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## 1NC

#### Restrictions are direct governmental limitations on production

Annamaria Viterbo 12 , Assistant Professor in International Law at the University of Torino, PhD in International Economic Law from Bocconi University and Jean Monnet Fellow at the European University Institute, 2012, International Economic Law and Monetary Measures: Limitations to States' Sovereignty and Dispute, p. 166

In order to distinguish an exchange restriction from a trade measure, the Fund chose not to give relevance to the purposes or the effects of the measure and to adopt, instead, a technical criterion that focuses on the method followed to design said measure.

An interpretation that considered the economic effects and purposes of the measures (taking into account the fact that the measure was introduced for balance of payments reasons or to preserve foreign currency reserves) would have inevitably extended the Fund's jurisdiction to trade restrictions, blurring the boundaries between the IMF and the GATT. The result of such a choice would have been that a quantitative restriction on imports imposed for balance of payments reasons would have fallen within the competence of the Fund.

After lengthy discussions, in 1960 the IMF Executive Board adopted Decision No. 1034-(60/27).46 This Decision clarified that the distinctive feature of a restriction on payments and transfers for current international transactions is "whether it involves a direct governmental limitation on the availability or use of exchange as such\*.47 This is a limitation imposed directly on the use of currency in itself, for all purposes.

#### Restrictions must be codified in existing regulation

Gerald Hill 12, The People’s Law Dictionary, http://dictionary.law.com/Default.aspx?selected=1835

Restriction

n. any limitation on activity, by statute, regulation or contract provision. In multi-unit real estate developments, condominium and cooperative housing projects managed by homeowners' associations or similar organizations, such organizations are usually required by state law to impose restrictions on use. Thus, the restrictions are part of the "covenants, conditions and restrictions" intended to enhance the use of common facilities and property which are recorded and incorporated into the title of each owner.

#### Violation---the absence of licenses for SMRs is not a restriction---the plan increases restrictions by establishing a regulatory framework

Jack Spencer 11, Research Fellow in Nuclear Energy in the Thomas A. Roe Institute for Economic Policy at the Heritage Foundation, 2/15/11, “Is the President’s Small Reactor Push the Right Approach?,” http://blog.heritage.org/2011/02/15/is-the-presidents-small-reactor-push-the-right-approach/

Regulatory risk outweighs the potential financial benefit of greater investment. New nuclear designs cannot be introduced into the marketplace without a regulatory framework. The absence of such a framework makes SMR investment prohibitively risky without some way to offset that risk, which the federal R&D program would partially do.

A lack of research and development or not having a specific Department of Energy (DOE) program dedicated to SMRs is not the problem. Establishing them is merely a symptom of the problem: the absence of a predictable, fair, and efficient regulatory framework to allow the introduction of SMRs into the marketplace.

## 2NC

#### Including regulations is a limits disaster---undermines preparedness for all debates

Doub 76 William is a principal in the law firm of Doub and Muntzing. Previously he was a partner in LeBoeuf, Lamb, Leiby, and MacRae. He was a member of the U.S. Atomic Energy Commission (1971-1974). He served as a member of the Executive Advisory Committee to the Federal Power Commission (1968-1971) and was appointed by the President to the President’s Air Quality Advisory Board. He is a past chairman of the U.S. National Committee of the World Energy Conference. “Energy Regulation: A Quagmire for Energy Policy,” http://www.annualreviews.org/doi/abs/10.1146/annurev.eg.01.110176.003435

FERS began with the recognition that federal energy policy must result from concerted efforts in all areas dealing with energy, not the least of which was the manner in which energy is regulated by the federal government. Energy self sufficiency is improbable, if not impossible, without sensible regulatory processes, and effective regulation is necessary for public confidence. Thus, the President directed that "a comprehensive study be undertaken, in full consultation with Congress, to determine the best way to organize all energy-related regulatory activities of the government." An interagency task force was formed to study this question. With 19 different federal departments and agencies contributing, the task force spent seven months deciphering the present organizational makeup of the federal energy regulatory system, studying the need for organizational improvement, and evaluating alternatives. **More than 40 agencies were found to be involved** with making regulatory decisions on energy. Although only a few deal exclusively with energy, most of the 40 could **significantly affect** the **availability and/or cost of energy**. For example, in the field of gas transmission, there are five federal agencies that must act on siting and land-use issues, seven on emission and effluent issues, five on public safety issues, and one on worker health and safety issues-all before an onshore gas pipeline can be built. The complexity of energy regulation is also illustrated by the case of Standard Oil Company (Indiana), which reportedly must file about 1000 reports a year with 35 different federal agencies. Unfortunately, this example is the rule rather than the exception.

#### Including energy regulations adds five million research hours

Tugwell 88 Franklin Tugwell joined The Asia Foundation's Board of Trustees in 2010. Dr. Tugwell has served as the President and CEO of Winrock International since 1999. Previously, Dr. Tugwell was the executive director of the Heinz Endowments of Pittsburgh, the founder and president of the Environment Enterprises Assistance Fund, and as a senior consultant for International Projects and Programs at PG&E Enterprises. He served as a deputy assistant administrator at USAID (1980-1981) and as a senior analyst for the energy program at the U.S. Office of Technology Assessment (1979-1980). Dr. Tugwell was also a professor at Pomona College and an adjunct distinguished professor at the Heinz School of Carnegie Mellon University. Additionally, he serves on the Advisory Board and International Committee of the American Council on Renewable Energy and on the Joint Board of Councilors of the China-U.S. Center for Sustainable Development. He also serves on the Board of Eucord (European Cooperative for International Development). Dr. Tugwell received a PhD in political science from Columbia University. “The Energy Crisis and the American Political Economy,” ISBN 0-8047-1500-9

 Finally, administering energy regulations proved a costly and cumbersome endeavor, exacting a price all citizens had to pay. As the energy specialist Paul MacAvoy has noted: "More than 300,000 firms were required to respond to controls, ranging from the three dozen major refining companies to a quarter of a million retailers of petroleum products. The respondents had to file more than half a million reports each year, which probably took more than five million man-hours to prepare, at an estimated cost alone of $80 mil- lion."64 To these expenditures must be added the additional costs to the government of collecting and processing these reports, monitor- ing compliance, and managing the complex process associated with setting forth new regulations and adjudicating disputes. All to- gether, it seems likely that the administrative costs, private and public, directly attributable to the regulatory process also exceeded $1 billion a year from 1974 to 1980.^

#### Including energy regs is too big---it’s torture for the neg

Edwards 80 Opinion in BAYOU BOUILLON CORP. v. ATLANTIC RICHFIELD CO. Court of Appeal of Louisiana, First Circuit. May 5

Comprehending the applicability and complexity of federal energy regulation necessitates both a stroll down the tortuous legislative path and a review of legal challenges so numerous as to require the establishment of a Temporary Emergency Court of Appeals.

#### That destroys education---too much to comprehend

Stafford 83 G. William is an Associate at Ross, Marsh and Foster. Review of “Federal Regulation of Energy” by William F. Fox, Jr, http://felj.org/elj/Energy%20Journals/Vol6\_No2\_1985\_Book\_Review2.pdf

It may safely be said that any effort to catalogue "the entire spectrum of federal regulation of energy"' in a single volume certainly requires an enterprising effort on the part of the author. In this regard, Mr. Willam F. Fox, Jr., an Associate Professor of Law at Catholic University of America, has undertaken an examination of a vital aspect of United States policy in Federal Regulation of Energy, published in 1983 with an annual pocket supplement available. Despite the complex nature of the subject of his work, Mr. Fox has prepared a text that provides a significant description of many aspects of federal energy regulatory policy. Initially, the book's title may prove somewhat misleading in that it approaches the subject from an historical perspective focused more on substantive than procedural issues. Although a reader gets the impression that the author at time has tried to do too much -at least from the standpoint of the energy practitioner- the historical and technical insights it offers the student of federal energy relation are valuable. Moreover; its detailed explanations of the methods used to tneet federal energy goals are useful for those in the position of initiating energy policy. This strength notwithstanding, it appears unlikely that an energy law practitioner would benefit significantly from its use, other than from its historical point of view. A general impression is that the author may have been overly ambitious in his effort to undertake the monumental task of evaluating laws, regulations, and significant judicial decisions in a single work.

# NRC DA

#### NRC has sufficient resources now to ensure safety – but overstretch causes a repeat of Fukushima

Kaufman 11, Daniel - Brookings Senior Fellow “Preventing Nuclear Meltdown,” 4-1-2011, http://www.brookings.edu/research/opinions/2011/04/01-nuclear-meltdown-kaufmann

Many wonder whether Japan’s nuclear disaster could have been averted. The embattled operator of the Fukushima nuclear plant, Tokyo Electric Power Company (TEPCO), has borne the brunt of criticism; its numerous failures over the years are certainly well known. However, Japan’s Nuclear and Industrial Safety Agency (NISA), responsible for regulating the nuclear industry, also ought to be subject to particular scrutiny for allowing TEPCO to operate despite its past safety and disclosure violations. We thus ask what types of regulatory failure may have contributed to Japan’s nuclear crisis and assess whether the U.S. Nuclear Regulatory Commission (NRC) is at risk of committing similar errors. Regulatory failure occurs when the regulatory system is deeply flawed – such as when it over- or under-regulates or when the regulatory design is based on “old science”. Regulatory failure also happens when agencies inadequately fulfill their oversight, supervisory and enforcement functions. Failures by regulatory agencies can go undetected for some time until they are exposed by a crisis, such as the BP oil spill in 2010 and the financial crisis that originated in Wall Street in 2008. When assessing regulatory failure, it is important to distinguish between at least three different types of failure: lack of resources, mismanagement and poor technical expertise, and capture of the regulator by the regulated. Episodes of regulatory failure result from different combinations of subpar performance in some or all of these components. Which dimensions were associated with the failures at Japan’s regulatory agency? Does the U.S. nuclear energy regulator face similar challenges? Let us review each of the three types of failures in the context of Japan’s NISA and the U.S.’s NRC. Lack of Resources: **When regulators lack** the **resources** to hire staff, provide adequate training and expend the money necessary to monitor industries, regulatory concerns may go undetected and failure may result. The evidence does not suggest that Japan’s NISA or the U.S.’s NRC lacked sufficient resources to effectively implement regulations.

#### Flood of new reactors overstretches NRC funds and manpower

Weaver 7 Lynn, President Emirtus of Florida Institute of Technology, “Fund NRC Nuclear Power Licensing” <http://www.theledger.com/article/20070207/COLUMNISTS03/702070394?p=3&tc=pg>

The Nuclear Regulatory Commission has alerted several utilities that license reviews would be delayed at least a year.¶ With all the concern in Congress over global warming, one might think that an increase in the number of nuclear power plants in the United States is inevitable, both to satisfy energy demands and to counter greenhouse-gas emissions. But **that**, of course**, would be wrong.**¶There are about 100 nuclear plants in the United States and they account for about 75 percent of our country's emission-free electricity.¶ Utilities are preparing to build another 33 plants, including two in Florida.¶ These would be the first reactors to be built in this country in many years, and federal and state energy officials agree that it won't be possible to reduce U.S. greenhouse emissions without them. But it now appears **that electric utilities might not be able to obtain licenses anytime soon to build new nuclear plants**.¶ The reason for the licensing delay is simple-and-straightforward: a critical shortage of manpower at the Nuclear Regulatory Commission - which is expected to become acute within a year. **The NRC knows that it needs to expand its workforce,** because it's **facing a flood of regulatory reviews** for new nuclear plants and existing plants that are seeking a renewal of their operating licenses. But it doesn't have the money.¶ Congress is bogged down in a dispute over federal spending. It has passed just two of the 11 spending bills for the fiscal year that began last October, those covering defense and homeland security. The rest of the government is operating under a continuing resolution that holds spending to last year's levels.¶ As a result, the NRC's budget is lower by $95 million (12 percent), compared with the level approved by both the House and Senate appropriations committees, but not the full House.¶ This has meant that the NRC doesn't have enough funds to handle the resurgence in nuclear power. In fact, it recently alerted several utilities that **reviews of** their **applications for license renewal would be delayed at least a year, because** it does not have the capability to deal with more than a few applications at a time.¶ So far, **the NRC has done a commendable job of coping with the situation**, even though its budget in recent years has been slighted. Since 2000, the licenses of 48 nuclear plants - including all of the units at the Turkey Point plant and the St. Lucie plant in Florida - have been extended for another 20 years, but the owners of many other plants now face some uncertainty in getting the license of their plants renewed. And the start of construction of new nuclear plants could be set back.

#### Meltdowns cause extinction

Wasserman 4 Harvery - Sen. Advisor Nuclear Info and Res. Service, MA History U. Chicago, 2004, “Nuclear Power and Terrorism,” Spring, v. 17, no. 1, www.earthisland.org/eijournal/new\_articles.cfm?articleID=457&journalID=63

Infants and small children would quickly die en masse. Pregnant women would spontaneously abort or give birth to horribly deformed offspring. Ghastly sores, rashes, ulcerations and burns would afflict the skin of millions. Heart attacks, stroke and multiple organ failure would kill thousands on the spot. Emphysema, hair loss, nausea, inability to eat or drink or swallow, diarrhea and incontinence, sterility and impotence, asthma and blindness would afflict hundreds of thousands, if not millions. Then comes the wave of cancers, leukemias, lymphomas, tumors and hellish diseases for which new names will have to be invented. Evacuation would be impossible, but thousands would die trying. Attempts to quench the fires would be futile. More than 800,000 Soviet draftees forced through Chernobyl's seething remains in a futile attempt to clean it up are still dying from their exposure. At Indian Point, the molten cores would burn uncontrolled for days, weeks and years. Who would volunteer for such an American task force? The immediate damage from an Indian Point attack (or a domestic accident) would render all five boroughs of New York City an apocalyptic wasteland. As at Three Mile Island, where thousands of farm and wild animals died in heaps, natural ecosystems would be permanently and irrevocably destroyed. Spiritually, psychologically, financially and ecologically, our nation would never recover. This is what we missed by a mere 40 miles on September 11. Now that we are at war, this is what could be happening as you read this. There are 103 of these potential Bombs of the Apocalypse operating in the US. They generate a mere 8 percent of our total energy. Since its deregulation crisis, California cut its electric consumption by some 15 percent. Within a year, the US could cheaply replace virtually all the reactors with increased efficiency. Yet, as the terror escalates, Congress is fast-tracking the extension of the Price-Anderson Act, a form of legal immunity that protects reactor operators from liability in case of a meltdown or terrorist attack. Do we take this war seriously? Are we committed to the survival of our nation? If so, the ticking reactor bombs that could obliterate the very core of our life and of all future generations must be shut down.

