proved successful, could potentially redefine the commercial nuclear energy trade.¶ The risk to America¶ The international trade of nuclear material is hazardous in that every sale and transfer increases the chances for an accident or for willful misuse of the material. Nuclear commerce must be kept safe in order for the benefits of nuclear power generation to be realized. Yet, China has a record of sharing dangerous weapons and nuclear material with unfit countries. It is a risk for America to allow China to become a nuclear exporting country with a competitive technical and scientific edge. In order to limit Chinese influence and the relative attractiveness of what they can offer, America must ensure its continuing and substantive lead in reactor technology.¶ ¶ The PRC’s record of exporting risky items is well documented. It is known that during the 1980s the Chinese shared nuclear weapon designs with Pakistan and continues to proliferate WMD-related material. According to the Office of the Director of National Intelligence to Congress, China sells technologies and components in the Middle East and South Asia that are dual use and could support WMD and missile programs. Jane’s Intelligence Review reported in 2006 that China,¶ Despite a 1997 promise to Washington to halt its nuclear technology sales to Iran, such assistance is likely to continue. In 2005, Iranian resistance groups accused China of selling Iran beryllium, which is useful for making nuclear triggers and maraging steel (twice as hard as stainless steel), which is critical for fabricating centrifuges needed to reprocess uranium into bomb-grade material. ¶ China sells dangerous materials in order to secure its geopolitical objectives, regardless if those actions harm world stability. There is little reason to believe China will treat the sale of nuclear reactors any differently. Even if the PRC provides public assurances that it will behave differently in the future, the CPC has not been truthful for decades about its nuclear material and weapons sales and hence lacks credibility. For example, in 1983 Chinese Vice Premier Li Peng said that China does not encourage or support nuclear proliferation. In fact, it was that same year that China contracted with Algeria, then a non-NPT [Non-Proliferation Treaty] state, to construct a large, unsafeguarded plutonium production reactor. In 1991 a Chinese Embassy official wrote in a letter to the The Washington Post that 'China has struck no nuclear deal with Iran.' In reality, China had provided Iran with a research reactor capable of producing plutonium and a calutron, a technology that can be used to enrich uranium to weapons-grade. It has been reported that even after United Nation sanctions were put on Iran, Chinese companies were discovered selling “high-quality carbon fiber” and “pressure gauges” to Iran for use in improving their centrifuges.¶ In 2004 the PRC joined the Nuclear Suppliers Groups (NSG), gaining international recognition of their growing power in the nuclear field. In spite of this opportunity for China to demonstrate its responsibility with nuclear energy, it has not fulfilled it NSG obligations. The PRC has kept the terms of its nuclear reactor sale to Pakistan secret and used a questionable legal technicality to justify forgoing obtaining a NSG waiver for the deal. Additionally, China chose to forgo incorporating new safety measures into the reactors in order to avoid possible complications.¶ A further consequence of China exporting reactors is that these countries may wish to control the fuel cycle which provides the uranium to power their new reactors. The spread of fuel cycle technology comes with two risks: enrichment and reprocessing. Uranium can be enriched to between 3% and 5% for reactor use, but the process can be modified to produce 90% enriched uranium which is weapons-grade. Even if a country only produces low enriched uranium they could easily begin enriching at a higher level if they so choose. Every new country that nuclear technology or information is spread to exponentially increases the risk of material being stolen, given to a third party or being used as the launching point for a weapons program. China’s history of proliferation and willingness to engage economically with very unsavory governments seems likely to increase the risks involving nuclear material.

#### US leadership in Asia solves escalating war

Goh 8

(Evelyn, Lecturer in International Relations in the Department of Politics and International Relations at the Univ of Oxford, International Relations of the Asia-Pacific, “Hierarchy and the role of the United States in the East Asian security order,” 2008 8(3):353-377, Oxford Journals Database)

