# K’s

## Security

### 1NC

#### Energy policy justified through security perpetuates inequalities, environmental degradation, and inhibits their long-term development – must be examined prior to their enactment

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The pursuit of energy security has been a dominant policy objective and political tool for governments of various hues throughout the world. While there is no doubt that individuals have certain minimum energy require ments, the rhetoric of energy security has often been used as an excuse for governing elites to pursue centralised industrialisation and grandiose energy projects at the expense of marginalised populations. Mega-dams, gas pipelines and similar projects undertaken in majority, or less affluent, countries in the name of energy security and development are rarely vetted through a process of environmental or social impact assessment.' On the rare occasions when this does occur, the process is often a rubber-stamping exercise with little input from local communities. The situation is exacerbated when the political regime promoting or administering the project is particularly repressive or authoritarian in nature, such as in Burma.2 It is usually the case that the communities surrounding these projects are indigenous, dispossessed or otherwise marginalised and have little chance of mitigating the adverse effects that flow from the development, while most of the benefits are reaped in elite circles of the urban centres, where the development decisions are usually made. The interests of these elites, despite populist overtures, are largely antagonistic to the general populations, and this is reflected in development decision-making processes. Attempts by governments and developers either to enrich themselves or, at best, provide electricity for the urban middle classes invariably result in local ethnic minorities or indigenous peoples bearing the brunt of the environmental and social costs associated with the projects while having little input into the development process itself. While the discourse of national energy security is employed by dominant interests, the environmental security of the local communities can be severely undermined by a project but is rarely considered. Environmental security can be defined quite narrowly or understood more broadly to include the energy security deficit felt by many communities in majority countries, who often see no relief from the deficit when an energy project is completed. While the discourse of energy security is used to justify the project, communities living in its vicinity may remain without electricity following its completion and have other elements of their security, such as food, water or livelihood, undermined.4 In this situation it becomes pertinent to ask whose security whether it be 'energy', 'environmental' or 'financial' is being addressed by the project. Unfortunately, it is often the financial security of governing and business elites that determines project decision making at the expense of the environmental security of local communities.5 The transnational projects to be discussed here include a gas pipeline and various mega-dam projects in Southeast Asia. These projects are at various stages of their development but all relate to the purported pursuit of energy security by the dominant classes in Thailand and the supply thereof by their colleagues in Burma (or Myanmar) and Laos. In Thailand, former prime minister Thaksin Shinawatra and his Thai Rak Thai party used the rhetoric of economic nationalism to obtain acquiescence to major projects but, in reality, Thaksin and other plutocratic government elements ran much of the economy for their own profit, privatising benefits but socialising costs and risks.6 In Burma the corrupt military regime of the State Peace and Development Council (SPDc) has ensured energy exporting projects bring little but suffering to local communities, with transnational corporations and successive Thai governments also being complicit.7 The SPDC and the military dominate Burma's economy, through both state and individual interests, and following dubious privatisations since 1988 the 'iron glove of the military envelops the invisible hand of the private sector'.8 In Laos corruption is also rampant and the economy is tightly controlled by the state. The state, in turn, is a tool of the sole legal political entity, the Lao People's Revolutionary Party, membership of which offers the best guarantee of wealth.9 In all three countries major political and economic interests are virtually indistinguish able, often co-operating with foreign transnational corporations and bodies such as the World Bank to promote large-scale energy projects. By the mid-1990s, however, the success of the environment and anti-dam movements in Thailand made it politically expedient for Thai businesses and governments-including the Electricity Generating Authority of Thailand (EGAT) to export the environmental and social problems associated with large dams and other energy pro ects to its more authoritarian neighbours while importing the electricity. 1 In Burma the completed Yadana gas pipeline to Thailand has resulted in significant human and environmental depredations against local ethnic minorities. The preparations being under taken for the Nam Theun 2 Dam in Laos and a series of dams on Burma's Salween River to export electricity to Thailand are already having similar impacts, for which recent studies of the Narmada Dams in India would provide a salutary lesson.11 These projects, at various stages of development, illustrate the vast chasm between the security interests of governing elites and those of the local indigenous or ethnic minority communities in these countries. These situations, juxtaposing energy projects with environmental destruc tion and human rights violations, have led to the new concept of 'earth rights', the nexus between human rights and environmental protection.12 Before examining these projects, a brief exposition on the nature of earth rights and environmental and energy security will assist in clarifying the location of this research within the field of critical security studies. The environment-energy security nexus Security is a contested concept, but the field of critical security studies has, since the late 1980s, challenged the state-centric focus of traditional cold war studies.13 Within this field environmental security has now been established as a significant area of interest.14 Barnett's definition of environmental insecurity considers the way in which 'environmental degradation threatens the security of people'.15 His added focus on the inequitable distribution of degradation resonates strongly with environmental justice theory. From this perspective, environmental security focuses more on human security than on threats to national security from environmental degradation or a securing 'of the environment itself.'6 Recent writings linking the concept of human security to that of environmental security have been concerned with 'social disruptions' as the principal source of insecurity.17 In this sense dislocation caused by major development projects such as dams may cause insecurity, but when this is linked to civil conflict the impacts are compounded. There is now a well established link between the exploitation of abundant resources and the propensity for civil strife, indicating that resource exploitation can be linked to both environmental degradation and human insecurity.'8 As my interest here relates to the majority world, one of the most useful concepts to emerge is that of 'earth rights'.' In addition to the benefit of its holistic inferences and simple terminology, most work on the concept is related to the majority world, where the interrelationships between environmental protection and human rights are most acute.20 Implicit in the notion of earth rights is that a degradation of environmental security reflects an erosion of human rights, and often vice versa. In their analysis of this concept Greer and Giannini have produced the most useful description thus far, arguing that: earth rights are those rights that demonstrate the connection between human well-being and a sound environment, and include the right to a healthy environment, the right to speak out and act topirotect the environment, and the right to participate in development decisions. In the projects that this paper investigates, it is these acknowledged rights to act in defence of the environment and the right to a healthy environment that are, for ethnic minority and indigenous communities living in the vicinity of the projects, most at risk. While a rights-based approach has been, to some extent, co-opted by institutions such as the World Bank, it can still provide a useful method of analysing development activities when employed from a critical perspective.22 In addition to theoretical developments in earth rights and environmental security, increased attention has also been given to energy security. It comes as no surprise, however, that discourses of energy security focus particularly on fossil fuels and large-scale electricity projects, given their centrality to military and industrial development. While this article examines this dominant energy discourse, it is only for the purposes of critical analysis. Although I examine cross-border energy projects in three countries, and therefore national issues do arise, it is the security impacts on local communities surrounding these projects that are of particular interest here. An important question to consider before discussing the impacts of these projects is, however, the reasons for the institutional and political momentum behind such large-scale undertakings in the first place. The industrial-scale development paradigm There are numerous reasons for the fixation, both academic and develop mental, on large-scale energy projects. Some relate to academic or government research funding opportunities, but this approach also fits neatly within the predominant large-scale and hierarchical, top-down development paradigm prescribed by financial institutions such as the IMF and World Bank. Much of the national development programmes throughout the 1980s and well into the 1 990s were undertaken within the 'Washington Consensus' model of neoliberal reform and structural adjustments. These policies exacerbated existing exploitative relationships between the North and South, with economic growth considered by these Bretton Woods institutions to be the only possible 'sustainable development', an approach considered to be 'Northern imperial ism, using the language of ecology'.24 The 'Post-Washington Consensus', which emerged within the World Bank and the IMF in response to an avalanche of criticism, revised the emphasis on pure neoliberalism, admitting a limited role for the state in development processes. Poverty and governance became key issues, but this approach continues to show an 'inability or unwillingness to address major issues pertaining to [political] power and its distribution both at the domestic and international levels'.25 In addition, the development modus operandi of the Bretton Woods institutions that produced poverty and inequality in the past is very much a part of the present.26 The World Bank has adopted a rights-based approach, but its interpretation of rights relates more to the rights of private enterprise than to those enshrined in the Universal Declaration of Human Rights.27 Undoubtedly rhetoric at organisations such as the World Bank has changed; in terms of energy security there is now a focus on poverty reduction to be achieved through access to 'clean energy' sources. There is, however, a disconnect between World Bank rhetoric and its funding of major projects such as mega-dams that have proven to be environmentally and culturally destructive, while providing little in terms of energy security for local people. Despite some rhetorical revisionism, the discourse of energy security is still employed by government and business elites to justify top-down investments in large-scale energy projects, which require significant initial capital injections and subsequent industrial-scale capital returns. According to the United Nations Department of Economic and Social Affairs, this top-down approach to development has caused ecological destruction on a vast scale and tends to perpetuate, rather than ameliorate, inequalities.29 After decades of promoting capitalist industrialisation in the majority world, even the World Bank now recognises that inequality both within and between is increasing and can inhibit development. Nonetheless, the bank still cites 'ine uality of outcomes' as playing an important role in facilitating development.