#### Turns the case---NRC credibility and safety are essential to nuclear

Fertel 12 Marvin - Nuclear Energy Institute’s president and chief executive officer, “NRC Leadership Must Reinstate Environment That Promotes Collegial Engagement,” 6/26/2012

<http://www.nei.org/newsandevents/newsreleases/nrc-leadership-must-reinstate-environment-that-promotes-collegial-engagement>

“Safe performance of nuclear energy facilities and the Nuclear Regulatory Commission’s credibility are the two most important factors **for policymaker and public confidence in nuclear energy**. As such, the industry is concerned with anything that threatens the credibility of either. It is critical that the NRC leadership, including Allison Macfarlane if confirmed by the Senate, **take the steps necessary to ensure that the agency is an efficient, effective regulator.**

“The industry is always concerned about the possibility of a chilled working environment at our facilities or at the NRC, including the possibility of staff intimidation, at a time when the senior management and staff are working on crucial licensing activities and post-Fukushima safety recommendations. The industry takes safety culture issues seriously, and we expect the same priority treatment of these issues by our regulator.

“**Safety is maximized when NRC and industry resources are focused on those matters that are most important to safety. It is important that the NRC commission and staff have a** professional, collegial **environment that allows the important work of the agency to continue without interruption or distraction**.”

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#### Fiscal cliff will pass but PC key

Weisman 10/1 Jonathan is a writer at the New York Times. “Leaders at Work on Plan to Avert Mandatory Cuts,” 2012, http://www.nytimes.com/2012/10/02/us/senate-leaders-at-work-on-plan-to-avert-fiscal-cliff.html?hp&\_r=0

WASHINGTON — **Senate leaders are closing in on a path for dealing with the “fiscal cliff”** facing the country in January, **opting to try to use a postelection session of Congress to reach agreement on a comprehensive deficit reduction deal** rather than a short-term solution.¶ Senate Democrats and Republicans remain far apart on the details, and House Republicans continue to resist any discussion of tax increases. But lawmakers and aides say that **a bipartisan group of senators is coalescing** around an ambitious three-step process to avert a series of automatic tax increases and deep spending cuts.¶ First, senators would come to an agreement on a deficit reduction target — likely to be around $4 trillion over 10 years — to be reached through revenue raised by an overhaul of the tax code, savings from changes to social programs like Medicare and Social Security, and cuts to federal programs. Once the framework is approved, lawmakers would vote on expedited instructions to relevant Congressional committees to draft the details over six months to a year.¶ If those efforts failed, another plan would take effect, probably a close derivative of the proposal by President Obama’s fiscal commission led by Erskine B. Bowles, the Clinton White House chief of staff, and former Senator Alan K. Simpson of Wyoming, a Republican. Those recommendations included changes to Social Security, broad cuts in federal programs and actions that would lower tax rates over all but eliminate or pare enough deductions and credits to yield as much as $2 trillion in additional revenue.¶ Finally, they would vote to put off the automatic spending cuts, known as sequestration, and tax increases scheduled to hit all at once in January — but with some deficit reduction down payment to signal how serious Congress is.¶ Mr. Obama has said he would not allow Congress to simply pass a new law to override the $1 trillion in automatic cuts agreed to in the Budget Control Act of 2011, but senators said they believed the White House would go along with a deal that locks in as much as four times those savings in exchange for canceling the automatic cuts.¶ With both sides awaiting the outcome of the election, negotiators will not even try to determine how much money would come from the three components until after the voting, when, presumably, the victorious side would emerge with new leverage.¶ “A lot of what happens and when it happens depends on the outcome of the election,” said Senator Mitch McConnell of Kentucky, the Republican leader.¶ House Republicans, favored to retain control regardless of the presidential and Senate results, have not been part of the Senate talks so far and could be difficult to sway to back a package with significant new revenue even if it wins bipartisan Senate support.¶ Democratic leaders are already signaling a major stumbling block: they will accept no deal that extends Bush-era tax cuts for the rich, even for six months.¶ “President Obama has clearly stated he will not extend the Bush tax cuts for millionaires and billionaires, and I fully support his position,” Senator Harry Reid of Nevada, the majority leader, said in a statement. “Americans are sick and tired of simply kicking the can down the road and avoiding our nation’s financial issues.”¶ Other senators, like Lindsey Graham, Republican of South Carolina, have counseled a more incremental approach to head off mandatory deep military cuts next year. Senator Richard J. Durbin of Illinois, the second-ranking Democrat, had suggested finding enough savings for a six-month delay on taxes and cuts to give negotiators more time.¶ But Mr. McConnell compared the government to a ship sinking under the weight of Medicare and Social Security and said that temporarily holding off the automatic budget cuts and tax increases would not avert a disaster.¶ “Even if we rearrange the chairs, fix the tax thing, fix the sequester, the ship’s still going down,” he said in an interview. “I want to deal with it altogether. The next best opportunity is the end of the year.”¶ **With their** party leaders’s encouragement**, Senators** Michael Bennet, Democrat of Colorado, and Lamar Alexander, Republican of Tennessee, **have begun talks on legislative language to lock a deficit reduction framework into law**.¶ And **pressure for a deal continues to grow**. On Monday, the nonpartisan Tax Policy Center released a new study estimating that if nothing is done, the expiration of all the Bush-era tax cuts would raise taxes by more than $500 billion next year alone, an average increase of $3,500 per household. Middle-income families, it said, would see taxes rise by an average of almost $2,000.¶ Senator Tom Udall, Democrat of New Mexico, said figures like those and forecasts anticipating a recession if nothing is done have prompted some consideration for postponing any tax increases or spending cuts for a year. But he said lawmakers want to lock in action on the deficit now.¶ “You have to have the framework of a plan,” he said. “We need to find something that’s going to make us come to the table and put our fiscal house in order.”¶ The two parties will have only weeks to reach an agreement between Election Day and Dec. 31, and they remain far apart on some fundamental issues besides tax cuts for the wealthy. House Speaker John A. Boehner of Ohio says he will not accept any deal that raises tax rates or “decouples” the Bush-era tax rates by extending some but allowing others to expire.¶ Senators have also failed to agree on a mechanism to enforce a deficit reduction plan. Mr. Durbin has suggested that if Congress cannot agree on changes to the tax code, entitlements and spending in six months, the automatic spending cuts and tax increases should go into effect.¶ But the bipartisan group of senators says that medicine has already proved too tough to swallow. Instead, the backstop should be an acceptable deficit reduction program like Simpson-Bowles.¶ “The idea is to put in place an end product upfront that is already fairly agreeable,” said a Senate official familiar with the plans. “You’d basically be giving Congress six months to improve upon it.”¶ After so many false starts, even those involved in the talks are reluctant to express much optimism.¶ Mr. McConnell and other Republicans said only the president could make a deal happen.¶ “I encourage all these discussions,” he said. “They’re all good. But **we need the president**, whoever that is, to not be a bystander like this president, **to step up to the plate, and do three things: make the deal, deliver the members of his party and sign the bill.”**

#### SMRs are politically “nuclear”

Fairley 10 Peter, IEEE Spectrum, May, "Downsizing Nuclear Power Plants,” [spectrum.ieee.org/energy/nuclear/downsizing-nuclear-power-plants/0](http://spectrum.ieee.org/energy/nuclear/downsizing-nuclear-power-plants/0)

However, there are political objections to SMRs. Precisely because they are more affordable, they may well increase the risk of proliferation by bringing the cost and power output of nuclear reactors within the reach of poorer countries.¶ Russia’s first SMR, which the nuclear engineering group Rosatom expects to complete next year, is of particular concern. The Akademik Lomonosov is a floating nuclear power plant sporting two 35-MW reactors, which Rosatom expects to have tethered to an Arctic oil and gas operation by 2012. The reactor’s portability prompted Greenpeace Russia to call this floating plant **the world’s most dangerous nuclear project in a decade.¶ SMRs may be smaller than today’s reactors.** But, politically at least, they’re just as nuclear.

#### Going over the fiscal cliff causes a second great depression

Morici 8/7 Peter, PhD, is a "recognized expert on economic policy and international economics." He is a Professor of International Business at the R.H. Smith School of Business at the University of Maryland. "Fix fiscal cliff now or face next Great Depression," 2012, http://www.foxnews.com/opinion/2012/08/07/fix-fiscal-cliff-now-or-face-next-great-depression/

President Obama and Republicans are engaging in dangerous brinksmanship. Putting off a political solution to the looming “fiscal cliff” until after the election **risks a** second Great Depression.¶ Without a compromise by January, $400 billion in mandatory spending cuts and more than $100 billion in tax increases will immediately go into effect. **With our economy only growing by only $300 billion annually, such a shock would thrust it into a prolonged contraction.**

#### Global nuclear war

Harris & Burrows 9 Mathew, PhD European History @ Cambridge, counselor of the U.S. National Intelligence Council (NIC) and Jennifer, member of the NIC’s Long Range Analysis Unit “Revisiting the Future: Geopolitical Effects of the Financial Crisis” http://www.ciaonet.org/journals/twq/v32i2/f\_0016178\_13952.pdf

Of course, the report encompasses more than economics and indeed believes the future is likely to be the result of a number of intersecting and interlocking forces. With so many possible permutations of outcomes, each with ample Revisiting the Future opportunity for unintended consequences, there is a growing sense of insecurity. Even so, history may be more instructive than ever. While we continue to believe that the Great Depression is not likely to be repeated, the lessons to be drawn from that period include the **harmful effects on fledgling democracies** and multiethnic societies (think Central Europe in 1920s and 1930s) and on the sustainability of multilateral institutions (think League of Nations in the same period). There is no reason to think that this would not be true in the twenty-first as much as in the twentieth century. For that reason, the ways in which **the potential for** greater **conflict could grow** would seem to be even more apt in a constantly volatile economic environment as they would be if change would be steadier. In surveying those risks, the report stressed the likelihood that terrorism and nonproliferation will remain priorities even as resource issues move up on the international agenda. **Terrorism**’s appeal will decline if economic growth continues in the Middle East and youth unemployment is reduced. For those terrorist groups that remain active in 2025, however, the diffusion of technologies and scientific knowledge will place some of the world’s most dangerous capabilities within their reach. Terrorist groups in 2025 will likely be a combination of descendants of long established groups\_inheriting organizational structures, command and control processes, and training procedures necessary to conduct sophisticated attacks and newly emergent collections of the angry and disenfranchised that become self-radicalized, particularly in the absence of economic outlets that would become narrower in an economic downturn. The most dangerous casualty of any **economically-induced drawdown** of U.S. military presence would almost certainly be the Middle East. Although Iran’s acquisition of nuclear weapons is not inevitable, worries about a nuclear-armed Iran could lead states in the region to develop new security arrangements with external powers, **acquire additional weapons**, and consider pursuing their own **nuclear ambitions**. It is not clear that the type of stable deterrent relationship that existed between the great powers for most of the Cold War would emerge naturally in the Middle East with a nuclear Iran. Episodes of low intensity conflict and terrorism taking place under a nuclear umbrella could lead to an **unintended escalation** and **broader conflict** if clear red lines between those states involved are not well established. The close proximity of potential **nuclear rivals** combined with underdeveloped surveillance capabilities and mobile dual-capable Iranian missile systems also will produce inherent difficulties in achieving reliable indications and warning of an impending nuclear attack. The lack of strategic depth in neighboring states like Israel, short warning and missile flight times, and uncertainty of Iranian intentions may place more focus on **preemption** rather than defense, potentially leading to **escalating crises**. 36 Types of conflict that the world continues to experience, such as over resources, could reemerge, particularly if protectionism grows and there is a resort to neo-mercantilist practices. Perceptions of renewed energy scarcity will drive countries to take actions to assure their future access to energy supplies. In the worst case, this could result in **interstate conflicts** if government leaders deem assured access to energy resources, for example, to be essential for maintaining domestic stability and the survival of their regime. Even actions short of war, however, will have important geopolitical implications. Maritime security concerns are providing a rationale for naval buildups and modernization efforts, such as China’s and India’s development of blue water naval capabilities. If the fiscal stimulus focus for these countries indeed turns inward, one of the most obvious funding targets may be military. Buildup of regional naval capabilities could lead to increased tensions, rivalries, and counterbalancing moves, but it also will create opportunities for multinational cooperation in protecting critical sea lanes. With water also becoming scarcer in Asia and the Middle East, cooperation to manage changing water resources is likely to be increasingly difficult both within and between states in a more dog-eat-dog world.

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#### DOE SMR grants haven’t been appropriated by Congress yet

Jeffrey Tomich 12, energy and environment reporter for the St. Louis Post-Dispatch, 4/25/12, “Small nuclear reactors generate hype, questions about cost,” http://www.stltoday.com/business/local/small-nuclear-reactors-generate-hype-questions-about-cost/article\_39757dba-8e5c-11e1-9883-001a4bcf6878.html#ixzz1tTlcQ1Jt

The Obama administration, which is pushing for development of low-carbon energy technologies, sees potential, too. And the president wants the United States to take the lead in developing the industry.

Last month, Obama proposed $452 million to help speed up development of small modular reactors. The funding availability would come on top of $8 billion in loan guarantees for the Vogtle twin-reactor nuclear project in Georgia.

The federal funding, which has yet to be appropriated by Congress, would support engineering, design certification and licensing of up to two plant designs that have the potential to be licensed and in commercial operation in a decade.

#### The administration hasn’t announced the recipients of the DOE grants or begun handing them out precisely because of the link to politics

Gabriel Nelson 9-24, E&E Reporter, and Hannah Northey, 9/24/12, “DOE funding for small reactors languishes as parties clash on debt,” http://www.eenews.net/public/Greenwire/2012/09/24/3

DOE received four bids before the May 21 deadline from veteran reactor designers Westinghouse Electric Co. and Babcock & Wilcox Co., as well as relative newcomers Holtec International Inc. and NuScale Power LLC. Now the summer has ended with no announcement from DOE, even though the agency said it would name the winners two months ago.

As the self-imposed deadline passed, companies started hearing murmurs that a decision could come in September, or perhaps at the end of the year. To observers within the industry, it seems that election-year calculations may have sidelined the contest.

"The rumors are a'flying," said Paul Genoa, director of policy development at the Nuclear Energy Institute, in an interview last week. "All we can imagine is that this is now caught up in politics, and the campaign has to decide whether these things are good for them to announce, and how."

Small modular reactors do not seem to be lacking in political support. The nuclear lobby has historically courted both Democrats and Republicans and still sees itself as being in a strong position with key appropriators on both sides of the aisle.

Likewise, top energy officials in the Obama administration have hailed the promise of the new reactors, and they haven't shown any signs of a change of heart. DOE spokeswoman Jen Stutsman said last week that the department is still reviewing applications, but she did not say when a decision will be made.

"This is an important multiyear research and development effort, and we want to make sure we take the time during the review process to get the decision right," she wrote in an email.

That the grants haven't been given out during a taut campaign season, even as President Obama announces agency actions ranging from trade cases to creating new national monuments to make the case for his re-election, may be a sign that the reactors are ensnared in a broader feud over energy spending.