This is the main structural dilemma: as long as the United States does not give up its primary position in the Asian regional hierarchy, China is very unlikely to act in a way that will provide comforting answers to the two questions. Yet, the East Asian regional order has been and still is constituted by US hegemony, and to change that could be extremely disruptive and may lead to regional actors acting in highly destabilizing ways. Rapid Japanese remilitarization, armed conflict across the Taiwan Straits, Indian nuclear brinksmanship directed toward Pakistan, or a highly destabilized Korean peninsula are all illustrative of potential regional disruptions. 5 Conclusion To construct a coherent account of East Asia’s evolving security order, I have suggested that the United States is the central force in constituting regional stability and order. The major patterns of equilibrium and turbulence in the region since 1945 can be explained by the relative stability of the US position at the top of the regional hierarchy, with periods of greatest insecurity being correlated with greatest uncertainty over the American commitment to managing regional order. Furthermore, relationships of hierarchical assurance and hierarchical deference explain the unusual character of regional order in the post-Cold War era. However, the greatest contemporary challenge to East Asian order is the potential conflict between China and the United States over rank ordering in the regional hierarchy, a contest made more potent because of the intertwining of regional and global security concerns. Ultimately, though, investigating such questions of positionality requires conceptual lenses that go beyond basic material factors because it entails social and normative questions. How can China be brought more into a leadership position, while being persuaded to buy into shared strategic interests and constrain its own in ways that its vision of regional and global security may eventually be reconciled with that of the United States and other regional players? How can Washington be persuaded that its central position in the hierarchy must be ultimately shared in ways yet to be determined? The future of the East Asian security order is tightly bound up with the durability of the United States’ global leadership and regional domination. At the regional level, the main scenarios of disruption are an outright Chinese challenge to US leadership, or the defection of key US allies, particularly Japan. Recent history suggests, and the preceding analysis has shown, that challenges to or defections from US leadership will come at junctures where it appears that the US commitment to the region is in doubt, which in turn destabilizes the hierarchical order. At the global level, American geopolitical over-extension will be the key cause of change. This is the one factor that Hierarchy and the role of the United States in the East Asian security order 373lead to both greater regional and global turbulence, if only by the attendant strategic uncertainly triggering off regional challenges or defections. However, it is notoriously difficult to gauge thresholds of over-extension. More positively, East Asia is a region that has adjusted to previous periods of uncertainty about US primacy. Arguably, the regional consensus over the United States as primary state in a system of benign hierarchy could accommodate a shifting of the strategic burden to US allies like Japan and Australia as a means of systemic preservation. The alternatives that could surface as a result of not doing so would appear to be much worse.

### AT: Planning CP

#### 1) No solvency – Only removal of NRC regulations can create a competitive SMR market – no private spillover because investors will not do anything with SMR’s until they think regulations are less costly – That’s Spencer & Loris – both advantages are based on widespread domestic SMR procurement – means they can’t solve

#### 2) Failure to reduce NRC regulations pushes SMR’s back 7 years

Hopf, Senior Nuclear Engineer, ’11

[Jim Hopf, Senior Nuclear Engineer, Member of the American Nuclear Society’s Public Information Committee, “[Roadblock in Congress for SMR Development,”](file:///C:/Users/Abhik/AppData/Roaming/Microsoft/Word/Roadblock%20in%20Congress%20for%20SMR%20Development,) October 25th 2011, http://ansnuclearcafe.org/2011/10/25/congress-smr/]

As many have observed, the main barrier to the deployment of SMRs may not be a lack of government financial or R&D support, but instead the enormous amount of time and money required to get new reactor designs licensed by the NRC. Reactor licensing processes have been taking many years and costing more than a $100 million dollars. Even approving an exact copy of an already-licensed reactor design (for a new site) is projected to take more than two years. Even SMRs that deploy conventional light-water technology (such as NuScale or mPower) can expect a long (~ 5 year) licensing process (starting in late 2012 or 2013). For non-conventional technologies like Hyperion, who knows how long it will take? The NRC has stated that non-conventional SMRs like Hyperion are not on its priority list right now, and that it will only consider such an application when a serious customer has been found (thus setting up a chicken-egg problem). Other issues that may hold back SMRs include security and emergency planning/evacuation requirements, and per-reactor NRC fees. If the NRC is not willing to consider the SMRs’ lower potential radioactivity release, as well as the lower probability of such release, in setting these requirements, as well as scaling fees with reactor capacity, it may destroy SMRs’ economic viability. Perhaps a more effective way for the government to support SMRs is for it to do something to reduce the licensing-related barriers discussed above, as opposed to outright financial support of SMR development. Possible options include making sure the NRC has sufficient resources to handle the entire volume of incoming license applications, somehow limiting the scope of review, or requiring the NRC to complete reviews within some fixed, reasonable time period.

#### 4) No private spillover – expanding the government’s role beyond financial incentives eliminates demonstration value – means they can’t solve prolif

Deutch and Ansolabehere, Professor of chemistry at MIT and Professor of Political Science at MIT, 03 (The Future of Nuclear Power, <http://web.mit.edu/nuclearpower/>)