#### Enframing of national security is a pre-requisite to macropolitical violence

Burke 7 (Anthony, Senior Lecturer in Politics and International Relations at UNSW, Sydney, “Ontologies of War: Violence, Existence and Reason”, Theory and Event, 10.2, Muse)

My argument here, whilst normatively sympathetic to Kant's moral demand for the eventual abolition of war, militates against excessive optimism.86 Even as I am arguing that war is not an enduring historical or anthropological feature, or a neutral and rational instrument of policy -- that it is rather the product of hegemonic forms of knowledge about political action and community -- my analysis does suggest some sobering conclusions about its power as an idea and formation. Neither the progressive flow of history nor the pacific tendencies of an international society of republican states will save us. The violent ontologies I have described here in fact dominate the conceptual and policy frameworks of modern republican states and have come, against everything Kant hoped for, to stand in for progress, modernity and reason. Indeed what Heidegger argues, I think with some credibility, is that the enframing world view has come to stand in for being itself. Enframing, argues Heidegger, 'does not simply endanger man in his relationship to himself and to everything that is...it drives out every other possibility of revealing...the rule of Enframing threatens man with the possibility that it could be denied to him to enter into a more original revealing and hence to experience the call of a more primal truth.'87 What I take from Heidegger's argument -- one that I have sought to extend by analysing the militaristic power of modern ontologies of political existence and security -- is a view that the challenge is posed not merely by a few varieties of weapon, government, technology or policy, but by an overarching system of thinking and understanding that lays claim to our entire space of truth and existence. Many of the most destructive features of contemporary modernity -- militarism, repression, coercive diplomacy, covert intervention, geopolitics, economic exploitation and ecological destruction -- derive not merely from particular choices by policymakers based on their particular interests, but from calculative, 'empirical' discourses of scientific and political truth rooted in powerful enlightenment images of being. Confined within such an epistemological and cultural universe, pol icymakers' choices become necessities, their actions become inevitabilities, and humans suffer and die. Viewed in this light, 'rationality' is the name we give the chain of reasoning which builds one structure of truth on another until a course of action, however violent or dangerous, becomes preordained through that reasoning's very operation and existence. It creates both discursive constraints -- available choices may simply not be seen as credible or legitimate -- and material constraints that derive from the mutually reinforcing cascade of discourses and events which then preordain militarism and violence as necessary policy responses, however ineffective, dysfunctional or chaotic. The force of my own and Heidegger's analysis does, admittedly, tend towards a deterministic fatalism. On my part this is quite deliberate; it is important to allow this possible conclusion to weigh on us. Large sections of modern societies -- especially parts of the media, political leaderships and national security institutions -- are utterly trapped within the Clausewitzian paradigm, within the instrumental utilitarianism of 'enframing' and the stark ontology of the friend and enemy. They are certainly tremendously aggressive and energetic in continually stating and reinstating its force. But is there a way out? Is there no possibility of agency and choice? Is this not the key normative problem I raised at the outset, of how the modern ontologies of war efface agency, causality and responsibility from decision making; the responsibility that comes with having choices and making decisions, with exercising power? (In this I am much closer to Connolly than Foucault, in Connolly's insistence that, even in the face of the anonymous power of discourse to produce and limit subjects, selves remain capable of agency and thus incur responsibilities.88) There seems no point in following Heidegger in seeking a more 'primal truth' of being -- that is to reinstate ontology and obscure its worldly manifestations and consequences from critique. However we can, while refusing Heidegger's unworldly89 nostalgia, appreciate that he was searching for a way out of the modern system of calculation; that he was searching for a 'questioning', 'free relationship' to technology that would not be immediately recaptured by the strategic, calculating vision of enframing. Yet his path out is somewhat chimerical -- his faith in 'art' and the older Greek attitudes of 'responsibility and indebtedness' offer us valuable clues to the kind of sensibility needed, but little more. When we consider the problem of policy, the force of this analysis suggests that choice and agency can be all too often limited; they can remain confined (sometimes quite wilfully) within the overarching strategic and security paradigms. Or, more hopefully, policy choices could aim to bring into being a more enduringly inclusive, cosmopolitan and peaceful logic of the political. But this cannot be done without seizing alternatives from outside the space of enframing and utilitarian strategic thought, by being aware of its presence and weight and activating a very different concept of existence, security and action.90 This would seem to hinge upon 'questioning' as such -- on the questions we put to the real and our efforts to create and act into it. Do security and strategic policies seek to exploit and direct humans as material, as energy, or do they seek to protect and enlarge human dignity and autonomy? Do they seek to impose by force an unjust status quo (as in Palestine), or to remove one injustice only to replace it with others (the U.S. in Iraq or Afghanistan), or do so at an unacceptable human, economic, and environmental price? Do we see our actions within an instrumental, amoral framework (of 'interests') and a linear chain of causes and effects (the idea of force), or do we see them as folding into a complex interplay of languages, norms, events and consequences which are less predictable and controllable?91 And most fundamentally: Are we seeking to coerce or persuade? Are less violent and more sustainable choices available? Will our actions perpetuate or help to end the global rule of insecurity and violence? Will our thought?

#### Altenative – reject the affirmative’s security discourse – only resistance can generate genuine political thought

Neoclous 8 – Mark Neocleous, Prof. of Government @ Brunel, 2008 [Critique of Security, 185-6]

The only way out of such a dilemma, to escape the fetish, is perhaps to eschew the logic of security altogether - to reject it as so ideologically loaded in favour of the state that any real political thought other than the authoritarian and reactionary should be pressed to give it up. That is clearly something that can not be achieved within the limits of bourgeois thought and thus could never even begin to be imagined by the security intellectual. It is also something that the constant iteration of the refrain 'this is an insecure world' and reiteration of one fear, anxiety and insecurity after another will also make it hard to do. But it is something that the critique of security suggests we may have to consider if we want a political way out of the impasse of security. This impasse exists because security has now become so all-encompassing that it marginalises all else, most notably the constructive conflicts, debatesand discussionsthat animate political life. The constant prioritising of a mythical security as a political end - as the political end constitutes a rejection of politics in any meaningful sense of the term. That is, as a mode of action in which differences can be articulated, in which the conflicts and struggles that arise from such differences can be fought for and negotiated, in which people might come to believe that another world is possible - that they might transform the world and in turn be transformed. Security politics simply removes this; worse, it remoeves it while purportedly addressing it. In so doing it suppresses all issues of power and turns political questions into debates about the most efficient way to achieve 'security', despite the fact that we are never quite told - never could be told - what might count as having achieved it. Security politics is, in this sense, an anti-politics,"' dominating political discourse in much the same manner as the security state tries to dominate human beings, reinforcing security fetishism and the monopolistic character of security on the political imagination. We therefore need to get beyond security politics, not add yet more 'sectors' to it in a way that simply expands the scope of the state and legitimises state intervention in yet more and more areas of our lives. Simon Dalby reports a personal communication with Michael Williams, co-editor of the important text Critical Security Studies, in which the latter asks: if you take away security, what do you put in the hole that's left behind? But I'm inclined to agree with Dalby: maybe there is no hole."' The mistake has been to think that there is a hole and that this hole needs to be filled with a new vision or revision of security in which it is re-mapped or civilised or gendered or humanised or expanded or whatever. All of these ultimately remain within the statist political imaginary, and consequently end up reaffirming the state as the terrain of modern politics, the grounds of security. The real task is not to fill the supposed hole with yet another vision of security, but to fight for an alternative political language which takes us beyond the narrow horizon of bourgeois security and which therefore does not constantly throw us into the arms of the state. That's the point of critical politics: to develop a new political language more adequate to the kind of society we want. Thus while much of what I have said here has been of a negative order, part of the tradition of critical theory is that the negative may be as significant as the positive in setting thought on new paths. For if security really is the supreme concept of bourgeois society and the fundamental thematic of liberalism, then to keep harping on about insecurity and to keep demanding 'more security' (while meekly hoping that this increased security doesn't damage our liberty) is to blind ourselves to the possibility of building real alternatives to the authoritarian tendencies in contemporary politics. To situate ourselves against security politics would allow us to circumvent the debilitating effect achieved through the constant securitising of social and political issues, debilitating in the sense that 'security' helps consolidate the power of the existing forms of social domination and justifies the short-circuiting of even the most democratic forms. It would also allow us to forge another kind of politics centred on a different conception of the good. We need a new way of thinking and talking about social being and politics that moves us beyond security. This would perhaps be emancipatory in the true sense of the word. What this might mean, precisely, must be open to debate. But it certainly requires recognising that security is an illusion that has forgotten it is an illusion; it requires recognising that security is not the same as solidarity; it requires accepting that insecurity is part of the human condition, and thus giving up the search for the certainty of security and instead learning to tolerate the uncertainties, ambiguities and 'insecurities' that come with being human; it requires accepting that 'securitizing' an issue does not mean dealing with it politically, but bracketing it out and handing it to the state; it requires us to be brave enough to return the gift."'

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## Tax Credits

### 1NC

#### Interpretation – “financial incentive” is a distinct category that requires a cash transfer – tax incentives are not included.

Christiansen & Böhmer 5 (Hans, Senior Economist in the OECD Directorate for Financial, Fiscal and Enterprise Affairs, & Alexander, co-ordinator of the MENA-OECD Investment Programme in the OECD’s Directorate for Financial and Enterprise Affairs, Investment Division, “Incentives and Free Zones In The MENA Region: A Preliminary Stocktaking,” MENA-OECD Investment Programme, OECD, Working Group 2, p. 4-5, www.oecd.org/dataoecd/56/22/36086747.pdf)

I. Toward a common definition of incentives and FEZs¶ a) Investment incentives¶ 3. There is a grey area between, on the one hand, investment promotion and facilitation, and investment incentives on the other. Investment promoters may make information about their host location, relevant laws and administrative procedures available as a public good, but as soon as they offer facilitation and matchmaking tailored to the needs of individual investors then they are effectively subsidising these investors. The monetary value to investors of such assistance may in some cases exceed the value of outright investment incentives. Conversely, actual investment incentives are normally considered as falling into three categories, namely “regulatory”, “fiscal” and “financial” incentives1:¶ • Regulatory incentives are policies of attracting investment projects by offering derogations from national or sub-national rules and regulation. Where such derogations are offered on an economy-wide basis they tend to focus on the environmental, social and labour-market related requirements placed on investors. In the context of FEZs, they often consist in the relaxation of direct investment regulations (e.g. nationality requirements; screening and authorisation procedures) in place elsewhere in the host economy.¶ • Fiscal incentives consist of an easing of the tax burden on the investing companies or their employees. Unlike many other incentives they are most commonly rules-based as changes in taxation in most cases require legislative action. General fiscal incentives normally take the form of reduced corporate tax rates or tax holidays; encouragement of capital formation (e.g. investment tax credits and accelerated depreciation allowances); and preferential treatment of foreign operators (e.g. lower tax on remittances; reduced personal income tax rates on expatriates). In FEZs fiscal incentives, virtually by definition, also include lower import and export taxes and tariffs.¶ • Financial incentives consist of out of hand public spending to attract companies or induce them to invest. They are often formally justified by a need to compensate investors for the perceived disadvantages of a particular location (“site equalisation outlays”), or may take the form of tailoring the infrastructure of a prospective location to the needs of investors. Other financial incentives include subsidising the actual costs of relocating corporate units (e.g. job training cost; expatriation support; and temporary wage subsidies).