Grant recipients would develop reactor designs with an eye toward eventually turning those into pilot projects -- and the loan guarantees that these first-of-a-kind nuclear plants are using today to get financing would be blocked under the "No More Solyndras" bill that passed the House last week (Greenwire, Sept. 14).

#### Dickinson concludes neg

Dickinson 9 (Matthew, professor of political science at Middlebury College. He taught previously at Harvard University, where he also received his Ph.D., working under the supervision of presidential scholar Richard Neustadt, We All Want a Revolution: Neustadt, New Institutionalism, and the Future of Presidency Research, Presidential Studies Quarterly 39 no4 736-70 D 2009)

Small wonder, then, that initial efforts to find evidence of presidential power centered on explaining legislative outcomes in Congress. Because scholars found it difficult to directly and systematically measure presidential influence or "skill," however, they often tried to estimate it indirectly, after first establishing a baseline model that explained these outcomes on other factors, including party strength in Congress, members of Congress's ideology, the president's electoral support and/or popular approval, and various control variables related to time in office and political and economic context. With the baseline established, one could then presumably see how much of the unexplained variance might be attributed to presidents, and whether individual presidents did better or worse than the model predicted. Despite differences in modeling assumptions and measurements, however, these studies came to remarkably similar conclusions: individual presidents did not seem to matter very much in explaining legislators' voting behavior or lawmaking outcomes (but see Lockerbie and Borrelli 1989, 97-106). As Richard Fleisher, Jon Bond, and B. Dan Wood summarized, "[S]tudies that compare presidential success to some baseline fail to find evidence that perceptions of skill have systematic effects" (2008, 197; see also Bond, Fleisher, and Krutz 1996, 127; Edwards 1989, 212). To some scholars, these results indicate that Neustadt's "president-centered" perspective is incorrect (Bond and Fleisher 1990, 221-23). In fact, the aggregate results reinforce Neustadt's recurring refrain that presidents are weak and that, when dealing with Congress, a president's power is "comparably limited" (Neustadt 1990, 184). The misinterpretation of the findings as they relate to PP stems in part from scholars' difficulty in defining and operationalizing presidential influence (Cameron 2000b; Dietz 2002, 105-6; Edwards 2000, 12; Shull and Shaw 1999). But it is also that case that scholars often misconstrue Neustadt's analytic perspective; his description of what presidents must do to influence policy making does not mean that he believes presidents are the dominant influence on that process. Neustadt writes from the president's perspective, but without adopting a president-centered explanation of power. Nonetheless, if Neustadt clearly recognizes that a president's influence in Congress is exercised mostly, as George Edwards (1989) puts it, "at the margins," his case studies in PP also suggest that, within this limited bound, presidents do strive to influence legislative outcomes. But how? Scholars often argue that a president's most direct means of influence is to directly lobby certain members of Congress, often through quid pro quo exchanges, at critical junctures during the lawmaking sequence. Spatial models of legislative voting suggest that these lobbying efforts are most effective when presidents target the median, veto, and filibuster "pivots" within Congress. This logic finds empirical support in vote-switching studies that indicate that presidents do direct lobbying efforts at these pivotal voters, and with positive legislative results. Keith Krehbiel analyzes successive votes by legislators in the context of a presidential veto an d finds "modest support for the sometimes doubted stylized fact of presidential power as persuasion" (1998,153-54). Similarly, David Brady and Craig Volden look at vote switching by members of Congress in successive Congresses on nearly identical legislation and also conclude that presidents *do influence* the votes of at least some legislators (1998, 125-36). In his study of presidential lobbying on key votes on important domestic legislation during the 83rd (1953-54) through 108th (2003-04) Congresses, MatthewBeckman shows that in addition to these pivotal voters, presidents also lobby leaders in both congressional parties in order to control what legislative alternatives make it onto the congressional agenda (more on this later). These lobbying efforts are correlated with a greater likelihood that a president's legislative preferences will come to a vote (Beckmann 2008, n.d.). In one of the most concerted efforts to model how bargaining takes place at the individual level, Terry Sullivan examines presidential archives containing administrative headcounts to identify instances in which members of Congress switched positions during legislative debate, from initially opposing the president to supporting him in the final roll call (Sullivan 1988,1990,1991). Sullivan shows that in a bargaining game with incomplete information regarding the preferences of the president and members of Congress, there are a number of possible bargaining outcomes for a given distribution of legislative and presidential policy preferences. These outcomes depend in part on legislators' success in bartering their potential support for the president's policy for additional concessions from the president. In threatening to withhold support, however, members of Congress run the risk that the president will call their bluff and turn elsewhere for the necessary votes. By capitalizing on members' uncertainty regarding whether their support is necessary to form a winning coalition, Sullivan theorizes that presidents can reduce members of Congress's penchant for strategic bluffing and increase the likelihood of a legislative outcome closer to the president's preference. "Hence, the skill to bargain successfully becomes a foundation for presidential power even within the context of electorally determined opportunities," Sullivan concludes (1991, 1188). Most of these studies infer presidential influence, rather than measuring it directly (Bond, Fleisher, and Krutz 1996,128-29; see also Edwards 1991). Interestingly, however, although the vote "buying" approach is certainly consistent with Neustadt's bargaining model, none of his case studies in PP show presidents employing this tactic. The reason may be that Neustadt concentrates his analysis on the strategic level: "Strategically the question is not how he masters Congress in a peculiar instance, but what he does to boost his mastery in any instance" (Neustadt 1990, 4). For Neustadt, whether a president's lobbying efforts bear fruit in any particular circumstance depends in large part on the broader pattern created by a president's prior actions when dealing with members of Congress (and "Washingtonians" more generally). These previous interactions determine a president's professional reputation--the "residual impressions of [a president's] tenacity and skill" that accumulate in Washingtonians' minds, helping to "heighten or diminish" a president's bargaining advantages. "Reputation, of itself, does not persuade, but it can make persuasions easier, or harder, or impossible" (Neustadt 1990, 54).

#### Political scientists and experts agree

Beckman 10 Matthew N. Beckman, Professor of Political Science @ UC-Irvine, 2010, “Pushing the Agenda: Presidential Leadership in U.S. Lawmaking, 1953-2004,” pg. 50

However, many **close observers** of the presidential–congressional relationship have **long cited prevoting bargaining** across Pennsylvania Avenue **as being substantively important**. For example, discussing President Eisenhower’s legislative record in 1953, CQ staffers issued a caveat they have often repeated in the years since:¶ The **President’s leadership** often was tested beyond the glare spotlighting roll calls. . . . Negotiations off the floor and action in committee sometimes are **as important as the recorded votes**. (CQ Almanac 1953, 77)¶ **Many a political scientist has agreed**. Charles Jones (1994), for one, wrote, “However they are interpreted, roll call votes cannot be more than they are: one form of floor action on legislation. If analysts insist on scoring the president, concentrating on this stage of lawmaking can provide no more than a partial tally” (195). And Jon Bond and Richard Fleisher (1990) note that even if they ultimately are reflected in roll-call votes, “many important decisions in Congress are made in places other than floor votes and recorded by means other than roll calls . . . ” (68).

#### A deal will happen in the lame duck

Steber 10/26 Mark is Chief Tax Officer, Jackson Hewitt Tax Service Inc. “Taxmageddon, the Fiscal Cliff, the Mayan Calendar, and Other Year-End Events to Watch Out for,” 2012, <http://www.huffingtonpost.com/mark-steber/fiscal-cliff_b_2012008.html>

So in the coming weeks, be especially vigilant for proposals of compromise and even possible agreement on a path and plan to resolve both Taxmageddon and the fiscal cliff, most likely right after the election on November 6. If agreement is not reached in a few weeks after the election, and any final decision takes longer, that "end of the world" event with the Mayan calendar might not be so bad.

#### Fiscal cliff is top of the docket

Mak 10/24 Tim is a writer at Politico. “W.H.: Sequester talks after election,” <http://www.politico.com/news/stories/1012/82845.html>

President Barack Obama wants to get into negotiations to resolve sequestration and the fiscal cliff **“right after the election,”** a senior White House adviser told reporters on Wednesday, following up on the president’s assertion that Washington could reach a “grand bargain” in “six months.”¶ Adviser David Plouffe told reporters on the campaign trail about Obama’s ambitions in response to follow-up questions about an interview the president gave the Des Moines Register, in which he said he thought Washington could resolve the “fiscal cliff” early in a potential second term.¶ "The good news is that there's going to be a forcing mechanism to deal with what is the central ideological argument in Washington right now ... when you combine the Bush tax cuts expiring, the sequester in place, the commitment of myself and my opponent ... we're going to be in a position where I believe in the first six months we are going to solve that big piece of business," Obama said.

#### NRC deregulation spurs controversy and Congressional scrutiny

Jill Graham, States News Service, 1991, Pa., 15 other states, challenging federal nuclear waste disposal policy, Lexis

The state and 15 others filed a brief in federal court here Tuesday in support of a lawsuit that challenges a new federal Nuclear Regulatory Commission (NRC) policy that would permit the deregulation of waste below a certain radiation level.¶ The lawsuit was filed in the U.S. Court of Appeals for the District of Columbia by 29 citizens' groups last August.¶ Under the NRC policy, material from nuclear plants and hospitals, such as gloves and laboratory equipment, could be dumped in landfills or sewers, incinerated or recycled into consumer products.¶ Pennsylvania, like at least four other states, has a law banning such unrestricted disposal of the waste. Its law, signed by Gov. Robert P. Casey last summer, requires that the potentially harmful waste be dumped only in specially-licensed low-level radioactive waste disposal facilities.¶ Some fear, however, that the NRC policy will override state laws. Pennsylvania shares those concerns, according to Susan Woods, spokeswoman for Pennsylvania's Department of Environmental Resources.¶ "We did it to preserve the validity of our statute," Woods said of the state's decision to become involved with the lawsuit.¶ The NRC has said it will use the policy guidelines on a case-by-case basis as requests for exemptions are submitted by the nuclear industry.¶ NRC officials argued in congressional hearings last year that the policy would protect public health and the environment and allow regulators to focus on controlling more significant risks to the public.¶ The watchdog group Public Citizen, which is heading the lawsuit, has argued that if the policy is implemented, it would significantly increase the number of fatal cancers in the United States because radiation would seep into the air, water, soil and food chain.¶ "(The policy) poses one of the gravest health risks ever perpetrated on the general public by a government agency," said Jonathan Becker, an energy policy analyst with Public Citizen.¶ "The states recognize that the NRC's . . . rule trades off people's lives in favor of the financial interests of the nuclear industry," Becker said Tuesday.¶ The controversial issue is expected to be the subject of congressional hearings and legislation this year.

#### SMR debates are polarizing

Carper and Schmid 11 Ross Carper (rosscarper@gmail.com), a writer based in Washington state, is the founding editor of the creative nonfiction project BeyondtheBracelet.com. Sonja Schmid (sschmid@vt.edu) is an assistant professor in Science and Technology Studies at Virginia Tech. “The Little Reactor That Could?” Issues in Science and Technology, http://www.issues.org/27.4/carper.html

Historically, nuclear energy has been entangled in one of the most polarizing debates in this country. Promoters and adversaries of nuclear power alike have accused the other side of oversimplification and exaggeration. For today’s industry, reassuring a wary public and nervous government regulators that small reactors are completely safe might not be the most promising strategy. People may not remember much history, but they usually do remember who let them down before. It would make more sense to admit that nuclear power is an inherently risky technology, with enormous benefits that might justify taking these risks. So instead of framing small reactors as qualitatively different and “passively safe,” why not address the risks involved head-on? This would require that the industry not only invite the public to ask questions, but also that they respond, even—or perhaps especially—when these questions cross preestablished boundaries. Relevant historical experience with small compact reactors in military submarines, for example, should not be off limits, just because information about them has traditionally been classified.

#### Passing new programs during the lame duck independently triggers the link

Miniter 12 Richard Miniter is an investigative journalist and author of three New York Times best-selling books. “Leading from Behind: The Reluctant President and the Advisors Who Decide for Him,” Google Books

After the historic defeat, Axelrod went on to teach a course called Campaign Strategy at Northwestern University in the Chicago suburbs. The day after the election, many White House staffers described their mood as "depressed." The loss of the U.S. House of Representatives and only a skinny remaining majority in the U.S. Senate meant that **passing new programs would be very difficult**. Would the next two years be an endless and enervating siege? Obama seemed strangely upbeat, '[he day after the midterm elections, the president convened a meeting with his senior Staff, While they saw clouds, he saw the sun through them. Democrats still ran both houses of Congress until January 3.2011. when the new session convened. To the surprise of some starters present, he enumerated an ambitious list of measures that he would like to see made law in the next sixty days; "a tax deal, extending unemployment benefits, ratification of New START treaty reducing nuclear arms, repeal of the Pentagon's Don't Ask/ Don't Tell policy preventing gays and lesbians from openly serving in the military, passage of the DREAM Act (which would grant citizenship to undocumented young adults who met certain requirements), and a children's nutrition bill advocated by Michelle Obama."" The list was unrealistic. It would have been a demanding agenda for Congress to accomplish over two years. let alone two months. Besides, **using a "lame duck" Congress to pass major legislation had** enormous political risks. It would be seen as an end-run around voters who had just elected a new majority with a new agenda. When President Carter had used a "lame duck' Congress to pass major bills (including the costly "Superfund" program) following the November 1980 elections in which he lost his reelection bid and Republicans won control of the Senate for the first time since I95-\*. the public was outraged. The outrage would be much bigger this time: Since 1980. the Internet, talk radio, and the Fox News Channel had emerged as powerful forums for channeling outrage. liven if Congress could actually adopt these controversial measures in a few short months, the political price of such a strategy would he high. Still, Obama continued to back Axelrod's analysis, which held that "independent voters wanted a leader who would make all the squabbling schoolchildren in Washington do their assignments."12 Who would do the "assigning"? The voters or the White House? Neither Obama nor Axel-rod seemed to wonder. If the federal government would finally pass a liberal wish list. Axelrod and Obama contended, voters would be happy. It was an unusual view. Independent voters in swing districts had actually voted down candidates who had supported the president's policies in the 2010 elections. Even in safely Democratic districts, independent voters had reduced their support of liberal lawmakers compared with 2008, exit polls showed. Few staffers were persuaded ch.it the president was right, although none dared to contradict him during that meeting. Passing Obama’s priorities during the Thanksgiving and Christmas holiday season had yet another obstacle. A massive White House staff reorganization was in progress. Rahm Emmanuel had stepped down as chief of staff in October 2010 and many other staffers were returning to Chicago or to academia. Without staff, it would be harder to rally the already reluctant Congress to act. Still, **Obama was keen to** proceed as planned. He was **finally** going to **lead, but the timing and strategy were ill-considered**. "Obama didn't care about the criticism that he was too insular," a White House aide said. "He didn't give a shit.\* **Obama's proposals were dutifully sent to Capitol** 1 lill. **but** most **were** essentially dead on arrival. Congress was exhausted **and** didn't want to take any more political risks.