The second type of “demonstration” project is a first nuclear project carried out by industry, whose success would demonstrate to other private generators that the risks associated with nuclear power are manageable and the cost of new nuclear power is acceptable. Evidently, this type of demonstration is credible only if the government is not involved in design and construction or involved in an indirect manner. Otherwise the project has no “demonstration” value to practical investors considering future investments. The purpose of this demonstration is not to demonstrate a new technology but rather to demonstrate the cost of practical realization of a technology selected by private investors. But a first project bears a risk that subsequent projects do not bear. Investors in subsequent projects have the knowledge that the first of a kind project has been successful (in which case they proceed with greater confidence) or that it has failed (in which case they do not proceed).3 Yet, if the plant successfully meets its cost targets, a large number of additional plants will be built by the industry, taking advantage of the resolution of risk accomplished by the first project were it to proceed. The initial project backers cannot capture the value of the information they provide to subsequent projects. Clearly there is a value to going second and a rational reason to share the risk of the first plant among an entire industry. Such sharing of risk is a matter of bargaining and difficult to achieve in practice. So it may well be in the government’s interest to step in to assure that the demonstration occurs and the uncertainty is resolved. Given the circumstances of nuclear power today, this government interest in the demonstration of actual cost is justified, even when the technology selected is known and plants have been built in the past (although at a cost that today would be considered unaffordable). There must, of course, be a credible basis for believing that technology and industry practices have changed so that a lower capital cost outcome is a reasonable possibility. If the demonstration project results are to be credible to the private sector, the government’s involvement must not be intrusive. We believe the government should step in and increase the likelihood of practical demonstration of nuclear power by providing financial incentive to first movers. We propose a production tax credit of up to $200 per kWe of the construction cost of up to ten “first mover” plants. This benefit might be paid out at 1.7 cents per kWe-hr, over a year and a half of full-power plant operation, since the annual value of this production credit for a 1000 MWe plant operating at 90% capacity factor is $134 million. The $200 per kWe government subsidy would provide $200 million for a 1000 MWe nuclear plant, about 10% of the historically-based total construction cost estimate; accordingly the total outlay for the program could be up to $2 billion paid out over several years.

#### Uncertainty makes the plan take years longer at best

Bagnal & Kadak, MIT Nuclear Prof, ’10

[Andy Kadak, Former Professor of the Practice Nuclear Science and Engineering, Massachusetts Institute of Technology, Charles Bagnal, General Electric, “RISK‐INFORMED AND PERFORMANCE‐BASED LICENSING FOR SMRs,” INTERIM REPORT OF THE ANS PRESIDENT’S SPECIAL COMMITTEE ON SMR GENERIC LICENSING ISSUES, July 2010]

The DC process, typically lasting several years (and in many cases more than a decade) from preapplication meeting to eventual DC issuance, takes too long to be commercially viable for many SMR developers. However, to promulgate and rely on new regulations specifically tuned to SMRs may add uncertainty to licensing schedules, which would delay SMR construction in the United States. It has been suggested that SMRs might be licensed more directly under new regulations that are more specifically tuned to the advances in technology that they represent, including the potential for mass production of reactor modules in a factory assembly line. Examples include the proposed 10 CFR 53 (Ref. 3), which would establish a new risk‐informed and performance‐based framework, or regulations that would focus on integral LWR systems, or gas‐cooled or liquid metal reactor technology. However, unless there is a significant change in rulemaking methods for new regulations, establishing 10 CFR 53 or technology‐specific rules would entail 5 to 10 years of concerted effort before the review of specific designs could begin. This would defer the potential benefits that SMRs can provide in the near term and delay their timely construction.

#### Perm – do the CP

#### Domestic nuclear industry key to prevent global accidents

Wallace and Williams, Senior Adviser on U.S. Nuclear Energy Project at CSIS and Nuclear Policy Analyst at Partnership for Global Security, 12

(Nuclear Energy in America:Preventing its Early Demise, csis.org/files/publication/120417\_gf\_wallace\_williams.pdf)

Second, setting global norms and standards for safety, security, operations, and emergency response. As the world learned with past nuclear accidents and more recently with Fukushima, a major accident anywhere can have lasting repercussions everywhere. As with nonproliferation and security, America’s ability to exert leadership and influence in this area is directly linked to the strength of our domestic industry and our active involvement in the global nuclear enterprise. A strong domestic civilian industry and regulatory structure have immediate national security significance in that they help support the nuclear capabilities of the U.S. Navy, national laboratories, weapons complex, and research institutions. Third, in the past, the U.S. government could exert influence by striking export agreements with countries whose regulatory and legal frameworks reflected and were consistent with our own nonproliferation standards and commitments. At the same time, our nation set the global standard for effective, independent safety regulation (in the form of the Nuclear Regulatory Commission), led international efforts to reduce proliferation risks (through the 1970 NPT Treaty and other initiatives), and provided a model for industry self-regulation. The results were not perfect, but America’s institutional support for global nonproliferation goals and the regulatory behaviors it modeled clearly helped shape the way nuclear technology was adopted and used elsewhere around the world. This influence seems certain to wane if the United States is no longer a major supplier or user of nuclear technology. With existing nonproliferation and safety and security regimes looking increasingly inadequate in this rapidly changing global nuclear landscape, American leadership and leverage is more important and more central to our national security interests than ever. To maintain its leadership role in the development, design, and operation of a growing global nuclear energy infrastructure, the next administration, whether Democrat or Republican, must recognize the invaluable role played by the commercial U.S. nuclear industry and take action to prevent its early demise.