#### Violation – that excludes tax credits

Chi and Hoffman 2k (Keon S., Senior Fellow – CSG, and Daniel J., Research Associate, “State Business Incentives: Trends and Options for the Future,” The Council of State Governments, http://www.csg.org/knowledgecenter/docs/Misc00BusinessIncentives.pdf)

In this report, the term “business incentives” is broadly defined as public subsidies, including, but not limited to, tax abatement and financial assistance programs, designed to create, retain or lure businesses for job creation. The term is used interchangeably as “industrial” or “development incentives.” The term “tax incentives” broadly refers to any credits or abatements of corporate income, personal income, sales-and-use, property or other taxes to create, retain or lure business. **The term “financial incentives” broadly refers to any type of direct loan, loan guarantee grant, infrastructure development, or job training assistance** offered to help create, retain or lure businesses.

### 2NC

#### Financial incentives are distinct from tax incentives.

Hubert & Pain 2 (Florence, Senior Research Officer at the National Institute of Economic and Social Research, Economist in Monetary Analysis at the Bank of England, & Nigel, Senior Research Fellow at the National Institute of Economic and Social Research, “Fiscal Incentives, European Integration and the Location of Foreign Direct Investment,” March, p. 5, http://www.niesr.ac.uk/pubs/dps/dp195.PDF)

There are three broad categories of investment incentives which can be distinguished - tax incentives, financial incentives and other non-financial measures. Examples of tax incentives include preferential tax rates, and capital allowances. Even if production costs are equalised across locations, international differences in corporate taxes may affect the location decision if they affect post-tax returns. Financial incentives cover factors such as government grants and subsidies, loan guarantees, preferential loans and government equity participation in high-risk investments. These measures are often discretionary, with the size of payment depending upon the scale of investment and the activities that the inward investor plans to undertake. The third category, other non-financial measures, includes the provision of subsidised infrastructure, such as prepared industrial sites, free-trade zones and the use of preferential government contracts.

## NRC Streamline

### 1NC

#### The plan doesn’t reduce – “reductions” must be in quantity, not quality

**GEP 99** (Georgia Environmental Protection , http://www.air.dnr.state.ga.us/bank/forms/faqsheet.pdf)

The reductions **must be "quantifiable;"** i.e., the amount, rate and characteristics of the reduction must be measured or calculated through a reliable method and approved by the Environmental Protection Division;

#### And – “Restriction” means “on the books” – the plan keeps current restriction on the books

OFR 66 (Office of Federal Register, “Code of Federal Regulations,” Title 32, p. Google Books)

(d) The term "Restriction" means the action by which the use, or appropriation **under existing** public land **laws**, including mineral leasing laws, are limited, restrained or excluded, to assure the integrity of Department of Defense military missions.

## Procurement

### **1NC**

#### **Interpretation –** “financial incentives” are funding for investors to develop a project – that excludes nonfinancial incentives like procurement

**Czinkota et al, 9 -** Associate Professor at the McDonough School of Business at Georgetown University (Michael, Fundamentals of International Business, p. 69 – google books)

Incentives offered by policymakers to facilitate foreign investments are mainly of three types: fiscal, financial, and nonfinancial. **Fiscal incentives** are specific tax measures designed to attract foreign investors. They typically consist of special depreciation allowances, tax credits or rebates, special deductions for capital expenditures, tax holidays, and the reduction of tax burdens. **Financial incentives** offer special funding for the investor by providing, for example, land or buildings, loans, and loan guarantees. **Nonfinancial incentives** include guaranteed government purchases; special protection from competition through tariffs, import quotas, and local content requirements, and investments in infrastructure facilities.

#### **Violation – procurements are purchases that don’t motivate action – they just buy a technology that already exists**

Nelson 93 (Edward W., Chairman – Payment Subcommittee in OPTN/UNOS Ethics Committee, “Financial Incentives for Organ Donation,” Organ Procurement and Transplantation Network, 6-30, http://optn.transplant.hrsa.gov/resources/bioethics.asp?index=4)

Definition of Financial Incentives A definition of terms is **necessary prior to a discussion of the concept of financial incentives** for organ donation. First, financial incentives, as discussed here, do not mean additional monies spent for public or professional education or recognition and counseling of organ donor families. Because the concept of financial incentives fundamentally changes the process of organ procurement, it has been argued that the term "donor" is no longer applicable and would need to be replaced by a term such as 'vendor." The term "rewarded gifting" has been suggested and has been justly criticized as an oxymoron by those opposed to financial incentives and a despicable euphemism by those who promote this concept. Of greatest practical significance is the distinction between "incentive" and "payment" since a system of financial incentives may indeed be a viable option if, as interpreted by law, "incentives" do not amount to "purchases" and "donors" are therefore not transformed into 'vendors."

#### Prefer our interpretation –

#### A. Limits – they allow any aff that makes some technology more economically viable. Procurement can be applied to every technology and every industry – that explodes neg burden.

#### B. Neg ground – procurement moves the debate away from “how to motivate action” to just “doing the action” – this guts negative arguments about solvency, DA links, and CP competition based off private sector inducement.

#### The procurement CP should be neg ground – the restrictions part of the topic is already huge, and advantages are diverse. Allowing procurement creates unpredictable advantages around military technology – limiting the mechanism is key to even the playing field.

### 2NC

#### Here’s evidence that there is a topical version of their plan – governmental definitions conclude you can use financial incentives to purchase new technology, but that is distinct from procurement.

DOE 7 (Department of Energy, “Regulatory Impact Analysis for Today's Energy Conservation Standards for Residential Furnaces and Boilers,” September, http://www1.eere.energy.gov/buildings/appliance\_standards/residential/pdfs/fb\_fr\_tsd/ria.pdf)

2.2 Non-Regulatory Policy Assumptions

2.2.1 No New Regulatory Action

The case in which no new regulatory action is taken with regard to residential furnace and boiler efficiency constitutes the base case scenario described in Chapter 10 of the Furnace and Boiler TSD. 1 This case defines the basis of comparison for all other scenarios. By definition, no new regulatory action yields zero energy savings and an NPV of zero dollars.