#### The NRC is highly politicized and scrutinized by Congress

Energy and Commerce Committee 7/17 Energy and Commerce Committee of the U.S. House of Representatives. “NRC Commissioners Set to Testify Next Tuesday,” 2012, http://energycommerce.house.gov/press-release/nrc-commissioners-set-testify-next-tuesday

Since the start of the 112th Congress, the Energy and Commerce Committee has been actively conducting oversight of the NRC with a focus on how the actions of former **NRC Chairman** Gregory **Jaczko politicized the Commission**, undermining its ability to effectively execute its safety and licensing mission. Moving forward, the committee will continue its oversight efforts to determine any steps that need to be taken to restore the commission’s integrity and make sure history doesn't repeat itself.

#### Double-dip now causes depression - overwhelms their D

Isidore 11 (Financial Correspondent-CNN Money, 8/10, http://money.cnn.com/2011/08/10/news/economy/double\_dip\_recession\_economy/index.htm)

Another recession could be even worse than the last one for a few reasons. For starters, the economy is more vulnerable than it was in 2007 when the Great Recession began. In fact, the economy would enter the new recession much weaker than the start of any other downturn since the end of World War II. Unemployment currently stands at 9.1%. In November 2007, the month before the start of the Great Recession, it was just 4.7%. And the large number of Americans who have stopped looking for work in the last few years has left the percentage of the population with a job at a 28-year low. Various parts of the economy also have yet to recover from the last recession and would be at serious risk of lasting damage in a new downturn. Home values continue to lose ground and are projected to continue their fall. While manufacturing has had a nice rebound in the last two years, industrial production is still 18% below pre-recession levels. There are nearly 900 banks on the FDIC's list of troubled institutions, the highest number since 1993. Only 76 banks were at risk as the Great Recession took hold. But what has economists particularly worried is that the tools generally used to try to jumpstart an economy teetering on the edge of recession aren't available this time around. "The reason we didn't go into a depression three years ago is the policy response by Congress and the Fed," said Dan Seiver, a finance professor at San Diego State University. "We won't see that this time." Three times between 2008 and 2010, Congress approved massive spending or temporary tax cuts to try to stimulate the economy. But fresh from the bruising debt ceiling battle and credit rating downgrade, and with elections looming, the federal government has shown little inclination to move in that direction. So this new recession would likely have virtually no policy effort to counteract it.

#### Sequestration turns the case---creates investor uncertainty that prevents commercialization/adoption of new energy

Malone 9/26 Scott is a Reuters writer. “Analysis: Corporate America sweats as U.S. nears fiscal cliff,” 2012, http://www.reuters.com/article/2012/09/27/us-usa-economy-fiscalcliff-idUSBRE88P1PX20120927

Top U.S. executives have less confidence in the business outlook now than at any time in the past three years - and a key reason is fear of gridlock in Washington over the fiscal deficit and tax policy. **The uncertainty**, coupled with slowing demand in Asia and Europe, **is forcing corporate leaders to postpone decisions on** major investments and hiring, and hurting sales of everything from textbooks to telephone lines. "If we don't deal with the fiscal cliff and don't deal with predictability on taxes for both citizens and business, with the rest of the world in a struggling state, this is really bad for us," John Chambers, CEO of network equipment maker Cisco Systems Inc (CSCO.O), told Reuters on Tuesday. Some 34 percent of U.S. CEOs plan to cut jobs in the United States over the next six months, up from 20 percent a quarter ago, according to a Business Roundtable survey released on Wednesday. Only 30 percent plan to raise capital spending, compared with 43 percent previously. The group's index of CEO confidence fell to its lowest point since the third quarter of 2009, when the United States had just emerged from its worst recession in 80 years. The main culprit is the fiscal cliff -- Washington's self-imposed year-end deadline to agree on a plan to shrink the federal budget or trigger $600 billion in spending cuts and higher taxes that were put in place last summer. The sharpest pain would be felt by the defense and healthcare sectors, which face direct funding cuts. But any **resulting slowdown could send shockwaves across the economy.**

# DOD CP

## 1NC

#### The United States Department of Defense should acquire, via alternative financing, small modular reactors to provide electricity for military installations in the United States.

DOD leadership catalyzes SMR development and spills over to commercialization---they empirically overcome tech barriers

Andres and Breetz 11 Richard B, Professor of National Security Strategy at the National War College and a Senior Fellow and Energy and Environmental Security and Policy Chair in the Center for Strategic Research, Institute for National Strategic Studies, at the National Defense University and Hanna L, doctoral candidate in the Department of Political Science at The Massachusetts Institute of Technology, February, "Small Nuclear Reactors for Military Installations: Capabilities, Costs, and Technological Implications", www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf

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

#### DOD clean energy investment avoids politics---but the plan’s controversial

Appelbaum 12 Binyamin, Defense cuts would hurt scientific R&D, experts say, The New York Times, 1-8, http://hamptonroads.com/2012/01/defense-cuts-would-hurt-scientific-rd-experts-say

Sarewitz, who studies the government's role in promoting innovation, said the Defense Department had been more successful than other federal agencies because it is the main user of the innovations that it finances. The Pentagon, which spends billions each year on weapons, equipment and technology, has an unusually direct stake in the outcome of its research and development projects.¶ "The central thing that distinguishes them from other agencies is that they are the customer," Sarewitz said. "You can't pull the wool over their eyes."¶ Another factor is the Pentagon's relative insulation from politics, which has allowed it to sustain a long-term research agenda in controversial areas**.** No matter which party is in power, the Pentagon has continued to invest in clean-energy technology, for example, in an effort to find ways to reduce one of its largest budget items, energy costs.

## 2NC

### DOD CP---Solves the Case---General/Licensing---2NC

#### DOD-purchased reactors are exempt from NRC licensing requirements---(and our gradualism args can be net-benefits)

CSPO 10, Consortium for Science, Policy and Outcomes at ASU, “four policy principles for energy innovation & climate change: a synthesis”, June, <http://www.catf.us/resources/publications/files/Synthesis.pdf>

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

#### Impossible for licensing to block the CP---NRC doesn’t have jurisdiction over DOD reactors

NEI 7 – Nuclear Energy Institute, March 2007, “The Nuclear Regulatory Process,” http://www.new.ans.org/standards/resources/toolkit/docs/nei-nuclear-regulatory-process-ans-posting1.pdf

The NRC does not have exclusive jurisdiction over all uses of nuclear material. The NRC does not license or regulate most uses of nuclear material by DOE or the Department of Defense; DOE’s production of nuclear material for military applications; or nuclear reactors used for defense (e.g., nuclear powered warships). While the NRC has jurisdiction over sources, it does not have jurisdiction over other discrete naturally occurring radioactive material (NORM), such as radon, which is regulated by the states.

### DOD CP---Solves the Case---Commercialization/Spillover---2NC

#### The CP is comparatively more effective than the plan---SMRs have an absolute requirement for more R&D that only government financial support solves---DOD needs an explicit strategy

Matt Stepp et al. 11, specialist in clean energy innovation at the Information Technology and Innovation Foundation, formerly Fellow at the Breakthrough Institute, et al, May 2011, “Ten Principles for Creating a New U.S. Clean Energy Policy,” http://www.itif.org/files/2011-guiding-principles.pdf

R&D is fundamentally the most important part of an effective clean energy innovation policy. But by itself it is not enough. Spurring clean energy innovation means supporting innovation from the back-end (basic science and R&D) through the front-end (testing, demonstration, deployment, and commercialization). Clean energy policy should support a robust innovation system from beginning to end, ensuring that all stages of technology development are optimally sustained.

Clean energy innovation includes bridging technologies across the “valleys of death.” The first valley of death – the phase in development between R&D and prototyping the first generation of a technology – is crucially important because it takes the innovation out of the lab and proves its commercial viability. But building the first prototype of a radically new solar installation or demonstrating a new small modular nuclear reactor is capital intensive and risky. Because of this, the private sector has historically provided little support for this stage of development and would rather wait until new technologies yield a higher rate of return. So the federal government has played a significant role in developing many of the last century’s breakthrough technologies through demonstration and test-bed projects. Past breakthrough technologies like the Internet, nuclear power plants, and jet engines were initially built and tested at federal labs and through private sector collaborations with the military. Currently, the United States is just beginning to implement strategies for bridging technologies from the lab to demonstration, such as through the agreement between ARPA-E and the Department of Defense to test advanced energy technologies suitable for the militaries needs. But these policies are not permanent, as they are enforced at the agency level without a national strategy or Congressional mandate.

The second valley of death is the phase in development between tech demonstration and commercialization. 12 Clean energy must compete in an entrenched energy sector filled with significant institutional, political, and regulatory barriers to deployment. But it’s expensive to produce the first generation of technology after development and demonstration, making it a risky and potentially costly business decision for utilities and consumers. Clean energy may need up-front financing to build the first generation of new clean energy technologies and to hurdle barriers to deployment. Without it, the high cost of up-front investment is a significant deterrent for utilities to choose brand new advanced solar, wind, or small modular reactors (SMRs) over well established coal or natural gas plants. New clean energy is stuck in what Coalition for Green Capital’s Ken Berlin calls, “the chick and egg problem.” 13 Breakthrough clean energy needs first-generation investment after demonstration and testing in order to evolve into lower cost, better understood secondand third-generation tech. But utilities and consumers will only invest in breakthrough tech with greater cost and market certainty. The federal government can and should play a role in supporting this transition or what leading clean energy policy expert Bill Bonvillian calls “beefing up the back end of clean energy.” 14 This is different than simply subsidizing deployment of existing mature clean energy technologies with little hope for dramatic price reductions of next generation innovations.

#### No solvency deficits---SMR designs aren’t close to ready for licensing, so there’s no way removing licensing restrictions can be vital to solve the case---DOD lead-role primes the pump for the industry

Andres and Breetz 11 Richard B, Professor of National Security Strategy at the National War College and a Senior Fellow and Energy and Environmental Security and Policy Chair in the Center for Strategic Research, Institute for National Strategic Studies, at the National Defense University and Hanna L, doctoral candidate in the Department of Political Science at The Massachusetts Institute of Technology, February, "Small Nuclear Reactors for Military Installations: Capabilities, Costs, and Technological Implications", www.ndu.edu/press/lib/pdf/StrForum/SF-262.pdf

It should be emphasized that none of the small reactor designs currently under consideration for commercial development have been licensed by the NRC, let alone constructed, demonstrated, or tested. Given the early stage of the technology, **DOD’s “first mover” pursuit of small reactors could therefore have a profound influence on the** development of the **industry. DOD does have substantial experience** with nuclear energy—historically, both the U.S. Army and Navy have incorporated nuclear reactors into their operations6—**that could make it particularly well suited to taking a leading role in testing small reactors**.¶ The initial analysis offered in this paper suggests that small reactors could be **instrumental** in addressing DOD’s challenges of grid insecurity at domestic installations and fuel supply at forward operating bases. The next step is to conduct more fine-grained analysis to answer questions about costs, personnel needs, technological options, and security and transportability issues. The Secretary of Defense’s feasibility study and the research undertaken by the DOD/ DOE/NRC working group are crucial steps forward. We recommend that DOD continue to invest in research and analysis on small reactor options, with a goal of building a demonstration plant as soon as the technical, financial, and regulatory hurdles have been adequately resolved.

#### DOD investment in SMRs is uniquely likely to cause commercial spillover---even if other DOD energy initiatives generally don’t

Daniel Sarewitz 12, Co-Director, Consortium for Science, Policy and Outcomes, Arizona State University; and Samuel Thernstrom Senior Climate Policy Advisor, Clean Air Task Force, March 2012, “Energy Innovation at the Department of Defense: Assessing the Opportunities,” p. 3

Despite the apparent potential for progress in linking DoD to energy innovation in light of these attributes, there are also real reasons to question how much, or how easily, DoD’s innovation capacity can or will be applied to the energy challenges that are most relevant to our national and global environmental goals. DoD others important institutional lessons, and models for innovation driven by the defense mission—but lessons and models that may not always translate easily to the energy context.

DoD’s ability to house supply and demand under one roof, and to produce lasting improvements in complex systems over time, driven in part by large, sustained procurement programs, is nearly unique—and unlikely to be widely reproduced in the energy and climate context. There are significant constraints upon what DoD is likely to do directly in this area; the department is unlikely to become an all-purpose engine of energy innovation. Instead, it must be assumed that DoD innovation efforts will focus on technologies that are most likely to contribute to the military’s mission. The extent to which these technologies have the potential to catalyze innovation relevant to large-scale reduction of global greenhouse gas emissions remains to be seen. An important open question in this regard is the degree to which DoD will see zero carbon baseload energy generation for its fixed installations as an area worthy of investments. For example, the development and deployment of advanced nuclear reactor designs such as small modular reactors is one potentially important opportunity to advance both military and civilian interests.

The Challenge

One challenge for policymakers concerned about energy and climate, then, is to maximize the ways in which DoD can contribute directly to progress on key energy-related technologies in ways that advance, or at least do not impede, the security mission. But policymakers must also think seriously about the ways in which the DoD innovation model can be applied beyond its institutional borders, and about what the DoD experience suggests with regards to the prospects for other proposals to enhance our national energy innovation systems.

## Perms

### AT: Perm---Do Both---2NC

#### The permutation and plan don’t solve manufacturing or prolif---only the DOD being the sole first mover guarantees U.S. companies lead SMR development---otherwise it’ll be dominated by foreign-owned firms

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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.

# PGS CP

#### The United States federal government should develop and acquire, as rapidly as possible, a conventional prompt global strike capability, space-based quantum gradiometry capabilities, and synthetic aperture radar with Ground Movement Target Indicator and Surface Moving Target Indicator capabilities.