### AT: Entrepreneurship CP

#### PGS causes nuclear war with Russia and China.

Bruce **Sugden**, defense analyst based in Washington, D.C., *International Security*, “Speed Kills,” Summer **2009**, http://www.mitpressjournals.org/doi/pdf/10.1162/isec.2009.34.1.113

Although the National Research Council refused to endorse the large-scale counternuclear mission for conventional PGS weapons systems, it contends that the probability of a nuclear response to a conventional attack is lower than the probability of a nuclear response to a nuclear attack.26 The logic of the council, however, is not compelling under all conditions. The effect of highly accurate strikes on nuclear forces could be the same regardless of whether they were conducted with conventional or nuclear weapons: the targeted state’s deterrent capabilities might be decimated, and the state would be more vulnerable to U.S. coercion. To prevent this situation from coming to fruition, the state would have to consider launching its nuclear forces under warning or attack rather than risk the failure of riding out a strike. Moreover, unless the United States develops a retargeting capability for in- flight ballistic missiles, major nuclear powers such as Russia and China will have survivable forces. Russia already has a substantial arsenal of mobile ICBMs, and China is deploying a mobile ICBM system.27 As demonstrated in the U.S.-led coalition search for mobile Iraqi missiles in the 1991 Persian Gulf War, mobility carries great benefits in hiding from air- and space-based intelligence, surveillance, and reconnaissance assets.28 Therefore, countries with mobile nuclear weapons systems would have an incentive to ride out a U.S. CBM attack rather than launch under warning or attack.

### AT: Obama Good Elections (Harvard)

#### The plan won’t pass before the election --- the affirmative only has to defend the most realistic and likely means of passage. Forcing the affirmative to defend abnormal means undermines political decision making skills.

#### A. Congress is in recess now for campaign --- nothing will be done until after election

#### B. Promotes best reasoning skills --- the politics disad is good because it teaches an understanding of the political process and policy tradeoffs but their interpretation of fiat bastardizes this because it forces an illogical, abnormal means of passage.

#### C. Improves debate content --- causes the negative to dispute why the expansion of SMRs is bad or read other political arguments --- like a lame duck or Obama 2nd term disad.

#### Romney has the momentum now --- made significant gains in Ohio\*\*

Schoen, 10/25 --- political strategist who has worked on numerous campaigns, including those of Bill Clinton, Hillary Clinton, Michael Bloomberg, Evan Bayh, Tony Blair, and Ed Koch (Douglas E. Schoen and Jessica Tarlov --- a political strategist at Douglas Schoen, LLC, 10/25/2012, “Romney’s Surge” <http://www.thedailybeast.com/articles/2012/10/25/romney-s-surge.html>)

With just two weeks to go until Election Day, the popular vote is, as everyone knows, effectively a dead heat. The Real Clear Politics average has Romney enjoying a 0.9-point advantage. And while the latest Rasmussen numbers give Romney a 4-point edge and he is ahead 5 in Gallup, there are other polls that have Obama leading. In the latest IBD/TIPP poll, for instance, the president is up by 2.

But there are two other crucial indicators that show momentum for Mitt. The first is the trend in the Electoral College—and one state in particular.

At this point, many of the states in the Real Clear Politics “toss ups” category appear likely to go one way or the other. Florida and Virginia will probably go for Romney, while Wisconsin, Pennsylvania, and Michigan will most likely be won by the president.

And so, as we’ve argued before, that leaves Ohio as the state that will likely decide the election. The polls from Ohio currently show a dead heat, but they also show momentum for Romney. Just two weeks ago, Obama was up 10 points in the state. Today, that margin has closed to 3 in the latest SurveyUSA poll. Meanwhile, the latest Suffolk (PDF) poll has Ohio tied (at 47) and Rasmussen also has a tie (at 48). All of this is clearly good news for Mitt.

What’s more, there were other pieces of good news for Romney hidden in the aftermath of the third debate. In the CNN/ORC snap poll, which asked voters whether Romney could handle being commander-in-chief, 60 percent answered in the affirmative as compared to 38 percent against. Further, the two candidates were tied on likability—a big change from the 20-point lead the president held in this area a couple of months ago. While Obama won the debate on substance, it may not have mattered because Romney was still competent, for the most part presidential, and apparently far more likable than he once was.

Taken together, Romney’s improving image and the changing polls in Ohio do not paint a good picture for Obama. Time is running out for the president to counter Mitt’s surge. It’s still a tie, but things seem to be trending Romney’s way.