2.2.2 Financial Incentives Policies

DOE considered scenarios in which the Federal government would provide two types of financial incentives: **tax credits and rebates**. Tax credits could be granted to consumers who purchased target-level furnace and boiler equipment, or the government could issue tax credits to manufacturers to offset costs associated with producing such equipment. The government also could provide consumers with a cash rebate at the time of purchase. DOE’s evaluation of financial incentive policies used a comprehensive study of the potential for energy efficiency in California performed by Xenergy, Inc., which summarizes experience with various utility rebate programs. 2 Xenergy developed a re-parameterized, mixedsource information diffusion model to estimate market impacts induced by financial incentives for energy-efficient appliances. The basic premise of this mixed-source model is that information diffusion drives technology adoption. The model is formulated to characterize the influences of both internal and external sources of information on consumer behavior by superimposing two components in the equation, each capturing the effect of one of two different types of information source. The effects of these two types of information diffusion mechanisms are different. Internal sources of information influence consumers to purchase new products due mainly to word-of-mouth from early adopters, while external information sources influence consumers to change their adoption decisions as a result of marketing efforts and information coming from outside the consumer group. The mixed-source model describes a combined impact of the two information-source types, and specific parameterization determines consumer adoption behavior. (Appendix X of the TSD contains further details.) Xenergy’s model combined these two information diffusion mechanisms and generated a set of “implementation curves,” which Xenergy calibrated using evaluation data from utility rebate programs conducted in the1990s. Consumer response to rebate incentives appears to be a combination of the two information source types. The implementation curves illustrate the increased penetration of efficient equipment (i.e., increased market share) as a result of consumer response to benefit/cost (B/C) ratio changes induced by a specific rebate program. The implementation curves are used to depict various diffusion patterns based on perceived barriers to consumer purchase of high-efficiency equipment. There are implementation curves for varying levels of market barriers, from “no barriers” to “extremely high barriers.” These curves provide a means to study the impact of changing the B/C ratio, by reducing the initial equipment cost through financial incentives, on the consumer participation rate. To further understand the impacts of financial incentives policies, DOE used studies on forecasting the impact of consumer tax credits. 3, 4 This research differentiated the impact of tax credits into the “direct price effect,” which arises from the incremental equipment cost savings, and the “announcement effect,” which is independent of the rebate amount. The announcement effect derives from the credibility that a particular technology receives from its inclusion in an incentive program, as well as changes in product marketing strategy, and the resulting modifications in markups and pricing. DOE assumed that the direct price effect and the announcement effect would also apply to rebate programs, and that half of the increases in RIA-5 market penetration associated with rebates would be due to the direct price effect and half to the announcement effect. Consumer Rebates DOE modeled the impact of the consumer rebate policy by determining the increase in market penetration of target-level equipment relative to the base case. For non-weatherized gas furnaces, DOE estimated the impact of increasing the B/C ratio via a rebate that paid 26 percent of the incremental installed cost between a non-weatherized gas furnace meeting the base case efficiency level a and a unit meeting the target efficiency. DOE based the 26 percent rebate amount on rebate programs for condensing gas furnaces throughout the nation. 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 The average rebate in these programs amounted to about 26 percent of the incremental installed cost for condensing furnaces. For gas boilers, DOE assumed that the rebate would cover 60 percent of the incremental installed cost between a boiler meeting the base case efficiency level and a unit meeting the target efficiency. It based this amount on the average rebate level in programs for 85 percent AFUE gas boilers, b which amounted to about 60 percent of incremental installed cost. 5, 7, 8, 9, 10, 11, 15 DOE assumed the rebates would remain in effect until they had transformed the market so that the market shift in efficiency shares seen in the first year of the program would be maintained throughout the forecast period (2015–2038). DOE first calculated the B/C ratio for the unit meeting the target level relative to the base case with no rebate. It then calculated another B/C ratio for the unit meeting the target level, with a rebate, relative to the base case unit. Because of the incremental cost reduction due to the rebate, the B/C ratio for the rebate policy unit is larger (see Table RIA.3). a The base case is a market weighted-average of units at several AFUE levels. b While the target level (82 percent) is lower than 85-percent AFUE for these rebate programs, DOE assumed that a rebate program could be designed to pay an equivalent percentage of the incremental installed costs of the targeted gas boilers. RIA-6 Table RIA.3 Benefit/Cost Ratios for Today's Standard and Rebate Policy Cases NWGF\* at 90% AFUE GB\*\* at 82% AFUE Benefit (Lifetime Operating Cost Savings) $524 $333 Incremental Installed Cost (Increased Installed Cost) $698 $168 B/C Ratio with no rebate 0.8 2.0 Rebate Amount Adjusted Incremental Installed Cost (Increased Installed Cost after Rebate) $180 $518 $101 $67 B/C Ratio for Rebate Policy Case 1.0 5.0 \*NWGF = non-weatherized gas furnace \*\*GB = gas boiler DOE then used the curves shown in Figures RIA.1, RIA.2, RIA.4, and RIA.5 to estimate the increased percentage of consumers who would purchase the units that meet the policy target levels if given a rebate incentive. For non-weatherized gas furnaces at a 90-percent AFUE standard level, DOE chose the “moderate barriers,” since 90 percent AFUE imposes an economic burden for a large fraction of southern customers. For gas boilers at the 82-percent AFUE standard level, DOE chose the “low barriers,” since these efficiency levels are a common product with relatively large market share in 2004. DOE also used the “low barriers” curve for the other product classes. Figures RIA.1 and RIA.2 show the penetration rates of target-level units as a function of B/C ratios. Using this method, DOE estimated that, for the non-weatherized gas furnace product class, the market share of equipment meeting the policy target due to a rebate policy would increase by 1.2 percent at a target level of 90-percent AFUE. For the gas boiler product class, DOE estimated that the market share of equipment meeting the policy target due to a rebate policy would increase by 19 percent for 82-percent AFUE units. To calculate the impacts of this policy, DOE adjusted the base case shipments projection in the NES model to reflect these percentage increases in market share of efficient furnace and boiler models. RIA-7 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% 0 2 4 6 8 10 12 14 Participant Benefit-Cost Ratio Max mu i m Penetration Rate Moderate Barriers Curve Penetration Rate = 1.1% at B/C ratio of 0.8 Penetration Rate = 2.3% at B/C ratio of 1.0 Change of Penetration Rate = 1.2% Figure RIA.1 Market Penetration Curve for Non-Weatherized Gas Furnaces at 90 Percent AFUE Level 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% 0 2 4 6 8 10 12 14 Participant Benefit-Cost Ratio Max mi um Penetrat oi n Rate Low Barriers Curve Penetration Rate = 38% at B/C ratio of 2 Penetration Rate = 57% at B/C ratio of 5 Change of Penetration Rate = 19% Figure RIA.2 Market Penetration Curve for Gas Boilers at 82 Percent AFUE Level RIA-8 Consumer Tax Credits DOE assumed a consumer tax credit equivalent to the amount covered by rebates (i.e., 26 percent of the incremental cost between non-weatherized gas furnace base case equipment and equipment meeting the policy target levels, and 60 percent of the incremental cost for gas boilers). DOE estimated that the consumer participation rate would be lower than that for consumer rebates. Research on tax credits has shown that the time delay to the consumer in receiving a reimbursement via tax credit, plus the added transaction costs in tax return preparation, make the tax credit incentive less effective than a rebate received at the time of purchase. Based on previous analysis, 16 DOE assumed that only 60 percent of the customers who would take advantage of a rebate would take advantage of the tax credit. Using a similar approach as for the rebate policy, DOE estimated that the market share of target-efficiency gas furnace units would increase due to consumer tax credits by 0.7 percent over the base case at the 90-percent AFUE level. For gas boilers at 82-percent AFUE, the market share would increase by 12.5 percent. DOE assumed the impact of this policy would be to permanently transform the market so that the shipment-weighted efficiency gain seen in the first year of the program would be maintained throughout the forecast period. Manufacturer Tax Credits DOE assumed that a manufacturer tax credit program would effectively result in a lower price to the consumer by an amount equivalent to that provided by rebates (i.e., 26 percent of the incremental price difference for furnaces meeting base case efficiency levels and those meeting the policy targets, and 60 percent of the incremental price difference for boilers). Because these tax credits would go to manufacturers instead of consumers, DOE assumed that manufacturers would pass on the reduced costs, causing the direct price effect. However, DOE assumed that the announcement effect would not occur because the program would not be visible to the consumers. Since the direct price effect is approximately equivalent to the announcement effect, 3 DOE assumed that half of the consumers assumed to take advantage of consumer tax credits would purchase more-efficient products with a manufacturer tax credit program. As a result, DOE estimated that the market share of efficient non-weatherized gas furnaces would increase due to manufacturer tax credits by 0.4 percent over the base case at the 90-percent AFUE standard level and by 6.2 percent for gas boilers at the 82-percent AFUE standard level. DOE assumed the impact of this policy would be to permanently transform the market so that the shipment-weighted efficiency gain seen in the first year of the program would be maintained throughout the forecast period.

2.2.3 Voluntary Energy-Efficiency Targets

For a non-weatherized gas furnace target level of 90-percent AFUE, DOE assumed that the voluntary target would be achieved through manufacturer participation in a gradual phaseout of production of units below 90-percent AFUE. It assumed that this phaseout would increase from 2015. 17 RIA-9 For gas boilers at 82-percent AFUE, DOE modeled the voluntary efficiency target policy assuming expansion of existing Energy Star endorsement labeling programs conducted by the Environmental Protection Agency and DOE for these two products. 18 The Energy Star program sets minimum energy-efficiency specifications for various products, including furnace and boiler equipment. Energy Star encourages consumer adoption of these products through marketing to promote consumer label recognition, adoption of the specifications by various efficiency incentive programs, and manufacturer production and promotion of Energy Star-compliant appliances. For gas boilers, DOE estimated that an expanded Energy Star program that targeted 82- percent AFUE equipment could moderately increase the market share at these levels. In this case, DOE used estimates of the market impact of the existing Energy Star programs. 17, 19 For gas boilers, DOE assumed the programs resulting from this voluntary efficiency targets policy would increase projected market share of the targeted units above the penetration increases estimated by the Energy Star program by 75 percent for gas boilers at the 82-percent AFUE target level. The Energy Star level for gas boilers is 85-percent AFUE. Table RIA.4 shows the estimated market share increases from the voluntary efficiency target policy. RIA-10 Table RIA.4 Increased Market Share Penetration Levels from Voluntary Furnace and Boiler Programs for Targeted Efficiency Levels\* Year of Program Non-Weatherized Gas Furnaces and Mobile Home Furnaces Weatherized Gas Furnaces Oil Furnaces Gas Boilers Oil Boilers 90% AFUE 81% AFUE 82% AFUE 82% AFUE 83% & 84% AFUE 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 0% 0% 0% 1% 2% 3% 4% 4% 5% 5% 5% 6% 6% 6% 6% 7% 7% 7% 7% 8% 8% 8% 8% 8% 0% 0% 0% 1% 2% 3% 4% 4% 5% 5% 5% 6% 6% 6% 6% 7% 7% 7% 7% 8% 8% 8% 8% 8% 0% 0% 0% 1% 2% 3% 4% 4% 5% 5% 5% 6% 6% 6% 6% 7% 7% 7% 7% 8% 8% 8% 8% 8% 0% 3% 5% 8% 10% 13% 16% 18% 21% 23% 25% 26% 26% 26% 26% 26% 26% 26% 26% 27% 27% 27% 27% 27% 0% 2% 3% 5% 7% 8% 10% 12% 13% 15% 16% 17% 18% 18% 18% 18% 19% 19% 19% 19% 20% 20% 20% 20% \* The percentages in each column refer to shares of the eligible market in each case.

2.2.4 Early Replacement

Early replacement refers to the replacement of furnace and boiler units before the end of

their useful lives. The purpose of this policy is to replace old, inefficient equipment with higherefficiency units. In the 1990s, DOE studied the feasibility of a Federal program to promote early replacement of appliances under the Energy Policy Act of 1992. 20 This study identified policy options for early replacement that included a direct national early replacement program, replacement of Federally owned appliances, promotion through equipment manufacturers, consumer incentives, incentives to utilities, and building regulations. c The analysis concluded that, while cost-effective opportunities for early replacement exist, a widespread Federal early replacement program was not economically justified. Because premature retirement means that a unit may be replaced by an appliance less efficient than the eventual replacement would probably have been, energy savings would be smaller than anticipated. Early replacement programs could increase sales volatility in the long run by (continued...) RIA-11 cFor this analysis, DOE considered a program that targets the units in the stock that have efficiency levels lower than the policy target level and encourages their early replacement with products at the target efficiency level. Shipments not affected by the early replacement program have base case efficiency levels. Shipments to new construction in 2015 and beyond are not affected by this program. (Chapter 9 of the TSD describes the general approach for estimating replacements in each year; the NES model uses a retirement function that tracks the percentage of units retiring and surviving for each vintage.) DOE assumed that a portion of the furnace and boiler units in the existing stock in 2015, the first year of the analysis period, would be replaced by models meeting the target levels. It modeled this policy by assuming an increase of 20 percent (over the natural replacement rate based on units being replaced at the end of their useful lives) in the number of replaced units in the first year. It based this level on one of the cases in the report described above. DOE assumed that the program would last as long as it took to completely replace all of the eligible furnaces and boilers in the stock in the year that the program began (2015). The policy would create a jump in shipments of equipment meeting target AFUE levels relative to the base case in the early years of the program (see Figure RIA.3). As a result, more higher-efficiency units meeting the policy targets would be quickly brought into the equipment stock, leading to an immediate gain in the weighted-average equipment efficiency compared to the base case. However, unlike the other policy cases discussed, the weighted-average efficiency would drop back down to meet the levels in the base case as the eligible stock of equipment for early replacement became depleted. (...continued) encouraging a temporary increase in production followed by a lull in demand. Early replacement could be economical in localities with high energy cost conditions or environmental constraints, when replacement appliances are much more efficient than existing stock, or when a major technology breakthrough has recently occurred, creating the need for a ready market. RIA-12 c0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 Total Sh pi ments (Mill ons i ) Base Case Early Replacement Scenario 1985 1990 1995 2000 2005 2010 2015 2020 2025 2030 2035 Figure RIA.3 Early Replacement Shipments Projections for Non-Weatherized Gas Furnaces