#### Conventional PGS solves prolif

Dagobert L. Brito, Political Econ Prof @ Rice, and Michael D. Intriligator, Econ Prof @ UCLA, 3-1-2010, “Conventional Trident Modification Program,” Huffington Post, http://www.huffingtonpost.com/dagobert-l-brito/conventional-trident-modi\_b\_480660.html

Global Zero has the support of the Obama Administration and was the subject of President Obama's April 5, 2009 speech in Prague following a joint statement of Presidents Obama and Medvedev committing their two countries to achieving a nuclear free world." On the surface this idea is appealing. It is hard to imagine what could be wrong with a policy to eliminate nuclear warheads whose only purpose is either to kill tens of thousands of people or to destroy an opponent's nuclear warheads. Paradoxically, however, a world without nuclear weapons could be one that is very dangerous and unstable. It is our belief that one way to make Global Zero possible is for the United States to invest in developing a non-nuclear response to a nation that acquires a small number of nuclear weapons and uses the existence of these weapons to extort economic or political concessions, such as in the current world situation North Korea and potentially Iran. One possible way to do this is to deploy a weapon such as the Conventional Trident Modification (CTM) Program. As we will argue, Trident missiles carrying non-nuclear kinetic warheads could deter a country from clandestinely attempting to acquire, deploy and then use a small number of nuclear weapons for political purposes. There is a very technical literature that was primarily motivated by the Cold War, and some of the results of this body of work are applicable to the current global situation. One of the more important results is that the probability of war is high in a conflict situation where the parties have very few nuclear weapons, or even worse, where only one of the parties has even a few such weapons, which was the only situation in which such weapons were used, by the U.S. against Japan in 1945. During the Cold War, this observation led to the doctrine of Mutual Assured Destruction or "MAD". As a result, both sides invested in a large number ICBM, bomber and missile-carrying submarines so as to have a survivable second- strike capability. It may be possible to negotiate a treaty to eliminate nuclear weapons, however it is impossible to eliminate the technology for the manufacture of nuclear weapons and the knowledge of how to do this that is widespread and available on the Internet. Given current technology, a country with a stockpile of fissile material could be able to produce nuclear weapons in a matter of months. In a situation where no country has nuclear weapons, a rogue country could clandestinely produce a small number of weapons, given. Most of the technology needed to produce such weapons is dual-use, involving both civilian and potential military use. Thus the boundary between the capability needed to produce nuclear weapons and having such weapons has been blurred. There have been recent attempts to change the threshold from the actual acquisition of nuclear weapons that is banned by the Nuclear Nonproliferation Treaty, to the acquisition of the capability to construct nuclear weapons. This is difficult, however, since the exact boundary that differentiates general knowledge from knowledge specific to producing nuclear weapons is not well defined and it becomes less defined as technology progresses. Furthermore, technical change will continue to progress. Computers will continue to become more powerful, and computer-controlled machine tools will become more common and less expensive. The only substantial barrier to building nuclear weapons may be access to fissile material. If climate change lead to an increased dependence in nuclear power then it may become more difficult to restrict access to fissile material. MAD worked during the Cold War. We will never know whether the doctrine was sound or we were just lucky. If the doctrine worked, it required a high degree of rationality and sophistication on the part of the nations involved. This may not be the case if among the processors of nuclear weapons is a politically unstable rogue state. This creates a dilemma: In a world where nuclear weapons are eliminated, a country may be tempted to clandestinely build a small stockpile of nuclear weapons for bargaining purposes. We believe, however, that there may be a way to avoid this dilemma. It may not be possible to prevent a nation state from having the capability to build nuclear weapons. We believe, however, that it is possible to develop non-nuclear weapons systems that are credible and powerful enough to serve as an effective deterrent to any nation contemplating building a small number of nuclear weapons to extort political or economic concessions. Such as system would initially serve as a deterrent to nuclear proliferation and may, in fact, make Global Zero stable. Credibility is crucial in this area. The very elements that may have made the MAD doctrine viable reduce its credibility vis-à-vis a rogue nuclear nation. It is no longer credible that the United States or any of the major powers would use nuclear weapons to retaliate against the infrastructure and population of a rogue nation that used or threaten to use nuclear weapons. Nuclear weapons have only been used at the end of WWII, by the U.S. against Japan. The decision to drop two atomic bombs in Japan is still a subject of considerable controversy. It was, however, in many ways, a logical extension of existing practices of the time. The atomic bomb was seen as a means to destroy the enemy's cities, industries, and, especially, its will to fight. The bomb did what was already being done using conventional weapons by both sides in the war. In fact, more people were killed in the firebomb raids on Tokyo than by both atomic bombs. The special horrors and the threat to the human gene pool and the environment associated with radiation were not known or well understood at the time. After the war, the scientific and military communities as well as moral and political philosophers pondered the implications of nuclear weapons. It became clear that nuclear weapons were not a very effective means for a nation to use in pursuit of its political and economic objectives. It became necessary to develop complicated and sophisticated strategic doctrines so as to rationalize the acquisition and deployment of these weapons. Ultimately, it was seen by Bernard Brodie, Carl Kaysen, and others that the role of nuclear weapons was primarily to deter their use by other nations. Although weapons designers eventually developed warheads that were "clean" and potentially useful on the battlefield as tactical nuclear weapons, the concept of a nuclear threshold that could not be crossed except at a high cost became ingrained in the strategic thinking of the mid-twentieth century. The nuclear threshold was so well defined and accepted that a small and poor country like North Vietnam was able to inflict a political defeat on the United States without fear of its use of nuclear weapons. Nuclear weapons did not prove to be an effective instrument of war or policy, whether by the United States in Vietnam or by the Soviet Union in Afghanistan or currently by the U.S. in Iraq and Afghanistan. The existence of a large stockpile of United States nuclear weapons was not a credible deterrent to their political use by minor rogue nuclear powers. In 1985 we first proposed that the U.S. reconfigure submarine-launched ballistic missiles with conventional warheads that could provide a non-nuclear deterrent that was politically credible. In 2002, together with another coauthor, we wrote a paper published by the Baker Institute at Rice University that proposed that the United States reconfigure some of its Trident II missiles to deliver kinetic energy warheads. (Anyone interested in the details of the proposal can find it on the Baker Institute website.) That proposal was sent to the Office of the Secretary of Defense. In 2006 the Department of Defense received funding to start to develop such a weapon in the Conventional Trident Modification (CTM) Program. The proposal differed from ours in two very important ways. First, the warheads are smaller to extend the range and, second, only a few missiles in any ballistic missile submarine would be conventional. Thus the missiles submarines would be carrying would be including both conventional and nuclear warheads. Congress has objected to the deployment of the CTM is that it could be destabilizing, as it would be impossible to differentiate between the launch of a conventional weapon and nuclear weapon. This could, indeed, be a problem if the Navy deploys submarines with a mix of nuclear and conventionally-armed missiles and launches from a location normally associated with the patrol area of submarines carrying nuclear missiles in a deterrence role. This would also require that the warhead have the same weight as the nuclear payload because it would not be possible to reduce its range. Our proposal differs in that we argue that all the missiles on a submarine be converted to CTM missiles and thus the submarines could be deployed closer to the possible targets and use larger warheads. The trajectories of a missile launch from a CTM submarine would be different from that of a nuclear-armed missile boat on patrol. Few, if any of our potential adversaries have any significant anti-submarine capability, so it would be possible to move the submarines close to their coast prior to attacking, constituting an effective deterrent. If the submarines were only carrying non-nuclear warheads, then it would be in the interest of the United States could allow other major nuclear powers to verify that the submarine was carrying non-nuclear warheads. It would be in the interest of the United States to make public - within limits - the location of the submarine. It should be remembered that the role of a CTM missile submarine would be very different from the role of a missile submarine whose mission is to insure the survivability of the United States second-strike capability. Rather, as a show of force, a potential adversary should know that conventionally-armed submarines are on patrol in the immediate vicinity. Congress commissioned the National Academy of Science to do a study of the CTM and in that study, its 2008 report stated: Major Finding 1. There are credible scenarios in which the United States could gain meaningful political and strategic advantages by being able to strike with conventional weapons important targets that could not be attacked rapidly by currently deployed military assets. In light of the appropriately extreme reluctance to use nuclear weapons, conventional prompt global strike (CPGS) could be of particular value in some important scenarios in that it would eliminate the dilemma of having to choose between responding to a sudden threat either by using nuclear weapons or by not responding at all. We believe that if the Navy is willing to dedicate some of its nuclear submarines to a CTM role and eliminate the ambiguity that has troubled members of Congress, then we should fund the deployment of the CTM. This not only reduces the value of a few nuclear weapons to a rogue state, it also makes possible the stability of Global Zero in the future.

# Water Wars Advantage

#### Status quo solves and nuclear desalination is ineffective

Gar Smith 11, Editor Emeritus of Earth Island Journal, a former editor of Common Ground magazine, a Project Censored Award-winning journalist, and co-founder of Environmentalists Against War, "NUCLEAR ROULETTE: THE CASE AGAINST A NUCLEAR RENAISSANCE," June, International Forum on Globalization series focused on False Solutions, http://ifg.org/pdf/Nuclear\_Roulette\_book.pdf

By 2025, 3.5 billion people will face severe fresh-water shortages. Nuclear proponents groping for justifications to expand nuclear power have argued that the waste heat from power plants can provide a “cheap and clean” solution to the inherently costly process of removing salt from seawater. Desalination plants (there are 13,080 worldwide, mostly oil- and gas-fired and mostly in wealthy desert nations) already produce more than 12 billion gallons of drinkable water a day. 153 The first nuclear desalinator was installed in Japan in the late 1970s and scores of reactor-heated desalination plants are operating around the world today.¶ But **nuclear desalination is another False Solution**. The problem with atomic water-purifiers is that using heat to treat seawater is an obsolete 20 th -century technology. Thermal desalination has given way to new reverse osmosis systems that are less energy intensive and 33 times cheaper to operate. 154 Nuclear desalination advocates claim that wind, solar, and wave power aren’t up to the task while new low-temperature evaporation technology may be able to produce high purity water at temperatures as low as 122° Fahrenheit. 155 Promoting reactors as a solution to the world’s water shortage is especially ludicrous since nuclear power plants consume more water than any other energy source. 156¶ Even proponents admit there is a potential risk that running seawater through a radioactive environment might contaminate the drinking water produced. 157 Undeterred, scientists in Russia and India have proposed anchoring small atom-powered water-plants offshore near densely populated coastal cities. But this would provide no relief for the billions of people living inland in water-starved regions of North Africa and Asia.¶ Desalination is merely a way of giving a marginal new purpose to existing reactors whose balance sheets would be improved if they were retrofitted with desalination chambers. As with power generation, so with desalination: efficiency in water use (better irrigation technology, crop selection, eliminating transit losses, etc.) beats new production.¶ A real solution to the growing global water shortage needs to address the increasing amount of water diverted to wasteful agricultural and industrial practices and concentrate on preventing the water from being contaminated in the first place—by, among other things, capping the size of local populations to match locally available water supplies.

#### SMR’s for desalination already exist

World Nuclear Association, July 2012, “Nuclear Desalination,” http://www.world-nuclear.org/info/inf71.html

SMART: South Korea has developed a small nuclear reactor design for cogeneration of electricity and potable water. The 330 MWt SMART reactor (an integral PWR) has a long design life and needs refuelling only every 3 years. The main concept has the SMART reactor coupled to four MED units, each with thermal-vapour compressor (MED-TVC) and producing total 40,000 m3/day, with 90 MWe.

 CAREM: Argentina has designed an integral 100 MWt PWR suitable for cogeneration or desalination alone, and a prototype in being built next to Atucha. A larger version is envisaged, which may be built in Saudi Arabia. NHR-200: China's INET has developed this, based on a 5 MW pilot plant. Floating nuclear power plant (FNPP) from Russia, with two KLT-40S reactors derived from Russian icebreakers, or other designs for desalination. (If primarily for desalination the twin KLT-40 set-up is known as APVS-80.) ATETs-80 is a twin-reactor cogeneration unit using KLT-40 and may be floating or land-based, producing 85 MWe plus 120,000 m3/day of potable water. The small ABV-6 reactor is 38 MW thermal, and a pair mounted on a 97-metre barge is known as Volnolom floating NPP, producing 12 MWe plus 40,000 m3/day of potable water by reverse osmosis. A larger concept has two VBER-300 reactors in the central pontoon of a 170 m long barge, with ancillary equipment on two side pontoons, the whole vessel being 49,000 dwt. The plant is designed to be overhauled every 20 years and have a service life of 60 years. Another design, PAES-150, has a single VBER-300 unit on a 25,000 dwt catamaran barge.

#### Desalination inevitable – aff not key

Earth Talk, 2012, “Can Ocean Desalination Solve the World’s Water Shortage?” http://environment.about.com/od/biodiversityconservation/a/desalination.htm

Despite such arguments, the practice is becoming more common. Ted Levin of the Natural Resources Defense Council says that more than 12,000 desalination plants already supply fresh water in 120 nations, mostly in the Middle East and Caribbean. And analysts expect the worldwide market for desalinated water to grow significantly over the coming decades. Environmental advocates may just have to settle for pushing to "green" the practice as much as possible in lieu of eliminating it altogether.

#### Desalination can’t solve – too expensive to ship water to the places that need it most

Increasing Population, 1-22-2010, “Fresh Water,” http://increasingpopulation.blogspot.com/2010/01/fresh-water.html

Fresh water can be obtained from salt water by desalination. For example, Malta derives two thirds of its freshwater by desalination. A number of nuclear powered desalination plants exist, and physicists agree that there are billions of years of nuclear fuel available. But the high costs of desalination, especially for poor countries, make impractical the transport of large amounts of desalinated seawater to interiors of large countries. The cost of desalinization varies; Israel is now desalinating water for a cost of 53 cents per cubic meter, Singapore at 49 cents per cubic meter. In the United States, the cost is 81 cents per cubic meter ($3.06 for 1,000 gallons). According to a 2004 study by Zhoua and Tolb, "one needs to lift the water by 2000 m, or transport it over more than 1600 km to get transport costs equal to the desalination costs. Desalinated water is expensive in places that are both somewhat far from the sea and somewhat high, such as Riyadh and Harare. In other places, the dominant cost is desalination, not transport. This leads to somewhat lower costs in places like Beijing, Bangkok, Zaragoza, Phoenix, and, of course, coastal cities like Tripoli." Thus while the study is generally positive about the technology for affluent areas that are proximate to oceans, it concludes that "Desalinated water may be a solution for some water-stress regions, but not for places that are poor, deep in the interior of a continent, or at high elevation. Unfortunately, that includes some of the places with biggest water problems." Another potential problem with desalination is the byproduction of saline brine, which can be a major cause of marine pollution when dumped back into the oceans at high temperatures."

#### No water wars

Jeremy Allouche 11 is currently a Research Fellow at the Institute of Development Studies at the University of Sussex. "The sustainability and resilience of global water and food systems: Political analysis of the interplay between security, resource scarcity, political systems and global trade" Food PolicyVolume 36, Supplement 1, January 2011, Pages S3-S8 Accessed via: Science Direct Sciverse

Water/food resources, war and conflict

The question of resource scarcity has led to many debates on whether scarcity (whether of food or water) will lead to conflict and war. The underlining reasoning behind most of these discourses over food and water wars comes from the Malthusian belief that there is an imbalance between the economic availability of natural resources and population growth since while food production grows linearly, population increases exponentially. Following this reasoning, neo-Malthusians claim that finite natural resources place a strict limit on the growth of human population and aggregate consumption; if these limits are exceeded, social breakdown, conflict and wars result. Nonetheless, it seems that most empirical studies do not support any of these neo-Malthusian arguments. Technological change **and greater inputs of capital** have **dramatically increased labour productivity in agriculture.** More generally, the neo-Malthusian view has suffered because during the last two centuries **humankind has breached many resource barriers that seemed unchallengeable**.