#### New nuclear licensing bill should have triggered the link

Colman 9/27/12 (Zack, “Bill would add nuclear relicensing rule” <http://thehill.com/blogs/e2-wire/e2-wire/258991-house-bill-would-add-nuclear-relicensing-rule>)

A House bill introduced Wednesday would delay the Nuclear Regulatory Commission's (NRC) ability to renew licenses for aging nuclear reactors. The NRC would be barred from renewing licenses for reactors with more than 10 years left on their current ones under legislation (H.R. 6554) co-sponsored by Massachusetts Democratic Reps. Edward Markey and John Tierney. They said the NRC too frequently rubber-stamps 20-year extensions to licenses that are supposed to last 40 years. They said that could endanger people living near nuclear power plants. “It seems crazy that the NRC would even consider relicensing aging nuclear plants more than a decade before its license expires,” Tierney said in a Wednesday statement. “As these facilities age, safety concerns inevitably arise." The NRC declined to comment on the bill. The Nuclear Energy Institute, an industry group, told The Hill on Thursday that the bill would constrain energy firms’ abilities to plan beyond a 10-year window, and that the legislation would not enhance safety. “Regardless of their age, all nuclear energy facilities must continuously meet strict safety standards to continue operations,” Tony Pietrangelo, the group’s senior vice president and chief nuclear officer, told The Hill. The lawmakers said the announcement of additional NRC inspections to evaluate concrete degradation at the Seabrook Nuclear facility in Seabrook, N.H., helped spark the bill.

#### Current DOE funding non-uniques your DA’s but doesn’t solve

Westenhaus, Editor of New Energy & Fuel, ’12

[Brian Westenhaus, Editor of New Energy and Fuel, “A Government Divided Against Itself Is a Mess,” January 27th 2012, http://newenergyandfuel.com/http:/newenergyandfuel/com/2012/01/27/a-government-divided-against-itself-is-a-mess/]

World Nuclear News is reporting that the U.S. Department of Energy (DOE) is to help push forward the manufacture of small modular nuclear reactors. This contrasts with the Nuclear Regulatory Commission’s (NRC) standing record of never approving a new reactor design. The December 2011 “approval” by the NRC of the Westinghouse AP1000 is not a new reactor at all; rather it’s a next generation design of existing technology. Clearly U.S. Federal government is working at cross-purposes. A fine, expensive and consumer and industrial damaging mess is sure to ensue. The DOE has new cost-sharing arrangements with private industry to support design and licensing activities. With considerable astonishment, taxpayers are going to be funding one agency to pay the fees of another. Make that Astounded. The good news, aside from the circumstances is the DOE intends ultimately to fund up to two designs for small modular reactors (SMR) through a cost-shared partnership, which will support first-of-a-kind engineering, design certification and licensing. The draft Funding Opportunity Announcement (FOA) is now out to solicit input from the industry for preparing a full FOA that’s aiming at a reactor deployment date about 2022. The DOE’s FOA seeks applications for two grants, estimated to total $452 million over five years. The funding anticipates paying up to half the cost of developing and deploying perhaps two small modular reactor designs. The tooth gnashing fact is that’s not going to be enough money and it leaves all but the chosen one or two designs at a major disadvantage. This after the Solyndra debacle and others has thoughtful observers realizing that bureaucrats are picking the winners before the competition starts. That is a terrible policy; a huge waste of resources and the best design is sure to be left out when historic experience is considered. It will be a lobbyist’s game any moment now. At issue are small, compact reactors of around 300 MWe and lower in capacity, a third or less of the size of the typical commercial nuclear power plant built so far. These kinds of plants could potentially offer a range of features in terms of safety, construction and siting as well as potential economic benefits. But if only one or two are chosen the circumstances for users will be limited or force excess costs to make a mandated choice instead of an optimal one for the situation. At this size reactors are modular or have a ‘plug and play’ nature, which means they could be made in factories and transported to generation sites. That manufacturing approach over a custom build method offers economies of scale reducing both capital costs and construction times. The small size could make them suitable for small electric grids and markets that cannot support large reactors costs, production or regulatory expense. Bravely, US Energy Secretary Steven Chu described the funding as a “significant step” in designing, manufacturing, and exporting small modular reactors. It takes courage to come out with what is obviously a poorly thought out policy. Yet, the bravery may be driven by the Congress abandoning its responsibility to organize the law in a fashion that resembles common sense. Chu is bright enough and has enough outside the beltway experience to understand and say, “America’s choice is clear – we can either develop the next generation of clean energy technologies, which will help create thousands of new jobs and export opportunities here in America, or we can wait for other countries to take the lead.” Meanwhile – the NRC remains embroiled in a managerial mess. The commissioners and the Chairman are still at odds, and the oversight of the media has disappeared, the Congress along with it. There is no reasonable expectation anything of consequence is going to happen any time soon, and it’s an election year as well. There is a lot at stake if such a plan proceeds. Westinghouse is developing its own 200 MWe SMR, and the information has escaped that Westinghouse’s approved AP1000 nuclear reactor design was supported through a cost-shared agreement with DOE. This information leads one to suspect that Westinghouse may be looking for a quick taxpayer funded catch up. There is a long list of technologies with potential. (See Brian Wang’s page at NextBigFuture.) NuScale Power Inc’s 45 MWe NuScale reactor and Babcock & Wilcox’s 160 MWe mPower should both be eligible, too. The NRC is currently involved in pre-application activities on both designs in anticipation of a design certification application for the NuScale reactor in the first months of 2012, followed by one for the mPower design towards the end of 2013. These one should think, are the leaders. The list of good ideas out there is grand, covering three major technologies. The light water reactors list includes Babcock & Wilcox, NuScale Power Inc., Westinghouse and Holtec’s Inherently Safe Modular Underground Reactor at 140 MWe. The high temperature gas-cooled reactors are coming from AREVA’s Antares, General Atomics model called Gas Turbine Modular Helium Reactor and Pebble Bed Modular Reactor Ltd.’s reactor named conveniently, the Pebble Bed Modular Reactor. The liquid metal cooled and fast reactor list is equally impressive. Here are GE Hitachi’s Nuclear Power Reactor Innovative Small Module, Hyperion Power Generation’s Hyperion Power Module and Toshiba’s – Toshiba 4S for Super Small, Safe and Simple. That’s 10, add in a couple of thorium fueled ones and that would be a dozen. The Feds expect to give one or two 40% of a billion dollars head start. How is that going to work out for the country? Wouldn’t it be better to just completely revamp the NRC? Admittedly the DOE must be under stress from the machinations over at the NRC. And from a government mind, that plan might seem great. For the rest of us it looks like a waste from the start and a market distortion for decades, perhaps centuries to come.