2.2.5 Bulk Government Purchases

DOE assumed that a bulk government purchase policy would encourage Federal, State, and local governments to purchase equipment meeting the target levels. Aggregating public sector demand could provide a market signal to manufacturers and vendors that some of their largest customers seek suppliers with products that meet an efficiency target at good prices. This program also could induce market pull” impacts through the effects of manufacturers and vendors achieving economies of scale for high-efficiency products. DOE assumed that government agencies, such as the Department of Housing and Urban Development (HUD), would administer such a program. At the Federal level, this would be an enhancement to the existing Federal Energy Management Program (FEMP). FEMP has procurement guidelines for Federal government equipment purchasing, and Federal construction requirements include these guidelines for installing or replacing equipment. 21 DOE assumed that this policy would impact a subset of housing units for which government agencies purchase or influence the purchase of furnaces and boilers. This subset would mainly consist of public housing and housing on military bases. To represent this subset, DOE considered low-income households identified in the Residential Energy Consumption Survey (RECS) from 2001 22 (see Chapter 11 of the TSD for a description of the low-income household sample). According to RECS 2001, 7.8 percent of the households with gas furnaces and 17.5 percent of those with gas boilers were classified as low-income. DOE assumed that these same percentages of furnace and boiler shipments would go to low-income households in RIA-13 each year. To estimate the market impact, DOE considered previous analysis of the bulk government purchasing policy in the residential air conditioner RIA, 23 where it assumed a fivepercent increase in market share of higher-efficiency units over the base case due to the policy. Since DOE envisions that the policy for furnaces and boilers would build on the existing FEMP program for gas furnaces, DOE assumed that the government purchase policy would likely cause a 10-percent increase in market share in each year. Thus, an additional 10 percent (above the base case) of shipments to eligible low-income households would meet the target levels through this policy. The result is an additional penetration of equipment meeting the target efficiency levels of 0.8 percent and 1.8 percent (10 percent respectively of the low-income households with gas furnaces and gas boilers).

## FW

### 1NC

A. Interpretation – debate is a game that requires the aff to defend USFG action on energy policy –

#### --‘resolved’ means to enact a policy by law.

Words and Phrases 64 (Permanent Edition)

Definition of the word “resolve,” given by Webster is “to express an opinion or determination by resolution or vote; as ‘it was resolved by the legislature;” It is of similar force to the word “enact,” which is defined by Bouvier as meaning “to establish by law”.

#### --“United States Federal Government should” means the debate is solely about the outcome of a policy established by governmental means

Ericson 3 (Jon M., Dean Emeritus of the College of Liberal Arts – California Polytechnic U., et al., The Debater’s Guide, Third Edition, p. 4)

The Proposition of Policy: Urging Future Action In policy propositions, each topic contains certain key elements, although they have slightly different functions from comparable elements of value-oriented propositions. 1. An agent doing the acting ---“The United States” in “The United States should adopt a policy of free trade.” Like the object of evaluation in a proposition of value, the agent is the subject of the sentence. 2. The verb should—the first part of a verb phrase that urges action. 3. An action verb to follow *should* in the *should*-verb combination. For example, should adopt here means to put a program or policy into action though governmental means. 4. A specification of directions or a limitation of the action desired. The phrase *free trade*, for example, gives direction and limits to the topic, which would, for example, eliminate consideration of increasing tariffs, discussing diplomatic recognition, or discussing interstate commerce. Propositions of policy deal with future action. Nothing has yet occurred. The entire debate is about whether something ought to occur. What you agree to do, then, when you accept the *affirmative side* in such a debate is to offer sufficient and compelling reasons for an audience to perform the future action that you propose.

B. Violation – they claim to win for reasons other than the desirability of that action

C. Reasons to prefer:

**1. Predictability – they allow for infinite frameworks which destroys in-depth preparation and clash – the resolution is the sole source of pre-round prep**

#### 2. Dialogue – debate games open up dialogue which fosters information processing and decision-making – they open up infinite frameworks making the game impossible

Haghoj 8 – PhD, affiliated with Danish Research Centre on Education and Advanced Media Materials, asst prof @ the Institute of Education at the University of Bristol (Thorkild, 2008, "PLAYFUL KNOWLEDGE: An Explorative Study of Educational Gaming," PhD dissertation @ Institute of Literature, Media and Cultural Studies, University of Southern Denmark, http://static.sdu.dk/mediafiles/Files/Information\_til/Studerende\_ved\_SDU/Din\_uddannelse/phd\_hum/afhandlinger/2009/ThorkilHanghoej.pdf)

Debate games are often based on pre-designed scenarios that include descriptions of issues to be debated, educational goals, game goals, roles, rules, time frames etc. In this way, debate games differ from textbooks and everyday classroom instruction as debate scenarios allow teachers and students to actively imagine, interact and communicate within a domain-specific game space. However, instead of mystifying debate games as a “magic circle” (Huizinga, 1950), I will try to overcome the epistemological dichotomy between “gaming” and “teaching” that tends to dominate discussions of educational games. In short, educational gaming is a form of teaching. As mentioned, education and games represent two different semiotic domains that both embody the three faces of knowledge: assertions, modes of representation and social forms of organisation (Gee, 2003; Barth, 2002; cf. chapter 2). In order to understand the interplay between these different domains and their interrelated knowledge forms, I will draw attention to a central assumption in Bakhtin’s dialogical philosophy. According to Bakhtin, all forms of communication and culture are subject to centripetal and centrifugal forces (Bakhtin, 1981). A centripetal force is the drive to impose one version of the truth, while a centrifugal force involves a range of possible truths and interpretations. This means that any form of expression involves a duality of centripetal and centrifugal forces: “Every concrete utterance of a speaking subject serves as a point where centrifugal as well as centripetal forces are brought to bear” (Bakhtin, 1981: 272). If we take teaching as an example, it is always affected by centripetal and centrifugal forces in the on-going negotiation of “truths” between teachers and students. In the words of Bakhtin: “Truth is not born nor is it to be found inside the head of an individual person, it is born between people collectively searching for truth, in the process of their dialogic interaction” (Bakhtin, 1984a: 110). Similarly, the dialogical space of debate games also embodies centrifugal and centripetal forces. Thus, the election scenario of The Power Game involves centripetal elements that are mainly determined by the rules and outcomes of the game, i.e. the election is based on a limited time frame and a fixed voting procedure. Similarly, the open-ended goals, roles and resources represent centrifugal elements and create virtually endless possibilities for researching, preparing, 51 presenting, debating and evaluating a variety of key political issues. Consequently, the actual process of enacting a game scenario involves a complex negotiation between these centrifugal/centripetal forces that are inextricably linked with the teachers and students’ game activities. In this way, the enactment of The Power Game is a form of teaching that combines different pedagogical practices (i.e. group work, web quests, student presentations) and learning resources (i.e. websites, handouts, spoken language) within the interpretive frame of the election scenario. Obviously, tensions may arise if there is too much divergence between educational goals and game goals. This means that game facilitation requires a balance between focusing too narrowly on the rules or “facts” of a game (centripetal orientation) and a focusing too broadly on the contingent possibilities and interpretations of the game scenario (centrifugal orientation). For Bakhtin, the duality of centripetal/centrifugal forces often manifests itself as a dynamic between “monological” and “dialogical” forms of discourse. Bakhtin illustrates this point with the monological discourse of the Socrates/Plato dialogues in which the teacher never learns anything new from the students, despite Socrates’ ideological claims to the contrary (Bakhtin, 1984a). Thus, discourse becomes monologised when “someone who knows and possesses the truth instructs someone who is ignorant of it and in error”, where “a thought is either affirmed or repudiated” by the authority of the teacher (Bakhtin, 1984a: 81). In contrast to this, dialogical pedagogy fosters inclusive learning environments that are able to expand upon students’ existing knowledge and collaborative construction of “truths” (Dysthe, 1996). At this point, I should clarify that Bakhtin’s term “dialogic” is both a descriptive term (all utterances are per definition dialogic as they address other utterances as parts of a chain of communication) and a normative term as dialogue is an ideal to be worked for against the forces of “monologism” (Lillis, 2003: 197-8). In this project, I am mainly interested in describing the dialogical space of debate games. At the same time, I agree with Wegerif that “one of the goals of education, perhaps the most important goal, should be dialogue as an end in itself” (Wegerif, 2006: 61).

#### 3. Politics – debate as a competitive political game is the best framework to solve dogmatism and human brutality

Carter 8 – prof @ The Colorado College, research support from the Rockefeller Foundation and the staff of the Villa Serbelloni, Bellagio, Italy, the Institute of Governmental Studies at the University of California, Berkeley, and the Benezet Foundation at The Colorado College (Lief H, 2008, "LAW AND POLITICS AS PLAY," Chicago-Kent Law Review, 83(3), http://www.cklawreview.com/wp-content/uploads/vol83no3/Carter.pdf)