Lessons from history: alarmist scenarios, resource wars and international relations

In a so-called age of uncertainty, a number of alarmist scenarios have linked the increasing use of water resources and food insecurity with wars. The idea of water wars (perhaps more than food wars) is a dominant discourse in the media (see for example Smith, 2009), NGOs (International Alert, 2007) and within international organizations (UNEP, 2007). In 2007, UN Secretary General Ban Ki-moon declared that ‘water scarcity threatens economic and social gains and is a potent fuel for wars and conflict’ (Lewis, 2007). Of course, this type of discourse has an **instrumental purpose**; security and conflict are here used for raising water/food as key policy priorities at the international level.

In the Middle East, presidents, prime ministers and foreign ministers have also used this bellicose rhetoric. Boutrous Boutros-Gali said; ‘the next war in the Middle East will be over water, not politics’ (Boutros Boutros-Gali in Butts, 1997, p. 65). The question is not whether the sharing of transboundary water sparks political tension and alarmist declaration, but rather to what extent water has been a principal factor in international conflicts. The evidence seems quite weak. Whether by president Sadat in Egypt or King Hussein in Jordan, none **of these declarations have been followed up by military action**.

The governance of transboundary water has gained increased attention these last decades. This has a direct impact on the global food system as water allocation agreements determine the amount of water that can used for irrigated agriculture. The likelihood of conflicts over water is an important parameter to consider in assessing the stability, sustainability and resilience of global food systems.

None **of the** various and extensive databases on the causes of war show water as a casus belli. Using the International Crisis Behavior (ICB) data set and supplementary data from the University of Alabama on water conflicts, Hewitt, Wolf and Hammer found only seven disputes where water seems to have been at least a partial cause for conflict (Wolf, 1998, p. 251). In fact, about 80% of the incidents relating to water were limited purely to governmental rhetoric intended for the electorate (Otchet, 2001, p. 18).

As shown in The Basins At Risk (BAR) water event database, **more than two-thirds of over 1800 water-related ‘events’ fall on the ‘cooperative’ scale** (Yoffe et al., 2003). Indeed, if one takes into account a much longer period, the following figures clearly demonstrate this argument. According to studies by the United Nations Food and Agriculture Organization (FAO), organized political bodies signed between the year 805 and 1984 more than 3600 water-related treaties, and approximately 300 treaties dealing with water management or allocations in international basins have been negotiated since 1945 ([FAO, 1978] and [FAO, 1984]).

The fear around water wars have been driven by a Malthusian outlook which equates scarcity with violence, conflict and war. There is however **no direct correlation between water scarcity and transboundary conflict**. Most specialists now tend to agree that the major issue is not scarcity per se but rather the allocation of water resources between the different riparian states (see for example [Allouche, 2005], [Allouche, 2007] and [Rouyer, 2000]). Water rich countries have been involved in a number of disputes with other relatively water rich countries (see for example India/Pakistan or Brazil/Argentina). The perception of each state’s estimated water needs really constitutes the core issue in transboundary water relations. Indeed, whether this scarcity exists or not in reality, perceptions of the amount of available water shapes people’s attitude towards the environment (Ohlsson, 1999). In fact, some water experts have argued that scarcity drives the process of co-operation among riparians ([Dinar and Dinar, 2005] and [Brochmann and Gleditsch, 2006]).

In terms of international relations, the threat of water wars due to increasing scarcity **does not make much sense in the light of the recent** historical record. Overall, the water war rationale expects conflict to occur over water, and appears to suggest that violence is a viable means of securing national water supplies, an argument which is highly contestable.

The debates over the likely impacts of climate change have again popularised the idea of water wars. The argument runs that climate change will precipitate worsening ecological conditions contributing to resource scarcities, social breakdown, institutional failure, mass migrations and in turn cause greater political instability and conflict ([Brauch, 2002] and [Pervis and Busby, 2004]). In a report for the US Department of Defense, Schwartz and Randall (2003) speculate about the consequences of a worst-case climate change scenario arguing that water shortages will lead to aggressive wars (Schwartz and Randall, 2003, p. 15). Despite growing concern that climate change will lead to instability and violent conflict, **the evidence base to substantiate the connections is thin** ([Barnett and Adger, 2007] and [Kevane and Gray, 2008]).

#### Prefer our authors’ studies---theirs aren’t peer reviewed which means they lick the dong on the reg

Wendy Barnaby 9 is editor of People & Science, the magazine published by the British Science Association "Do nations go to war over water?" Nature 458, 282-283 (19 March 2009) www.nature.com.turing.library.northwestern.edu/nature/journal/v458/n7236/full/458282a.html

Yet the myth of water wars persists. Climate change, we are told, will cause water shortages. The Intergovernmental Panel on Climate Change estimates that up to 2 billion people may be at risk from increasing water stress by the 2050s, and that this number could rise to 3.2 billion by the 2080s7.

Water management will need to adapt. But the mechanisms of trade, international agreements and economic development that currently ease water shortages will persist. Researchers, such as Aaron Wolf at Oregon State University, Corvallis, and Nils Petter Gleditsch at the International Peace Research Institute in Oslo, point out that predictions of armed conflict come from the media and from popular, non-peer-reviewed work.

#### cooperation in the interim solves any risk of conflict

Thomas Bernauer and Tobias Siegfried 12, professor of political science at ETH Zurich, his research group is based at the Center for Comparative and International Studies AND adjunct assistant professor at the School of International and Public Affairs at Columbia University and a fellow at the Earth Institute, "Climate change and international water conflict in Central Asia," January, Journal of Peace Research Vol. 49, Issue 1, Sage Journals

Conclusions¶ In this article we have engaged in a critical assessment of the neo-malthusian claim that climatic changes can be an important source of international tensions, in the extreme even militarized interstate disputes. The most likely scenarios are international disputes over transboundary waters. Existing event datasets on international river basin conflict and cooperation indicate that international disputes over water issues are quite common. But none of these disputes has thus far escalated into a militarized interstate dispute in a form that would, according to common definitions, qualify as a war. Nonetheless, many observers expect that the outbreak of future militarized interstate disputes remains a strong possibility.¶ The strongest ‘candidates’ in this respect are international catchments shared by poorer, less democratic, and politically less stable countries, governed by weak international water management institutions and exposed to severe climatic changes. Since the Syr Darya corresponds quite well to these characteristics, it is a critical test case. If the neo-malthusian specter of militarized interstate disputes over water is empirically relevant, we should see signs of it in the Syr Darya. Hence we have studied, ex post, international water allocation problems and institutions in the Syr Darya and, ex ante, whether climatic changes are likely to make existing international tensions worse in future.¶ Based on hydrological data and other information, we have found that the currently existing international water management institution in the Syr Darya has failed. Using a coupled climate, land-ice, and rainfall-runoff model for the Syr Darya, we have then examined whether, in the absence of an effective water allocation mechanism in this international catchment, climate change is likely to make existing international tensions worse. The biggest concern in this respect is Kyrgyz– Uzbek relations, which could deteriorate further because the Uzbek population and agriculture in the Syr Darya catchment are particularly vulnerable to climate change-induced shifts in runoff. We conclude, however, that such shifts are likely to occur only in the medium to long term. This leaves some time for the riparian countries to set up an effective international framework for water allocation and prevention of climate changeinduced geohazards. By implication, our findings suggest that a climate change-induced **militarized interstate dispute over water resources in Central Asia is unlikely**.

#### Indus Waters Treaty solves

Jaroslav Tir and Douglas M. Stinnett 12, Associate Professor in the Department of International Affairs at the University of Georgia AND assistant professor of international affairs in UGA's School of Public &. International Affairs, "Weathering climate change: Can institutions mitigate international water conflict?" January, Vol. 49, Issue 1, Sage Journals

Conflict management¶ To cope with disagreements among signatories, some river treaties specify a variety of formal procedures for dispute management. The Permanent Indus Commission, for example, is responsible for resolving disputes between India and Pakistan over the implementation of the Indus Waters Treaty. Disputes are managed primarily through regular meetings of the officials that make up the two national sections of the Commission (Zawahri, 2009b). At the opposite end of the spectrum lie mandates for binding arbitration or adjudication by an existing international institution. For example, Hungary and Slovakia have resorted to the ICJ to resolve a dispute involving a 1977 treaty governing water infrastructure projects on the Danube (McCaffrey, 2003).¶ Dispute resolution provisions can address different sources of noncompliance, including those related to anticipated consequences of climate change. A formal process of resolving disputes can address overt cheating by raising the visibility of noncompliance (Abbott & Snidal, 2000). By increasing the costs of violations – some of which may appear particularly tempting due to the effects of climate change (e.g. unilaterally increase withdrawal rates to compensate for lack of water due to a number of dry years) – dispute settlement mechanisms can improve compliance.¶ Conflict management institutions can also address disputes over an agreement’s exact obligations. If climate change causes changes to a river system that were not envisioned at the time of the treaty signing, such as lower flow or greater seasonal variation, then these conditions will make the treaty less effective and increase the risk of conflict. In these circumstances, provisions in a treaty for dealing with unforeseen conditions will become important for preventing conflict. The rulings of a third-party arbitration panel, court, or even informal mediation through a secretariat or intergovernmental body can clarify the terms of a treaty (Chayes & Chayes, 1995). This enhances compliance by limiting the occurrence of unintended violations that result from treaty ambiguities or changed circumstances.

#### No Middle East water wars

Urdan 11—writer for Inside Government (Matthew, Wars or Water Peace? Part I, 28 Feb 11, http://www.insidegov.org/?p=534)

Perhaps the “Goldilocks Zone of Cooperation” in terms of water scarcity represents a unique period in human history and global civilization evolution when practical considerations, that may be representative of constructivist thought, will allow the transformation of society into a truly global civilization capable of finding solutions to the most pressing of global issues before it is too late and a perpetual Hobbesian state of war ensues. The water situations and interdependencies on the Tigris and Euphrates Rivers in Turkey, Syria, and Iraq (Dinar, 2009); along with the enduring Indus Water Treaty (IWT) between India and Pakistan that persists despite serious disputes over territory in Kashmir strongly illustrate this idea. (Sahni, 2006).

“The Indus Waters Treaty set a precedent of cooperation between India and Pakistan that has survived three wars and other hostilities between the two nations…. As Stephen P. Cohen has observed, ‘The Indus Waters Treaty is a model for future regional cooperation, especially on energy, environmental concerns, and even the management of the region’s impressive water resources.’” (Sahni, 2006, p. 154).

That India and Pakistan continue to honor and abide by the IWT is impressive, but perhaps it pales in comparison to water cooperation in the Middle East. Contrary to realist theory that would predict water wars, water cooperation in the Middle East is the norm. Allan explains that the

“Middle East is the most water-challenged region in the world, with little freshwater and negligible soil water. Water is therefore a key strategic natural resource, and realist theory, as well as popular intuition, has it that the scarcity of water in the region will lead to water wars. Despite growing water demand, the Middle East has shown no signs of a water war since some minor military events in the northern Jordan Valley in the early 1960s. On the contrary, there is much evidence of cooperation over scarce water resources in the region, especially in the Jordan River Basin, where freshwater is scarcest.” (Allan, 2002, pp. 255-256).

# Prolif Advantage

## 1NC

#### The status quo solves prolif, but pushing a single reactor design causes backlash that jacks U.S. cred

Nader Elhefnawy 8, Professor of English at the University of Miami, writer on IR published in journals including International Security, Astropolitics, and Survival, Autumn 2008, “The Next Wave of Nuclear Proliferation,” Parameters: The US Army War College Quarterly

It would be a mistake to focus excessively on any one track for ameliorating the risk of proliferation. When all is said and done, the current monitoring mechanisms will remain, and so will the maintenance of a stable security environment. Individual cases will require tailored solutions. Nonetheless, the spread of nuclear energy production means a significantly enlarged number of countries will have access to the full nuclear fuel cycle. There are then two primary ways to ameliorate the associated threats. One is to seek methods of nuclear energy production that are inherently proliferation-proof, as may be the case with “Generation IV” nuclear reactors. The other is to reduce the need for nuclear energy production, by making overall energy consumption more efficient, and by increasing production from alternative, nonfossil fuel sources.

New Reactor Designs

Some experts argue that the next-generation (Generation IV) reactor designs will reduce the proliferation risks associated with nuclear energy production. Advocates of next-generation fast-neutron reactors argue that they could provide more efficient energy production. This would enable them to recover up to 99 percent of the energy from their fuel, allowing them to use smaller quantities and a greater variety of fuel types, including natural uranium and possibly even depleted uranium. 31 They would also generate less waste (perhaps only one percent), containing only trace amounts of the transuranics needed for weapons manufacture, than other reactors of similar capacity. 32 This would permit “pyroprocessing,” a different, possibly cheaper, approach to reprocessing fuel that is less suitable for weapons manufacture. 33 Finally, these different procedures will permit onsite fuel fabrication, fuel recycling, and waste processing, something current reactor fuel cycles do not allow, reducing the transportation and security problems.

While appearing to be a panacea for many of nuclear power’s problems, these designs will not be commercially viable until at least 2030. Additionally, despite their obvious advantages, pressuring states to adopt reactors of any given type raises many of the same political issues as the schemes associated with restricting a potential proliferator’s access to nuclear fuel— especially given the fact that established nuclear powers, based on their intention of retaining their current nuclear arsenals, are almost certain to continue operating their existing reactors.

#### Large-scale SMR deployment causes extinction

Gar Smith 11, Editor Emeritus of the Earth Island Journal, Summer 2011, “Don’t Mini-mize the Dangers of Nuclear Power,” Earth Island Journal, http://www.earthisland.org/journal/index.php/eij/article/dont\_mini-mize\_the\_dangers\_of\_nuclear\_power/

The radiation from Japan’s crippled Fukushima Daiichi reactors poisoned farmlands, contaminated the sea, and sent invisible mists of radiation wafting around the world. The latest – and it’s just the latest – atomic accident has raised new concerns about the risks of nuclear energy. But still the question remains: Are we wise enough to finally understand that nuclear reactors are a fool’s technology?

Earth Island Institute founder David Brower initially believed that “atomic energy could be a safe alternative to damming all our rivers for power.” But Dave soon realized – earlier than most – that “the risk presented by these lethal wastes is like no other risk, and we should not be expected to accept it.” Despite the industry’s glib assurances, nuclear power has never been a safe or foolproof technology. For evidence of that fact, let’s review a few of the major nuclear accidents of the Atomic Age.

United Kingdom (1957): Windscale reactor fire contaminates 35 workers. Radioactive cloud covers Northern Europe and causes at least 200 cases of cancer.