#### Single event won’t swing the election

Feldmann, 10/3 (Linda, 10/3/2012, “Why Mitt Romney trails in polls, as presidential debates begin,” <http://www.csmonitor.com/USA/DC-Decoder/2012/1003/Why-Mitt-Romney-trails-in-polls-as-presidential-debates-begin-video>)

Fully two-thirds of voters know that it was Romney who made the statement, and among those voters, 55 percent reacted negatively, versus 23 percent who saw it positively, according to Pew. Most damaging to Romney is the reaction of independent voters. Some 55 percent of independents who are aware of Romney’s comment say they had a negative reaction to it, while only 18 percent viewed it positively.

But Gallup asked voters if the 47 percent comment has made them more or less likely to vote for Romney, and a plurality said it made no difference.

Indeed, analysts say it’s nearly impossible to isolate an individual event or comment as being decisive in turning a race.

“Voters are confronting a big wide Mississippi River of information flowing at them, and as a consequence it’s difficult to isolate the effect of any one thing,” says John Sides, an associate professor of political science at George Washington University in Washington. “That said, there’s no question it’s been several weeks of relatively bad news for the Romney campaign. It hasn’t enabled him to close the post-convention gap. If anything, that gap has grown.”

#### Winning allows Obama to build momentum and swing the reverse the tide

Creamer, 11 --- long-time political organizer and strategist (12/23/2011, Robert, “Why GOP Collapse on the Payroll Tax Could Be a Turning Point Moment,” http://www.huffingtonpost.com/robert-creamer/gop-payroll-tax\_b\_1167491.html)

The outcome of the battle was unambiguous. No one could doubt who stood up for the economic interests of the middle class and who did not. And no one could doubt who won and who lost.

National Journal reported that, "House Republicans on Thursday crumpled under the weight of White House and public pressure and have agreed to pass a two-month extension of the two percent payroll-tax cut, Republican and Democratic sources told National Journal."

In the end, Republican intransigence transformed a moment that would have been a modest win for President Obama into an iconic victory.

2) Strength and victory are enormous political assets. Going into the New Year, they now belong to the president and the Democrats.

One of the reasons why the debt ceiling battle inflicted political damage on President Obama is that it made him appear ineffectual -- a powerful figure who had been ensnared and held hostage by the Lilliputian pettiness of hundreds of swarming Tea Party ideological zealots.

In the last few months -- as he campaigned for the American Jobs Act -- he has shaken free of those bonds. Now voters have just watched James Bond or Indiana Jones escape and turn the tables on his adversary.

Great stories are about a protagonist who meets and overcomes a challenge and is victorious. The capitulation of the House Tea Party Republicans is so important because it feels like the beginning of that kind of heroic narrative.

Even today most Americans believe that George Bush and the big Wall Street banks -- not by President Obama -- caused the economic crisis. Swing voters have never lost their fondness for the President and don't doubt his sincerity. But they had begun to doubt his effectiveness. They have had increasing doubts that Obama was up to the challenge of leading them back to economic prosperity.

The narrative set in motion by the events of the last several weeks could be a turning point in voter perception. It could well begin to convince skeptical voters that Obama is precisely the kind of leader they thought he was back in 2008 -- a guy with the ability to lead them out of adversity -- a leader with the strength, patience, skill, will and resoluteness to lead them to victory.

That now contrasts with the sheer political incompetence of the House Republican leadership that allowed themselves to be cornered and now find themselves in political disarray. And it certainly contrasts with the political circus we have been watching in the Republican Presidential primary campaign.