Vico asked his audience at the University of Naples in 1708 to debate two competing ways of knowing: Cartesian rationality versus the poetic world of the ancients. Vico, the “pre-law advisor” of his day, saw law as a rhetorical game. That is, he understood the civic (ethical) value of competi-tion itself.12 He understood that Cartesian rationality, like religious and ideological fundamentalism, generates a kind of certainty that shuts down robust debate. Vico’s comprehensive vision suggests, in effect, that people should practice law and politics not as the search for the most rational or logically correct outcomes but rather as passionate and embodied yet peaceful competitive play. Vico inspires this vision of law and politics as play because he sees that all things in the human mind, including law and politics, are at one with the human body. As Vico put it as he concluded his 1708 address, “[T]he soul should be drawn to love by means of bodily images; for once it loves it is easily taught to believe; and when it believes and loves it should be inflamed so that it wills things by means of its normal intemperance.”13 Vico had no hope that such abstract moral principles as liberty, equality, justice, and tolerance could effectively offset the “crude and rough” nature of men.14 The Holy Bible and the Qur’an contain normative principles of love, tolerance, equal respect, and peace, but these commands have not forestalled ancient and modern religious warfare. This essay proposes that humans learn how to keep the peace not by obeying the norms, rules, and principles of civil conduct but by learning how to play, and thereby reintegrating the mind and the body. People do law, politics, and economic life well when they do them in the same ways and by the same standards that structure and govern good competitive sports and games. The word “sport” derives from “port” and “portal” and relates to the words “disport” and “transport.” The word at least hints that the primitive and universal joy of play carries those who join the game across space to a better, and ideally safer, place—a harbor that Vico him-self imagined. This essay’s bold proposition honors Vico in many ways. Its “grand theory” matches the scope of Vico’s comprehensive and integrated vision of the human condition. It plausibly confirms Vico’s hope for a “concep-tion of a natural law for all of humanity” that is rooted in human historical practice.15 Seeing these core social processes as play helps us to escape from arid academic habits and to “learn to think like children,” just as Vico urged.16 Imagining law and politics as play honors Vico above all because, if we attain Ruskin’s epigraphic ideal,17 we will see that the peace-tending qualities of sports and games already operate under our noses. Seeing law and politics as play enables us “to reach out past our inclination to make experience familiar through the power of the concept and to engage the power of the image. We must reconstruct the human world not through concepts and criteria but as something we can practically see.”18 If at its end readers realize that they could have seen, under their noses, the world as this essay sees it without ever having read it, this essay will successfully honor Vico. As Vico would have predicted, formal academic theory has played at best a marginal role in the construction of competitive games. Ordinary people have created cricket and football, and common law and electoral politics and fair market games, more from the experience of doing them than from formal theories of competitive games. When they play interna-tional football today, ordinary people in virtually every culture in the world recreate the experience of competitive games. Playing competitive games unites people across cultures in a common normative world.19 Within Vico’s social anthropological and proto-scientific framework, the claim that competitive play can generate peaceful civic life is purely empirical: law and politics in progressively peaceful political systems already are nothing more or less than competitive games. All empirical description operates within some, though too often ob-scured, normative frame. This essay’s normative frame is clear. It holds, with Shaw’s epigraph, above: Human brutalities waged against other hu-mans—suicide bombings, genocides, tribal and religious wars that provoke the indiscriminate rape, murder, torture, and enslavement of men, women, and children, often because they are labeled “evil”—are the worst things that we humans do. We should learn not to do them. In Vico’s anti-Cartesian, non-foundational world, no method exists to demonstrate that this essay’s normative core is “correct,” or even “better than,” say, the core norm holding that the worst thing humans do is dishonor God. Readers who reject Shaw’s and this essay’s normative frame may have every reason to reject the essay’s entire argument. However, this essay does describe empirically how those whose core norm requires honoring any absolute, including God, above all else regu-larly brutalize other human beings, and why those who live by the norms of good competitive play do not. People brutalize people, as Shaw’s Caesar observed, in the name of right and honor and peace. Evaluated by the norm that human brutality is the worst thing humans do, the essay shows why and how the human invention of competitive play short circuits the psy-chology of a righteousness-humiliation-brutality cycle. We cannot help but see and experience on fields of contested play testosterone-charged males striving mightily to defeat one another. Yet at the end of play, losers and winners routinely shake hands and often hug; adult competitors may dine and raise a glass together.20 Whether collectively invented as a species-wide survival adaptation or not, institutionalized competitive play under-cuts the brutality cycle by displacing religious and other forms of funda-mentalist righteousness with something contingent, amoral, and thus less lethal. Play thereby helps humans become Shaw’s “race that can under-stand.”

# DA’s

## Renewables

### 1NC EOR

#### Renewables are competitive now

**Tickell, 8/20**/12 – British journalist, author and campaigner on health and environment issues, and author of the Kyoto2 climate initiative (Oliver, “Does the world need nuclear power to solve the climate crisis?” <http://www.guardian.co.uk/environment/2012/aug/20/world-need-nuclear-power-climate-crisis>)

However, non-hydro renewables are growing very fast – up 15% in 2010. And within this figure just three power sources are responsible for most of the growth: wind power, solar PV and solar hot water. From 2005 to 2010, global solar hot water and wind power capacity both grew at 25% per year, while solar PV capacity grew at over 50% per year. If these growth rates were to be sustained for 35 years, wind capacity would rise 6,300-fold from 200 gigawatts (GW) in 2010 to about 1.25 million GW, solar hot water 6,300-fold from 185 GW to 1.15 million GW, and solar PV 40 million-fold from 40 GW to 1.6 billion GW. These figures are not predictions. Exponential growth will not continue for so long, as prime sites for wind turbines and solar panels get used up. Other technologies, such as concentrated solar power, will also become important. And there will be demand-side constraints: the projected 1.6 billion GW of solar PV capacity alone would produce over 3 billion billion kilowatt hours per year, equivalent to a primary energy burn of some 30 million Mtoe – over 1,000 times our projected world primary energy demand in 35 years. We would not even know what to do with so much energy. But while not predictive, the figures are highly indicative of the low-carbon energy choices the world should make. The one, nuclear power, is expensive and becoming more so. It will be a practical impossibility to increase its capacity to a scale big enough to make a real difference to global climate within a realistic time frame. Worse, if we were somehow to build our 11,000 nuclear reactors, we would face the certainty of repeated catastrophic accidents and the spread of nuclear weapons, not to mention unimaginable liabilities for decommissioning and long-term nuclear-waste management. We can fairly say that nuclear power is both repulsive and utterly wrong. The other choice, renewable power, already costs less than fossil fuels for many applications, thanks in large part to generous subsidies in Germany, Japan and other countries, which have had the effect of greatly reducing prices. Solar electricity is now cheaper than power from diesel generators in the tropics and subtropics – and so the rapid spread of solar power across China, India, Africa and Latin America is being driven not by subsidy but by the market. And it is getting cheaper all the time as increased demand, caused by its lower price, stimulates greater competition among manufacturers, technological advance, and even greater price falls, in a delightful virtuous circle. Moreover, renewable energy is free of catastrophic dangers and long- term liabilities. It is both romantic and right.

#### New oil supplies derail renewables

Styles 12 (Geoffrey, “Could Oil's Surge Sink Renewable Energy?,” The Energy Collective, 7-2-12, <http://theenergycollective.com/node/89161>)

A new forecast of global oil production by the end of the decade attracted a fair amount of attention this week. The study, from Harvard's Kennedy School of Government, indicates that oil production could expand by about 20% by 2020 from current levels. The Wall St. Journal's Heard on the Street column cited this in support of the view that the influence of "peak oil" on the market has itself peaked and fallen into decline. I was particularly intrigued by a scenario suggested in MIT's Technology Review that this wave of new oil supplies could trigger an oil price collapse similar to the one in the mid-1980s that helped roll back the renewable energy programs that were started during the oil crises of the 1970s. That's possible, though I'm not sure this should be the biggest worry that manufacturers of wind turbines and solar panels have today.

#### The plan trades off – it undercuts the political will for renewables

Parfomak and Folger 7 - \*Specialist in Energy and Infrastructure Resources, Science, and Industry Division, \*\*Specialist in Energy Policy Resources, Science, and Industry Division

Paul and Peter, CRS Report for Congress, “Carbon Dioxide (CO2) Pipelines for Carbon Sequestration: Emerging Policy Issues,” Scholar

In addition to these issues, Congress may examine how CO2 pipelines fit into the nation’s overall strategies for energy supply and environmental protection. The need for CO2 pipelines ultimately derives from the nation’s consumption of fossil fuels. Policies affecting the latter, such as energy conservation, and the development of new renewable, nuclear, or hydrogen energy resources, could substantially affect the need for and configuration of CO2 pipelines. If policy makers encourage continued consumption of fossil fuels under CCS, then the need to foster the other energy options may be diminished — and vice versa. Thus decisions about CO2 pipeline infrastructure could have consequences for a broader array of energy and environmental policies.

#### Status quo shift to renewables vital to solve warming

Leonhardt, 12 – Washington bureau chief of the New York Times (David, 7/21. “There’s Still Hope for the Planet.” http://www.nytimes.com/2012/07/22/sunday-review/a-ray-of-hope-on-climate-change.html)

Behind the scenes, however, a somewhat different story is starting to emerge — one that offers reason for optimism to anyone worried about the planet. The world’s largest economies may now be in the process of creating a climate-change response that does not depend on the politically painful process of raising the price of dirty energy. The response is not guaranteed to work, given the scale of the problem. But the early successes have been notable. Over the last several years, the governments of the United States, Europe and China have spent hundreds of billions of dollars on clean-energy research and deployment. And despite some high-profile flops, like ethanol and Solyndra, the investments seem to be succeeding more than they are failing. The price of solar and wind power have both fallen sharply in the last few years. This country’s largest wind farm, sprawling across eastern Oregon, is scheduled to open next month. Already, the world uses vastly more alternative energy than experts predicted only a decade ago. Even natural gas, a hotly debated topic among climate experts, helps make the point. Thanks in part to earlier government investments, energy companies have been able to extract much more natural gas than once seemed possible. The use of natural gas to generate electricity — far from perfectly clean but less carbon-intensive than coal use — has jumped 25 percent since 2008, while prices have fallen more than 80 percent. Natural gas now generates as much electricity as coal in the United States, which would have been unthinkable not long ago. The successes make it possible at least to fathom a transition to clean energy that does not involve putting a price on carbon — either through a carbon tax or a cap-and-trade program that requires licenses for emissions. It was exactly such a program, supported by both Barack Obama and John McCain in the 2008 campaign, that died in Congress in 2010 and is now opposed by almost all Congressional Republicans and some coal-state and oil-state Democrats. To describe the two approaches is to underline their political differences. A cap-and-trade program sets out to make the energy we use more expensive. An investment program aims to make alternative energy less expensive. Most scientists and economists, to be sure, think the best chance for success involves both strategies: if dirty energy remains as cheap as it is today, clean energy will have a much longer road to travel. And even an investment-only strategy is not guaranteed to continue. The clean-energy spending in Mr. Obama’s 2009 stimulus package has largely expired, while several older programs are scheduled to lapse as early as Dec. 31. In the current political and fiscal atmosphere, their renewal is far from assured. Still, the clean-energy push has been successful enough to leave many climate advocates believing it is the single best hope for preventing even hotter summers, more droughts and bigger brush fires. “Carbon pricing is going to have an uphill climb in the U.S. for the foreseeable future,” says Robert N. Stavins, a Harvard economist who is a leading advocate for such pricing, “so it does make sense to think about other things.”