Soviet Union (1957): Radioactive explosion at Mayak reprocessing site forces evacuation of 10,000 people. Radiation contributes to deaths of 200.

USA (1975): Alabama’s Browns Ferry plant catches fire and burns for seven hours with two reactors running. Meltdown feared as fire destroys controls.

USA (1979): Partial core meltdown at Three Mile Island. Radiation released. Thousands evacuated.

USA (1981): California’s San Onofre plant closed for 14 months to repair 6,000 leaking steam tubes. During restart, plant catches fire, knocking out one of two back-up generators.

United Kingdom (1983): Beaches near Sellafield (formerly Windscale) nuclear processing plant closed due to radiation contamination.

Soviet Union (1986): Chernobyl explosion. World’s worst nuclear accident – so far. Estimates of associated deaths run from 9,000 to nearly one million people.

Japan (1997): Chain reaction at Tokaimura reprocessing plant exposes 37 workers and surrounding neighborhoods to radiation.

Japan (1999): Two workers killed at Tokaimura during unplanned chain reaction.

Japan (2004): Steam explosion kills four at Mihama reactor.

Sweden (2006): Short circuit disables emergency power at Forsmark reactor. Catastrophic core meltdown barely averted.

France (2008): Tricastin nuclear facility accidentally releases 18,000 liters of irradiated water.

And that’s just a partial list. The problem with nuclear power is simple: It’s too complex. When things go wrong – as they inevitably do, because humans are fallible – the consequences can be deadly.

The Fukushima disaster has severely hobbled the atomic industry’s hopes for a big-ticket nuclear renaissance. So the American Nuclear Society has proposed a mini-renaissance based on “Small Modular Reactors,” or SMRs. Cheaper, quicker to build, and small enough to fit in a garage, SMRs could power homes, factories, and military bases. South Carolina’s Savannah River National Laboratory hopes to start building SMRs at a New Mexico plant and is taking a lead role in a GE-Hitachi demonstration project.

Even as Japanese engineers were working to contain the radiation risks at Fukushima, an international SMR conference in South Carolina in April attracted representatives from Westinghouse, AREVA, GE, the International Atomic Energy Agency, China National Nuclear Corp., Iraq Energy Institute, the US Army, and many US utilities.

But SMRs still depend on designs that generate intense heat, employ dangerous materials (highly reactive sodium coolant), and generate nuclear waste. SMRs also retain all the risks associated with supplying, maintaining, safeguarding, and dismantling large nuclear reactors – only now those risks would be multiplied and decentralized.

The planet can’t afford nuclear energy – be it mega or mini. As Dave Brower observed 30 years ago: “Is the minor convenience of allowing the present generation the luxury of doubling its energy consumption every 10 years worth the major hazard of exposing the next 20,000 generations to this lethal waste?

“We are at the edge of an abyss and we’re close to being irrevocably lost,” Dave warned. “As the Welshman Allen Reese puts it: ‘At the edge of the abyss, the only progressive move you can make is to step back.’”

#### Global expansion of enrichment capability is the only way nuclear power can solve climate change---the plan reverses that

Sharon Squassoni 9, Director and Senior Fellow of the Proliferation Prevention Program at CSIS, 3/25/9, “Nuclear Power: How Much More?,” http://www.npolicy.org/article.php?aid=176&rid=2

The amount of nuclear capacity required to make a signification contribution to global climate change mitigation is so large that it would inevitably be widely distributed across the globe. Such a distribution would have particular implications for nuclear proliferation. However, projected distributions of nuclear energy out to 2050 are extremely speculative. The industry itself does not engage in such projections, and countries that set nuclear energy production goals have a history of widely missing long-range targets, such as China and India. The discussion below considers a hypothetical distribution of nuclear energy for 2050, based on the 2003 MIT Study. [12]

Scenario III, shown in Figure 7, uses the “High 2050” scenario in Appendix 2 (“Global Electricity Demand and the Nuclear Power Growth Scenario”) of the 2003 MIT study, The Future of Nuclear Power. Although this is not a distribution designed to achieve optimal CO2 reductions, it is expansion at a level significant enough (1500 GWe) to have an effect on CO2 emissions. This would mean a fourfold increase from current reactor capacity.

The MIT study used an underlying assumption that the developed countries would continue with a modest annual increase in per capita electricity use and the developing countries would move to the 4000 kWh per person per year benchmark if at all feasible (the 4000 kWh benchmark being the dividing line between developed and advanced countries). Electricity demand was then pegged to estimated population growth. Finally, it was assumed that nuclear energy would retain or increase its current share of electricity generation. The least-off developing countries were assumed in the MIT study not to have the wherewithal for nuclear energy. It should be noted that MIT’s 2050 projection was “an attempt to understand what the distribution of nuclear power deployment would be if robust growth were realized, perhaps driven by a broad commitment to reducing greenhouse gas emissions and a concurrent resolution of the various challenges confronting nuclear power’s acceptance in various countries.” A few countries that the MIT High 2050 case included but are not included here are countries that currently have laws restricting nuclear energy, such as Austria.

Implications for Uranium Enrichment

A fourfold expansion of nuclear energy would entail significant new production requirements for uranium enrichment as shown in Figure 8 and possibly, reprocessing. The MIT study anticipated that 54 states would have reactor capacities that could possibly justify indigenous uranium enrichment. If a capability of 10 GWe is considered the threshold at which indigenous enrichment becomes cost-effective, more than 15 additional states could find it advantageous to engage in uranium enrichment.

Figure 9 depicts what the geographic distribution of enrichment capacity might look like, based on the development of 10 GWe or more of reactor capacity. Of course, some states – such as Australia or Kazakhstan – might opt to enrich uranium regardless of domestic nuclear energy capacity, choosing to add value to their own uranium exports. In addition, states may choose to take the path of the UAE, which has formally renounced domestic enrichment and reprocessing in its domestic law, despite aspiring to reach 10 GWe of capacity. Ultimately, these decisions lie very much in the political realm, and can be reversed.

#### Extinction

Flournoy 12 – Citing Feng Hsu, PhdD NASA Scientist @ the Goddard Space Flight Center, Don FLournoy, PhD and MA from UT, former Dean of the University College @ Ohio University, former Associate Dean at SUNY and Case Institute of Technology, Former Manager for Unviersity/Industry Experiments for the NASA ACTS Satellite, currently Professor of Telecommunications @ Scripps College of Communications, Ohio University, “Solar Power Satellites,” January 2012, Springer Briefs in Space Development, p. 10-11

In the Online Journal of Space Communication , Dr. Feng Hsu, a  NASA scientist at Goddard Space Flight Center, a research center in the forefront of science of space and Earth, writes, “The evidence of global warming is alarming,” noting the potential for a catastrophic planetary climate change is real and troubling (Hsu 2010 ) . Hsu and his NASA colleagues were engaged in monitoring and analyzing climate changes on a global scale, through which they received first-hand scientific information and data relating to global warming issues, including the dynamics of polar ice cap melting. After discussing this research with colleagues who were world experts on the subject, he wrote: I now have no doubt global temperatures are rising, and that global warming is a serious problem confronting all of humanity. No matter whether these trends are due to human interference or to the cosmic cycling of our solar system, there are two basic facts that are crystal clear: (a) there is overwhelming scientific evidence showing positive correlations between the level of CO2 concentrations in Earth’s atmosphere with respect to the historical fluctuations of global temperature changes; and (b) the overwhelming majority of the world’s scientific community is in agreement about the risks of a potential catastrophic global climate change. That is, if we humans continue to ignore this problem and do nothing, if we continue dumping huge quantities of greenhouse gases into Earth’s biosphere, humanity will be at dire risk (Hsu 2010 ) . As a technology risk assessment expert, Hsu says he can show with some confidence that the planet will face more risk doing nothing to curb its fossil-based energy addictions than it will in making a fundamental shift in its energy supply. “This,” he writes, “is because the risks of a catastrophic anthropogenic climate change can be potentially the extinction of human species, a risk that is simply too high for us to take any chances” (Hsu 2010 )

#### Plan causes massive IAEA overstretch---only SMRs link---turns prolif

Dr. Edwin Lyman 11, Senior Scientist, Global Security Program, Union of Concerned Scientists, July 14, 2011, Testimony Before the Energy and Water Development Subcommittee, Committee on Appropriations, U.S. Senate, “An Examination of the Safety and Economics of Light Water Small Modular Reactors,” http://www.ucsusa.org/assets/documents/nuclear\_power/lyman-appropriations-subcom-7-14-11.pdf

 The distributed deployment of small reactors would also put great strains on existing licensing and inspection resources. Nuclear reactors are qualitatively different from other types of generating facilities, not least because they require a much more extensive safety and security inspection regime. Similarly, deployment of individual small reactors at widely distributed and remote sites around the world would strain the resources of the International Atomic Energy Agency (IAEA) and its ability to adequately safeguard reactors to guard against proliferation, since IAEA inspectors would need to visit many more locations per installed megawatt around the world. Maintaining robust oversight over vast networks of SMRs around the world would be difficult, if feasible at all.

#### Lack of effective inspections turns the whole case---makes SMRs worse for prolif, safety and security than large reactors

Dr. Edwin Lyman 11, Senior Scientist, Global Security Program, Union of Concerned Scientists, July 14, 2011, Testimony Before the Energy and Water Development Subcommittee, Committee on Appropriations, U.S. Senate, “An Examination of the Safety and Economics of Light Water Small Modular Reactors,” http://www.ucsusa.org/assets/documents/nuclear\_power/lyman-appropriations-subcom-7-14-11.pdf

Proponents of small modular reactors (SMRs) claim that their designs have inherent safety features compared to large reactors, and some even argue that their reactors would have been able to withstand an event as severe as Fukushima. We find these claims to be unpersuasive. For any plant, large or small, the key factor is the most severe event that the plant is designed to withstand—the so-called maximum “design-basis” event. Unless nuclear safety requirements for new reactors are significantly strengthened, one cannot expect that either small or large reactors will be able to survive a beyond-design-basis event like Fukushima. Although some light-water SMR concepts may have desirable safety characteristics, unless they are carefully designed, licensed, deployed and inspected, SMRs could pose comparable or even greater safety, security and proliferation risks than large reactors.

#### SMRs aren’t prolif resistant and slow deployment

ITA 11 – International Trade Administration, U.S. Department of Commerce, February 2011, “The Commercial Outlook for U.S. Small Modular Nuclear Reactors,” http://trade.gov/mas/ian/build/groups/public/@tg\_ian/@nuclear/documents/webcontent/tg\_ian\_003185.pdf

Some U.S. SMR vendors claim that their designs could be “black boxed” (that is, they could be deployed already fueled), and once the fuel is spent, the entire unit could be shipped back to the factory for waste handling and reprocessing. If the responsibility for the fuel cycle is taken out of the hands of the reactor operator, then risks of proliferation could potentially be reduced. Significant technical issues, however, remain unsolved for this concept, and there are serious outstanding questions involving transportation, waste handling, safety, and security. Although an attractive idea, such designs are unlikely to be deployed in the near or mid term.

#### Solvency takes decades---SMRs require re-orienting the entire manufacturing industry

Dylan Ryan 11, Masters in Mechanical Engineering, expertise in energy, sustainability, Computer Aided Engineering, renewables technology; Ph.D. in solar energy systems, 2011, “Part 10 – Small modular reactors and mass production options,” <http://daryanenergyblog.wordpress.com/ca/part-10-smallreactors-mass-prod/>

So there are a host of practical factors in favour smaller reactors. But what’s the down side? Firstly, economies of scale. With a small reactor, we have all the excess baggage that comes with each power station, all the fixed costs and a much smaller pay-off. As I noted earlier, even thought many smaller reactors are a lot safer than large LWR’s (even a small LWR is somewhat safer!) you would still need to put them under a containment dome. It’s this process of concrete pouring that is often a bottle neck in nuclear reactor construction. We could get around the problem by clustering reactors together, i.e putting 2 or 4 reactors not only on the same site but under the same containment dome. The one downside here is that if one reactor has a problem, it will likely spread to its neighbours. How much of a showstopper this fact is depends on which type of reactors we are discussing.

Also, in the shorter term small reactors would be slower to build, especially many of those we’ve been discussing, given that they are often made out of non-standard materials. Only a few facilities in the world could build them as the entire nuclear manufacturing industry is currently geared towards large LWR’s. Turning that juggernaut around would take decades. So by opting for small reactors while we’d get safer more flexible reactors, we be paying for it, as these reactors would be slower to build (initially anyway) and probably more expensive too.

#### No impact to prolif---every actor has an incentive to overstate the impact

Robert Farley 11, assistant professor at the Patterson School of Diplomacy and International Commerce at the University of Kentucky, 11/16/11, “Over the Horizon: Iran and the Nuclear Paradox,” http://www.worldpoliticsreview.com/articles/10679/over-the-horizon-iran-and-the-nuclear-paradox