3) This victory will inspire the dispirited Democratic base.

Inspiration is the feeling of empowerment -- the feeling that you are part of something larger than yourself and can personally play a significant role in achieving that goal. It comes from feeling that together you can overcome challenges and win.

Nothing will do more to inspire committed Democrats than the sight of their leader -- President Obama -- out-maneuvering the House Republicans and forcing them into complete capitulation.

The events of the last several weeks will send a jolt of electricity through the progressive community.

The right is counting on progressives to be demoralized and dispirited in the coming election. The president's victory on the payroll tax and unemployment will make it ever more likely that they will be wrong.

4) When you have them on the run, that's the time to chase them.

The most important thing about the outcome of the battle over the payroll tax and unemployment is that it shifts the political momentum at a critical time. Momentum is an independent variable in any competitive activity -- including politics.

In a football or basketball game you can feel the momentum shift. The tide of battle is all about momentum. The same is true in politics. And in politics it is even more important because the "spectators" are also the players -- the voters.

People follow -- and vote -- for winners. The bandwagon effect is enormously important in political decision-making. Human beings like to travel in packs. They like to be at the center of the mainstream. Momentum shifts affect their perceptions of the mainstream.

For the last two years, the right wing has been on the offensive. Its Tea Party shock troops took the battle to Democratic members of Congress. In the mid-terms Democrats were routed in district after district.

Now the tide has turned. And when the tide turns -- when you have them on the run -- that's the time to chase them.

We won't know for sure until next November whether this moment will take on the same iconic importance as Clinton's battle with Gingrich in 1995. But there is no doubt that the political wind has shifted. It's up to progressives to make the most of it.

#### Strong public support for federal nuclear power incentives – no effect from Fukushima

WNA 12

(September, World Nuclear Association, US Nuclear Power Policy, www.world-nuclear.org/info/inf41\_US\_nuclear\_power\_policy.html)

Public opinion regarding nuclear power has generally been fairly positive, and has grown more so as people have had to think about security of energy supplies. Different polls show continuing increase in public opinion favourable to nuclear power in the USA. More than three times as many strongly support nuclear energy than strongly oppose it. Two-thirds of self-described environmentalists favour it. A May 2008 survey (N=2925) by Zogby International showed 67% of Americans favoured building new nuclear power plants, with 46% registering strong support; 23% were opposed. Asked which kind of power plant they would prefer if it were sited in their community, 43% said nuclear, 26% gas, 8% coal. Men (60%) were more than twice as likely as women (28%) to be supportive of a nuclear power plant. A March 2010 Bisconti-GfK Roper survey showed that strong public support for nuclear energy was being sustained, with 74% in favour of it11. In particular, 87% think nuclear will be important in meeting electricity needs in the years ahead, 87% support licence renewal for nuclear plants, 84% believe utilities should prepare to build more nuclear plants, 72% supported an active federal role in encouraging investment in "energy technology that reduces greenhouse gases", 82% agree that US nuclear plants are safe and secure, 77% would support adding a new reactor at the nearest nuclear plant, and 70% say that USA should definitely build more plants in the future. Only 10% of people said they strongly opposed the use of nuclear energy. In relation to recycling used nuclear fuel, 79% supported this (contra past US policy), and the figure rose to 85% if "a panel of independent experts" recommended it. Although 59% were confident that used reactor fuel could be stored safely at nuclear power plant sites, 81% expressed a strong desire for the federal government to move used nuclear fuel to centralised, secure storage facilities away from the plant sites until a permanent disposal facility is ready. Half of those surveyed considered themselves to be environmentalists. A February 2011 Bisconti-GfK Roper survey showed similar figures, and that 89% of Americans agree that all low-carbon energy sources – including nuclear, hydro and renewable energy – should be taken advantage of to generate electricity while limiting greenhouse gas emissions. Just 10% disagreed. Also some 84% of respondents said that they associate nuclear energy "a lot" or "a little" with reliable electricity; 79% associate nuclear energy with affordable electricity; 79% associate nuclear energy with economic growth and job creation; and 77% associate nuclear energy and clean air. A more general March 2010 Gallup poll (N=1014) on energy showed 62% in favour of using nuclear power, including 28% strongly so, and 33% against, the most favourable figures since Gallup began polling the question in 1994. However, only 51% of Democrat voters were in favour12. An early March 2011 Gallup poll just before the Fukushima accident showed 57% in favour and 38% against, and in March 2012 (N=1024) still 57% in favour with 40% against (men: 72%-27%, women 42%-51%). Regarding plant safety, the polls showed consistent 56-58% positive views over 2009-12, but men-women split similar. A survey conducted in September 2011 by Bisconti Research Inc. with GfK Roper showed that although support for nuclear power decreased following the Fukushima accident and compared with a year earlier (a survey carried out in March 2010 by Bisconti Research found 74% of Americans favoured nuclear power), 62% of the 1000 adults surveyed in the latest poll were supportive of utilizing nuclear power while 35% expressed opposition. The survey found that 82% of Americans believed that lessons had been learned from Fukushima and 67% of respondents considered US nuclear power plants safe (the same level as reported one month before the nuclear accident in Japan occurred). Also 85% of said that an extension of commercial operation should be granted to those plants that comply with federal safety standards, and 59% believed more nuclear power plants should definitely be built in the future, while 75% contend that “Electric utilities should prepare now so that new nuclear power plants could be built if needed in the next decade.” Finally, further expansion of the site of the nearest already operating nuclear power plant is supported by 67% and opposed by 28%.