### 1NC Nuke Power

#### Renewables are competitive now

**Tickell, 8/20**/12 – British journalist, author and campaigner on health and environment issues, and author of the Kyoto2 climate initiative (Oliver, “Does the world need nuclear power to solve the climate crisis?” <http://www.guardian.co.uk/environment/2012/aug/20/world-need-nuclear-power-climate-crisis>)

However, non-hydro renewables are growing very fast – up 15% in 2010. And within this figure just three power sources are responsible for most of the growth: wind power, solar PV and solar hot water. From 2005 to 2010, global solar hot water and wind power capacity both grew at 25% per year, while solar PV capacity grew at over 50% per year. If these growth rates were to be sustained for 35 years, wind capacity would rise 6,300-fold from 200 gigawatts (GW) in 2010 to about 1.25 million GW, solar hot water 6,300-fold from 185 GW to 1.15 million GW, and solar PV 40 million-fold from 40 GW to 1.6 billion GW. These figures are not predictions. Exponential growth will not continue for so long, as prime sites for wind turbines and solar panels get used up. Other technologies, such as concentrated solar power, will also become important. And there will be demand-side constraints: the projected 1.6 billion GW of solar PV capacity alone would produce over 3 billion billion kilowatt hours per year, equivalent to a primary energy burn of some 30 million Mtoe – over 1,000 times our projected world primary energy demand in 35 years. We would not even know what to do with so much energy. But while not predictive, the figures are highly indicative of the low-carbon energy choices the world should make. The one, nuclear power, is expensive and becoming more so. It will be a practical impossibility to increase its capacity to a scale big enough to make a real difference to global climate within a realistic time frame. Worse, if we were somehow to build our 11,000 nuclear reactors, we would face the certainty of repeated catastrophic accidents and the spread of nuclear weapons, not to mention unimaginable liabilities for decommissioning and long-term nuclear-waste management. We can fairly say that nuclear power is both repulsive and utterly wrong. The other choice, renewable power, already costs less than fossil fuels for many applications, thanks in large part to generous subsidies in Germany, Japan and other countries, which have had the effect of greatly reducing prices. Solar electricity is now cheaper than power from diesel generators in the tropics and subtropics – and so the rapid spread of solar power across China, India, Africa and Latin America is being driven not by subsidy but by the market. And it is getting cheaper all the time as increased demand, caused by its lower price, stimulates greater competition among manufacturers, technological advance, and even greater price falls, in a delightful virtuous circle. Moreover, renewable energy is free of catastrophic dangers and long- term liabilities. It is both romantic and right.

#### Expansion of nuclear power directly trades-off with investment in renewables

**Porritt et al, 12** – founder director of Forum for the Future Forum for the future, chairman of the UK Sustainable Development Commission and author of Capitalism as if the World Matters (Jonathon, 4/27, with Tom Burke, Tony Juniper, Charles Secrett. “Climate Change and Energy Security.” http://www.jonathonporritt.com/sites/default/files/users/BRIEFING%205%20-%20Climate\_and%20energy%20security\_27\_April%202012.pdf)

The costs of nuclear new build are extremely high. UK governments, both Labour and the Coalition Government, have made it clear that money for new nuclear must come from the private sector, and yet, despite promising not to, have then gone on to attract private sector investment, thus committing large amounts of public money not available for other energy supply or demand management options. The scale of both the financial and the political investment required are such that they will crowd out equivalent investment in renewables and energy efficiency. The cost of the new nuclear build that Coalition Governments hopes for is in the region of £50 billion. Since private investors money is to be channelled through energy utilities (either as equity borrowing or simple bank lending), it will come from the same funding pools that other types of energy generation investment would access; part of the opportunity cost of nuclear power is that it will inevitably draw investment away from alternatives. But it’s not just the scale of the investment needed that undermines other possibilities. The massive timescales for bringing nuclear power online are also important - once investment has begun in nuclear, the entirety of the investment must remain in nuclear or be lost. Renewables are much nimbler – if problems occur, the project can be scaled down and still provide some generated energy. Lastly, there is a substantial political opportunity cost. When governments throw their weight behind a particular course of action, they divert resources from all others. In the past decade, UK governments of both parties have established over three dozen taxpayer-funded quangos and agencies to support the nuclear industry. It is inevitable that the pronuclear perspective of these bodies will pervade the thinking of the Civil Service, and of politicians and business investors too. Speaking about Finland’s experience with the disastrous Olkiluoto reactor, Oras Tynkynnen, a former climate policy advisor to the Office of the Finnish Prime Minister, said: “We concentrated so much on nuclear that we lost sight of everything else ... And nuclear has failed to deliver. It has turned out to be a costly gamble for Finland, and for the planet”.

#### Renewables key to solve extinction from warming.

**Jagger, 8** – Chair of the World Future Council (Bianca, 3/6. CQ Congressional Testimony, “RENEWABLE ENERGY,” Lexis.)

"If we go beyond the point where human intervention can no longer stabilise the system, then we precipitate unstoppable runaway climate change. That will set in motion a major extinction event comparable to the five other extinction crises that the earth has previously experienced." I find it deeply mystifying that the vast majority of the media are still not adequately expressing the scale of the danger we face. Professor John Holdren, President of the AAAS, said in August, "We have already passed the stage of dangerous climate change. The task now is to avoid catastrophic climate change." And as George Monbiot, in an article he wrote for the Guardian in July, said: "Unaware of the causes of our good fortune, blissfully detached from their likely termination, we drift into catastrophe." This clearly demonstrates what the World Future Council, the organisation I chair, is advocating. If we are serious about averting climate change catastrophe, we must think in revolutionary terms, and transform our way of life, restoring rather than destroying life on earth. We must embark upon a global renewable energy revolution: if we are to achieve the necessary carbon reduction by 2020, we must replace our carbon- driven economy with a renewable energy economy."

## Oil

### 1NC Saudi Prolif

#### Saudi Oil imports now

IER 8/28

[Institute for Energy Research, 8/28/12, <http://www.instituteforenergyresearch.org/2012/08/28/u-s-oil-imports-from-the-persian-gulf-and-saudi-arabia-grow-in-2012-and-administration-policies-may-be-to-blame/>]

The Obama Administration is touting that our “dependence on foreign oil has gone down every year during the Obama Administration, including a reduction in net oil imports by ten percent—or one million barrels a day—in the last year alone.”[i] While good news, this trend is happening not because of policies or actions taken by the Obama administration, but because of 1) a poor economy and high oil prices resulting in a lower demand for oil, 2) an increase in oil production on private and state lands (not federal lands) due to less bureaucratic red tape in leasing and permitting on private and state lands, and 3) an increase in biofuel (mainly ethanol) production due to the mandates from the Energy Independence and Security Act of 2007. The bad news is that while we have reduced our dependence on imports, we are getting more dependent on oil imports from the Persian Gulf, particularly Saudi Arabia. During the first five months of this year, oil imports from the Persian Gulf increased by 33 percent compared to the first five months of 2011. This was mainly due to an increase of oil imports from Saudi Arabia of 29 percent. At the same time, our total oil imports fell by 6 percent. Thus, the Persian Gulf’s share of U.S. oil imports is up 6 percentage points—from 15 percent for the first 5 months of last year to 21 percent for the first 5 months of this year—and the share of our oil imports from Saudi Arabia is up 4 percentage points, from 10 percent to 14 percent.[ii] According to data from the Energy Information Administration (EIA), the United States imported a daily average of almost 1.5 million barrels of Saudi Arabian crude over the first five months of this year, compared to a daily average of about 1.1 million barrels over the same period last year. The corresponding numbers for oil imports from the Persian Gulf oil are an average of 2.2 million barrels per day for the first 5 months of this year compared to 1.7 million barrels per day for the first 5 months of last year. The increase in oil exports from Saudi Arabia to the United States began slowly last summer and has increased this year. Even though domestic oil production is increasing, the Obama administration is finding it difficult to lower its dependence on Persian Gulf oil, especially the heavy grades of crude oil that Saudi Arabia exports and that our refineries in the Gulf of Mexico use. Some oil analysts indicate that this increasing dependency may only last a few years—until more Canadian and Gulf of Mexico production comes on line. These are issues that have been caused by the Obama administration. First, their moratorium and “permitorium” on offshore drilling after the Macondo accident resulted in 17 percent less oil production in offshore federal waters in fiscal year 2011 than the year before. Then, their failure to permit the Keystone XL pipeline that would bring heavy crude oil from Canada postponed new supplies from our Northern Ally. David L. Goldwyn, former State Department coordinator for international energy affairs in the Obama administration, stated “Until we have the ability to access more Canadian heavy oil through improved infrastructure, the vulnerability will remain.”[iii] But, the Obama Administration is not worried because it can tap into the Strategic Petroleum Reserve in the event of a self-defined crisis, it sees domestic oil production continuing to grow, and it believes Gulf area refineries can adjust their equipment to use sweeter crude oil if need be. Most of our new domestic production comes from shale oil fields in North Dakota and Texas that produce high-quality sweet grades of oil while refineries on the Gulf of Mexico coast are designed to refine the heavier oils that the United States traditionally imports from Canada, Mexico and Venezuela. Refiners are importing more oil from the Persian Gulf to replace the declining production and imports from Mexico and Venezuela and the reduced production output from the Gulf of Mexico due to the moratorium and de facto moratorium on drilling. There is also insufficient pipeline capacity from Canada to replace those losses with Canadian crude, accentuating the need for the Keystone XL pipeline. In recent years, U.S. oil imports have been declining due to increased domestic production on private and state lands, production of shale oil using hydraulic fracturing and horizontal drilling technology, increased production of corn-based ethanol and government mandates requiring its increased usage by refineries, and lower oil demand due to high oil prices and a poor economy. Before the Macondo accident in the Gulf of Mexico, monthly oil production from the Gulf was as high as 1.71 million barrels a day and growing, but because of the moratorium on new drilling, monthly oil production from the Gulf after the accident was as low as 1.09 million barrels per day with much of that lower oil production being replaced by imports of Saudi crude oil. Oil production from the Gulf is not expected to regain its higher production levels through 2013, according to EIA, whose forecast for offshore Gulf of Mexico oil production for this year and next is averaging about 1.35 million barrels per day.