But states and policymakers habitually overestimate the impact of nuclear weapons. This happens among both proliferators and anti-proliferators. Would-be proliferators seem to expect that possessing a nuclear weapon will confer “a seat at the table” as well as solve a host of minor and major foreign policy problems. Existing nuclear powers fear that new entrants will act unpredictably, destabilize regions and throw existing diplomatic arrangements into flux. These predictions almost invariably turn out wrong; nuclear weapons consistently fail to undo the existing power relationships of the international system. ¶ The North Korean example is instructive. In spite of the dire warnings about the dangers of a North Korean nuclear weapon, the region has weathered Pyongyang’s nuclear proliferation in altogether sound fashion. Though some might argue that nukes have “enabled” North Korea to engage in a variety of bad behaviors, that was already the case prior to its nuclear test. The crucial deterrent to U.S. or South Korean action continues to be North Korea’s conventional capabilities, as well as the incalculable costs of governing North Korea after a war. Moreover, despite the usual dire predictions of nonproliferation professionals, the North Korean nuclear program has yet to inspire Tokyo or Seoul to follow suit. The DPRK’s program represents a tremendous waste of resources and human capital for a poor state, and it may prove a problem if North Korea endures a messy collapse. Thus far, however, the effects of the arsenal have been minimal. ¶ Israel represents another case in which the benefits of nuclear weapons remain unclear. Although Israel adopted a policy of ambiguity about its nuclear program, most in the region understood that Israel possessed nuclear weapons by the late-1960s. These weapons did not deter Syria or Egypt from launching a large-scale conventional assault in 1973, however. Nor did they help the Israeli Defense Force compel acquiescence in Lebanon in 1982 or 2006. Nuclear weapons have not resolved the Palestinian question, and when it came to removing the Saddam Hussein regime in Iraq, Israel relied not on its nuclear arsenal but on the United States to do so -- through conventional means -- in 2003. Israeli nukes have thus far failed to intimidate the Iranians into freezing their nuclear program. Moreover, Israel has pursued a defense policy designed around the goal of maintaining superiority at every level of military escalation, from asymmetrical anti-terror efforts to high-intensity conventional combat. Thus, it is unclear whether the nuclear program has even saved Israel any money. ¶ The problem with nukes is that there are strong material and normative pressures against their use, not least because states that use nukes risk incurring nuclear retaliation. Part of the appeal of nuclear weapons is their bluntness, but for foreign policy objectives requiring a scalpel rather than a sledgehammer, they are useless. As a result, states with nuclear neighbors quickly find that they can engage in all manner of harassment and escalation without risking nuclear retaliation. The weapons themselves are often more expensive than the foreign policy objectives that they would be used to attain. Moreover, normative pressures do matter. Even “outlaw” nations recognize that the world views the use of nuclear -- not to mention chemical or biological -- weapons differently than other expressions of force. And almost without exception, even outlaw nations require the goodwill of at least some segments of the international community. ¶ Given all this, it is not at all surprising that many countries eschew nuclear programs, even when they could easily attain nuclear status. Setting aside the legal problems, nuclear programs tend to be expensive, and they provide relatively little in terms of foreign policy return on investment. Brazil, for example, does not need nuclear weapons to exercise influence in Latin America or deter its rivals. Turkey, like Germany, Japan and South Korea, decided a long time ago that the nuclear “problem” could be solved most efficiently through alignment with an existing nuclear power. ¶ Why do policymakers, analysts and journalists so consistently overrate the importance of nuclear weapons? The answer is that everyone has a strong incentive to lie about their importance. The Iranians will lie to the world about the extent of their program and to their people about the fruits of going nuclear. The various U.S. client states in the region will lie to Washington about how terrified they are of a nuclear Iran, warning of the need for “strategic re-evaluation,” while also using the Iranian menace as an excuse for brutality against their own populations. Nonproliferation advocates will lie about the terrors of unrestrained proliferation because they do not want anyone to shift focus to the manageability of a post-nuclear Iran. The United States will lie to everyone in order to reassure its clients and maintain the cohesion of the anti-Iran block. ¶ None of these lies are particularly dishonorable; they represent the normal course of diplomacy. But they are lies nevertheless, and serious analysts of foreign policy and international relations need to be wary of them. ¶ Nonproliferation is a good idea, if only because states should not waste tremendous resources on weapons of limited utility. Nuclear weapons also represent a genuine risk of accidents, especially for states that have not yet developed appropriately robust security precautions. Instability and collapse in nuclear states has been harrowing in the past and will undoubtedly be harrowing in the future. All of these threats should be taken seriously by policymakers. Unfortunately, as long as deception remains the rule in the practice of nuclear diplomacy, exaggerated alarmism will substitute for a realistic appraisal of the policy landscape.

#### Breakout timeframe is a decade at best

The Economist 12 – “The Dream that Failed,” 3-10-12, http://www.economist.com/node/21549098/print

Nuclear power is not going to disappear. Germany, which in 2011 produced 5% of the world's nuclear electricity, is abandoning it, as are some smaller countries. In Japan, and perhaps also in France, it looks likely to lose ground. But there will always be countries that find the technology attractive enough to make them willing to rearrange energy markets in its favour. If they have few indigenous energy resources, they may value, as Japan has done, the security offered by plants running on fuel that is cheap and easily stockpiled. Countries with existing nuclear capacity that do not share Germany's deep nuclear unease or its enthusiasm for renewables may choose to buy new reactors to replace old ones, as Britain is seeking to do, to help with carbon emissions. Countries committed to proliferation, or at least interested in keeping that option open, will invest in nuclear, as may countries that find themselves with cash to spare and a wish to join what still looks like a technological premier league.¶ Besides, nuclear plants are long-lived things. Today's reactors were mostly designed for a 40-year life, but many of them are being allowed to increase it to 60. New reactor designs aim for a span of 60 years that might be extended to 80. Given that it takes a decade or so to go from deciding to build a reactor to feeding the resulting electricity into a grid, reactors being planned now may still be working in the early 22nd century.

## 2NC

#### New proliferators will build small arsenals which are uniquely stable.

**Seng 98** (Jordan, PhD Candidate in Pol. Sci. – U. Chicago, Dissertation, “Strategy for Pandora's Children: Stable Nuclear Proliferation Among Minor States”, p. 203-206)

However, this "state of affairs" is not as dangerous as it might seem. The nuclear arsenals of limited nuclear proliferators will be small and, consequently, the command and control organizations that manage those arsenals will be small as well. The small arsenals of limited nuclear proliferators will mitigate against many of the dangers of the highly delegative, 'non-centralized' launch procedures Third World states are likely to use. This will happen in two main ways. First, only a small number of people need be involved in Third World command and control. The superpowers had tens of thousands of nuclear warheads and thousands of nuclear weapons personnel in a variety of deployments organized around numerous nuclear delivery platforms. A state that has, say, fifty nuclear weapons needs at most fifty launch operators and only a handful of group commanders. This has both quantitative and qualitative repercussions. Quantitatively, the very small number of people 'in the loop' **greatly diminishes the statistical probability** that accidents or human error will result in inappropriate nuclear launches. All else being equal, the chances of finding some guard asleep at some post increases with the number of guards and posts one has to cover. Qualitatively, small numbers makes it possible to centrally train operators, to screen and choose them with exceeding care, 7 and to keep each of them in direct contact with central authorities in times of crises. With very small control communities, there is no need for intermediary commanders. Important information and instructions can get out quickly and directly. Quality control of launch operators and operations is easier. In some part, at least, Third World states can compensate for their lack of sophisticated use-control technology with a more controlled selection of, and more extensive communication with, human operators. Secondly, and relatedly, Third World proliferators will not need to rely on cumbersome standard operating procedures to manage and launch their nuclear weapons. This is because the number of weapons will be so small, and also because the arsenals will be very simple in composition. Third World stares simply will not have that many weapons to keep track of. Third World states will not have the great variety of delivery platforms that the superpowers had (various ballistic missiles, cruise missiles, long range bombers, fighter bombers, missile submarines, nuclear armed ships, nuclear mortars, etc., etc.), or the great number and variety of basing options, and they will not employ the complicated strategies of international basing that the superpowers used. The small and simple arsenals of Third World proliferators will not require highly complex systems to coordinate nuclear activities. This creates two specific organizational advantages. One, small organizations, even if they do rely to some extent of standard operating procedures, can be flexible in times of crisis. As we have discussed, the essential problem of standard operating procedures in nuclear launch processes is that the full range if possible strategic developments cannot be predicted and specified before the fact, and thus responses to them cannot be standardized fully. An unexpected event can lead to 'mismatched' and inappropriate organizational reactions. In complex and extensive command and control organizations, standard operating procedures coordinate great numbers of people at numerous levels of command structure in a great multiplicity of places. If an unexpected event triggers operating procedures leading to what would be an inappropriate nuclear launch, it would be very difficult for central commanders to “get the word out' to everyone involved. The coordination needed to stop launch activity would be at least as complicated as the coordination needed to initiate it, and, depending on the speed of launch processes, there may be less time to accomplish it. However, the small numbers of people involved in nuclear launches and the simplicity of arsenals will make it far easier for Third World leaders to 'get the word out' and reverse launch procedures if necessary. Again, so few will be the numbers of weapons that all launch operators could be contacted directly by central leaders. The programmed triggers of standard operating procedures can be passed over in favor of unscripted, flexible responses based on a limited number of human-to-human communications and confirmations. Two, the smallness and simplicity of Third World command and control organizations will make it easier for leaders to keep track of everything that is going on at any given moment. One of the great dangers of complex organizational procedures is that once one organizational event is triggered—once an alarm is sounded and a programmed response is made—other branches of the organization are likely to be affected as well. This is what Charles Perrow refers to as interactive complexity, 8 and it has been a mainstay in organizational critiques of nuclear command and control s ystems.9 The more complex the organization is, the more likely these secondary effects are, and the less likely they are to be foreseen, noticed, and well-managed. So, for instance, an American commander that gives the order to scramble nuclear bombers over the U.S. as a defensive measure may find that he has unwittingly given the order to scramble bombers in Europe as well. A recall order to the American bombers may overlook the European theater, and nuclear misuse could result. However, when numbers of nuclear weapons can be measured in the dozens rather than the hundreds or thousands, and when deployment of those weapons does not involve multiple theaters and forward based delivery vehicles of numerous types, tight coupling is unlikely to cause unforeseen and unnoticeable organizational events. Other things being equal, it is just a lot easier to know all of what is going on. In short, while Third World states may not have the electronic use-control devices that help ensure that peripheral commanders do nor 'get out of control,' they have other advantages that make the challenge of centralized control easier than it was for the superpowers. The small numbers of personnel and organizational simplicity of launch bureaucracies means that even if a few more people have their fingers on the button than in the case of the superpowers, there will be less of a chance that weapons will be launched without a definite, informed and unambiguous decision to press that button.

**You overstate the risk and speed of Middle East prolif**

**Carpenter 7**—vice president for defense and foreign policy studies at the Cato Institute (Ted, 12/27, “Toward a Grand Bargain with Iran”, http://muse.jhu.edu/journals/mediterranean\_quarterly/v018/18.1carpenter.html, Aly M)

Whether additional proliferation would reach epidemic proportions and create the nightmare scenarios forecast by some analysts is uncertain. It is important to recall that pundits and even international relations experts have tended to overestimate both the probability and the extent of proliferation in the past. The conventional wisdom in the 1960s was that there would be as many as two dozen nuclear weapons powers within a generation.20 Similar predictions took place in the late 1970s and early 1980s.21 [End Page 22] Moreover, it is not an established fact that nuclear weapons in the hands of a larger number of nations would necessarily be a bad development. Indeed, some respected international relations scholars have argued that nuclear proliferation might be stabilizing rather than destabilizing.22 Given its volatile political makeup, though, the Middle East is probably not the best region to test that thesis.

#### The plan means nuclear energy for all but enrichment for very few---that makes solving warming impossible

Sharon **Squassoni**, senior associate in the Nonproliferation Program at the Carnegie Endowment, former director of Policy Coordination in the Nonproliferation Bureau of the State Department, **2009**, “Nuclear Energy: Rebirth or Resuscitation?,” online: http://www.carnegieendowment.org/files/nuclear\_energy\_rebirth\_resuscitation.pdf

The discussion since 2004 within the Nuclear Suppliers Group (NSG) about new criteria to restrict enrichment and reprocessing transfers illustrates the pitfalls of an approach that promotes nuclear energy for all but only limited nuclear fuel cycles for most. President Bush suggested in February 2004 in a speech at the National Defense University that nuclear suppliers prohibit the transfer of sensitive nuclear technology to states that did not already have those technologies. Since then, the NSG has discussed how to implement that prohibition. So far, several states have been unwilling to be relegated to the “havenot” category, including Canada, one of the largest suppliers of uranium ore. In fact, Canada may move quickly to establish an enrichment capability before the door closes. South Africa may resurrect the enrichment technique it developed for its weapons program or seek centrifuge enrichment technology. Ukraine sought cooperation with foreign partners “to obtain the full cycle of enrichment and production of nuclear fuel” to counter uncertain gas supplies from Russia, but Ukraine had agreed by the end of 2008 to join the Angarsk enrichment joint venture. Although NSG members already followed a policy of restraint on such transfers, the promise of major nuclear expansion appears to be eroding agreement in this area. Additional enrichment capacity in some of these states may not cause alarm, but if they are successful, it may become more difficult to justify why other states should not develop such capabilities.

In light of these difficulties, advanced states have been encouraging other states to voluntarily forswear enrichment and reprocessing as a confidence-building measure. In 2008, the United Arab Emirates released its Policy of the United Arab Emirates on the Evaluation and Potential Development of Peaceful Nuclear Energy. Not coincidentally, the Emirates’ foreign minister and U.S. secretary of state Condoleezza Rice signed a memorandum of understanding on peaceful nuclear cooperation the next day (followed by a cooperation agree ment several months later). The Emirates renounced any intention to develop a domestic enrichment and reprocessing capability and reportedly will pass legislation that would criminalize such activities within the country. The policy document cites economic infeasibility of such activities for a small nuclear fleet, international concerns about sensitive fuel cycle capabilities in developing countries, and the dual-use nature of components employed in fuel fabrication and processing. Instead, the Emirates will seek long-term arrangements with governments and contractors.

It is too soon to tell whether a significant number of states will follow in the United Arab Emirates’ footsteps. It is also unclear what consequences would ensue should the Emirates’ voluntary decisions be reversed. One suggestion by the State Department’s International Advisory Board was to reach agreement among suppliers that supply would be cut off if such voluntary decisions were reversed, and that consequences would be clearly spelled out in commercial contracts. This could be particularly difficult to implement. At the very least, such an approach depends on the success of extensive diplomatic negotiations.

Risks of Major Expansion

An expansion of nuclear power large enough to make a significant contribution to climate change mitigation—doubling, tripling, or quadrupling power reactor capacity—would present some of the risks described above, as well as new ones.

As long as light-water reactors remain the technology of choice, doubling or tripling the number of reactors will require more uranium enrichment plants. If all projected plans for power reactors by 2030 are realized, twice as much enriched uranium would need to be produced. Expansion according to climate change scenarios would require three to four times as much uranium enrichment capacity compared with today. If enrichment capabilities in the eleven countries that already enrich uranium were simply expanded, the risk of proliferation would not necessarily grow. But that is an unlikely scenario, given the lack of agreement among suppliers and recipients described above. Countries with significant uranium resources might choose to enrich for export (although the economics of this are not clear), and/or countries with more than ten reactors might find it economically feasible to enrich uranium for their own use. Under a 1,500-GWe capacity scenario, there could be fifteen additional countries that could have an economic justification for enriching their own uranium (with 10 GWe or more of nuclear capacity).

#### b) Solving warming requires quadrupling current reactor capacity---that’s Squassoni---that requires 4,000 reactors globally by mid-century

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For nuclear energy to simply keep its position in the world’s energy portfolio, production equivalent to 800 of today’s reactors would be needed. The very reason, however, for much of the interest in nuclear energy is concern about the scarcity of fossil fuels, particularly oil, so it can be expected that nuclear energy will be called on to play a greater role than it has to date—at the very least, generating a larger share of the electricity the world uses. France currently gets 77 percent of its electricity through this medium. Were the entire world to follow a similar path, it would mean more than a quadrupling of output, with more than 2,000 reactors required to meet current needs, and between 3,000 and 4,000 reactors plausibly online by 2050. Were nuclear energy to become more important in areas where it has previously been marginalized, such as transportation—for instance, by powering fleets of electric vehicles or large-scale hydrogen fuel production—then the demand could rise even beyond current expectations, with one observer estimating that simply to compensate for an absence in fossil fuel production (rather than absolute decreases), some 5,000 to 6,000 reactors would be required by mid-century.5