#### Election outcome not key to relations --- they will inevitably decline

Bovt, 9/12 --- political analyst (9/12/2012, “Whether Obama or Romney, the Reset Is Dead,” <http://www.themoscowtimes.com/opinion/article/whether-obama-or-romney-the-reset-is-dead/467947.html> )

During every U.S. presidential election campaign, there is a debate in Russia over whether the Republican or Democratic candidate would be more beneficial for the Kremlin. Russian analysts and politicians always fail to understand that Americans have shown little interest in foreign policy since the end of the Cold War. Even when foreign policy is mentioned in the campaign, Russia is far down the list as a priority item.

The volume of U.S-Russian trade remains small. The recent Exxon-Rosneft deal notwithstanding, U.S. interest in Russia's energy projects has fallen, particularly as the Kremlin has increased its role in this sector. To make matters worse, the United States is determined to establish clean energy and energy independence, while Russia's gas exports are feeling the pinch from stiff competition with the U.S. development of shale gas production.

Of course, traditional areas of cooperation remain: the transit of shipments to and from Afghanistan through Russia, Iran's nuclear program and the struggle against international terrorism. But the transit route into Afghanistan cannot, by itself, greatly influence bilateral relations as a whole, and progress on the other two points seems to have reached a plateau beyond which little potential remains for bringing the two countries into closer cooperation.

On the positive side, a new visa agreement came into force this week that will facilitate greater contact between both countries' citizens. But it will be years before that significantly influences overall U.S.-Russian relations. A new agreement regarding child adoptions has also been implemented after a few disturbing adoption stories prompted Russia's media, with the help of government propaganda, to spoil the U.S. image in Russia.

Meanwhile, both U.S. President Barack Obama and Republican candidate Mitt Romney support the U.S. missile defense program in principle, although the exact form and scope of its deployment differ among the candidates. Even though President Vladimir Putin, during his interview with RT state television last week, expressed guarded optimism over the prospect of reaching an agreement on missile defense with Obama, Russia seems to underestimate the degree to which Americans are fixated on missile defense as a central component of their national security. It is highly unlikely that any U.S. administration — Democratic or Republican — will ever agree to major concessions on missile defense.

It even seemed that Kremlin propagandists were happy when in March Romney called Russia the United States' No. 1 foe. They were given another present when Obama, addressing the Democratic National Convention last week, said Romney's comment only proved that he lacked foreign policy experience and was locked in Cold War thinking. For the next two months, however, the two candidates are unlikely to devote much attention to Russia.

Russia's internal politics will also be one of the key factors shaping future U.S.-Russian relations. The two-year jail sentence slapped on three members of Pussy Riot for their anti-Putin prayer in Moscow's main cathedral has already become a subject of discussion between Foreign Minister Sergei Lavrov and U.S. Secretary of State Hillary Clinton. Even the most pragmatic "pro-reset" U.S. administration would criticize to one degree or another Russia's poor record on human rights.

It appears that Russia is moving increasingly toward confrontation rather than rapprochement with the West. The Kremlin now seems fully committed to spreading the myth that the U.S. State Department is the cause behind most of Russia's domestic problems and is bent on undermining its national security by deploying missile defense installations in Europe and by supporting the opposition.

There are other disturbing signals as well. Take, for example, the United Russia bill that would prohibit Russian officials from owning bank accounts and property overseas, with particular attention paid to their holdings in the West. The ideological underpinning of this bill is that assets located in the West are tantamount to betrayal of the motherland. Then there is Russia's opposition to the U.S. Magnitsky Act. The Kremlin interprets this initiative as yet another confirmation of its suspicions that Washington is conspiring against it and that the bill's real U.S. motive is to blackmail Russian officials by threatening to freeze their overseas bank accounts and property.

An increase in these anti-Western attitudes does not bode well for U.S.-Russian relations, even if Obama is re-elected in November. Regardless of which candidate wins, the reset is bound to either slowly die a natural death under Obama or be extinguished outright under Romney. As a result, the most we can likely expect from U.S.-Russian relations in the next four years is cooperation on a limited range of mundane issues. Under these conditions, avoiding excessive anti-Russian or anti-U.S. rhetoric from both sides would itself be considered a major achievement in bilateral relations.