#### Dependence on Saudi Oil key to relations

Lazazzero 08

[Joseph A. Lazazzero, Center for the Study of the Presidency and Congress, 2008, <http://www.thepresidency.org/storage/documents/Fellows2008/Lazazzero.pdf>]

Just as the U.S.-Saudi alliance was important during World War I and the Cold War, this relationship is still of significant value in contemporary politics. As in previous years, the benefits of a strong U.S.-Saudi relationship affect everything from oil dependence to international conflicts. With a limited supply of oil and growing demands from an industrializing China, the United States needs to solidify its oil agreements with Saudi Arabia. An improved Saudi-American relationship would also help to resolve the United States’ failed efforts in resolving the Palestinian-Israeli conflict. More importantly, both the United States and Saudi Arabia have stakes in winning the War on Terrorism. Oil Dependence The United States’ demand for oil first initiated the U.S.-Saudi alliance, and it continues to be one of its most crucial components today. Roughly, 60 percent of the world’s oil supply is in the Gulf, and 25 percent of that is under Saudi soil (Cordesman, 28-42). Saudi Arabia is the world’s largest oil producer, and the United States is the largest oil consumer (Appendix 2-1). Both parties have stakes in a stable oil market (US House of Representatives Committee on Foreign Affairs, 1981). Not only does Saudi Arabia have the most oil, it has also proven itself a reliable partner in the oil industry. Saudi Arabia’s spare production capacity has allowed it to answer oil production shortages in the past. Saudi Arabia enacted such policies in 1979 after the fall of the Shah, when the Gulf War decreased oil production in both Iraq and Kuwait, in 2003 on the verge of the second Iraq war and even today with instability in oil-producing countries like Venezuela and Nigeria (Bahgat, 115). These measures have shown that Saudi Arabia is committed to keeping oil costs low and production constant. In addition, Saudi Arabia has also proven itself a more stable oil partner for the United States than other oil-producing countries. Saudi Arabia has easily managed to nationalize foreign oil companies. Unlike the bitter dispute that existed between Iran and the British Petroleum Company in the 1950’s, Saudi Arabia has slowly acquired the American company Aramco, and U.S. investors and contractors still serve on the company’s board of directors (Bahgat, 115). Prince Abdullah visited Washington DC in 1998 to meet with U.S. oil companies and called for a greater strategic energy partnership (Bahagt, 115 & Ottaway & Hamilton, A1). Thus, not only is the United States in a unique position with access to the world’s largest oil producer, but it also has serious influence and economic footholds in Saudi Arabia’s oil companies. Oil dependence between the United States and Saudi Arabia benefits the Saudi government as well. Since the first discovery of oil in 1933, Saudi Arabia has changed itself into a regional superpower. Saudi Arabia has used much of its newfound wealth on military expenditures, but it has also utilized its money to make domestic improvements. For example, Saudi Arabia committed nearly $20.14 billion to local markets in an attempt to diversify its economy. Saudi Arabia has also debated entering the World Trade Organization, a move that would undoubtedly insert an Arab voice in the Westernized globalization of the international economy (Champion, 169-171). The money from oil production has allowed Saudi Arabia to become one of the wealthiest countries in the region. Such wealth has allowed Saudi Arabia to become a member of the modernized world, increasing everything from electrical output to mobile phones.(Appendix 1-1 & 12) (Al-Farsay, 31) The importance of a continued U.S.-Saudi economic partnership in oil investments is just as significant for Saudi Arabia’s development and power in the region as it is for the United States’ demand for foreign oil. Of course, there are other countries willing to buy Saudi oil, but here is where the significance of dual protection comes into play. Starting with the Eisenhower Doctrine of 1957, which declared that an attack on Saudi Arabia’s oil fields would be equivalent to an attack on the United States, the United States can make a promise no other nation can, of protection from the world’s most powerful military (Ashton, 103-113). Thus, even if there are other countries willing to purchase Saudi oil, Saudi Arabia is still gaining significant security from its alliance with the United States.

**Relations solve Saudi Prolif**

**Levi 03**, Michael, Science And Technology Fellow, Foreign Policy Studies Brookings Institution, 2003 [The New Republic , June 2 http://www.iranwatch.org/privateviews/Brookings/perspex-brookings-levi-060203.htm]

Realists counter that the United States needs Saudi oil and Saudi military bases. But there's a less obvious argument for making sure the long-standing Washington-Riyadh partnership doesn't fracture: If it does, the Saudis might well go nuclear. Saudi Arabia could develop a nuclear arsenal relatively quickly. In the late '80s, Riyadh secretly purchased between 50 and 60 CSS-2 missiles from China. The missiles were advanced, each with a range of up to 3,500 kilometers and a payload capacity of up to 2,500 kilograms. What concerned observers, though, was not so much these impressive capabilities but rather the missiles' dismal accuracy. Mated to a conventional warhead, with a destructive radius of at most tens of meters, these CSS-2 missiles would be useless—their explosives would miss the target. But the CSS-2 is perfect for delivering a nuclear weapon. The missile itself may miss by a couple of kilometers, but, if the bomb's destructive radius is roughly as large, it will still destroy the target. The CSS-2 purchase, analysts reasoned, was an indication that the Saudis were at least hedging in the nuclear direction. July 1994 brought more news of Saudi interest in nuclear weapons when defector Mohammed Al Khilewi, a former diplomat in the Saudi U.N. mission, told London's Sunday Times that, between 1985 and 1990, Saudi Arabia had actively aided Iraq's nuclear weapons program, both financially and technologically, in return for a share of the program's product. Though Khilewi produced letters supporting his claim, no one has publicly corroborated his accusations. Still, the episode was unsettling. Then, in July 1999, *The New York Times* reported that Saudi Defense Minister Prince Sultan bin Abdulaziz Al Saud had recently visited sensitive Pakistani nuclear weapons sites. Prince Sultan toured the Kahuta facility where Pakistan produced enriched uranium for nuclear bombs—and which, at the same time, was allegedly supplying materiel and expertise to the North Korean nuclear program. The Saudis refused to explain the prince's visit. If Saudi Arabia chose the nuclear path, it would most likely exploit this Pakistani connection. Alternatively, it could go to North Korea or even to China, which has sold the Saudis missiles in the past. Most likely, as Richard L. Russell, a Saudi specialist at National Defense University, argued two years ago in the journal *Survival*, the Saudis would attempt to purchase complete warheads rather than build an extensive weapons-production infrastructure. Saudi Arabia saw Israel destroy Iraq's Osirak reactor in 1981, and it is familiar with America's 1994 threat to bomb North Korea's reactor and reprocessing facility at Yongbyon. As a result, it would probably conclude that any large nuclear infrastructure might be preemptively destroyed. At the same time, Riyadh probably realizes that America's current hesitation to attack North Korea stems at least in part from the fact that North Korea likely already has one or two complete warheads, which American forces would have no hope of destroying in a precision strike. By buying ready-made warheads, Riyadh would make a preemptive attack less likely. And, unlike recent proliferators such as North Korea, the Saudis have the money to do so.

#### Goes Nuclear

**Haddick 11**

-- managing editor of Small Wars Journal (12/16/2011, Robert, “This Week at War: Arms Race on the Gulf; Will it take Saudi nukes to deter Iranian nukes?”<http://www.foreignpolicy.com/articles/2011/12/16/this_week_at_war_arms_race_on_the_gulf>)

 Prince Turki seemed to suggest that Saudi Arabia requires its own nuclear force to, at a minimum, deter a classic and existential Cold War-style nuclear ballistic missile threat to the kingdom. The acquisition of a Saudi nuclear deterrent would be highly destabilizing. Very short missile flight times within the region, combined with fragile early-warning and command-and-control systems, would create an extremely dangerous hair-trigger posture on all sides. The Saudi acquisition of a nuclear deterrent would also be acrushing blow to the prestige of the **U**nited **S**tates as a military ally and to the diminishing role President Barack Obama has sought for nuclear weapons.

## Electricity Prices

### 1NC SMR’s

#### A. Electricity prices are declining

**Burtraw 8/21/12** (one of the nation’s foremost experts on environmental regulation in the electricity sector. “Falling Emissions and Falling Prices: Expectations for the Domestic Natural Gas Boom” http://common-resources.org/2012/falling-emissions-and-falling-prices-expectations-for-the-domestic-natural-gas-boom/)

Moreover, the boom in domestic natural gas production could have even more immediate affects for U.S. electricity consumers. The increased supply of gas is expected to lower natural gas prices and retail electricity prices over the next 20 years, according to a [new RFF Issue Brief](http://www.rff.org/Publications/Pages/PublicationDetails.aspx?PublicationID=22019). These price decreases are expected to be even larger if demand for electricity continues on a slow-growth trajectory brought on by the economic downturn and the increased use of energy efficiency.For example, RFF analysis found that delivered natural gas prices would have been almost 35% higher in 2020 if natural gas supply projections had matched the lower estimates released by the U.S. Energy Information Administration (EIA) in 2009. Instead, with an increased gas supply, consumers can expect to pay $4.9 per MMBtu for delivered natural gas in 2020 instead of $6.6 per MMBtu. These trends are even more exaggerated if demand for electricity were to increase to levels projected by the EIA just three years ago, in 2009.This decrease in natural gas prices is expected to translate into a decrease in retail electricity prices for most electricity customers in most years out to 2020. Compared to the world with the lower gas supply projections, average national electricity prices are expected to be almost 6% lower, falling from 9.25 cents to 8.75 cents per kilowatt-hour in 2020. Residential, commercial, and industrial customers are all expected to see a price decrease, with the largest price changes occurring in parts of the country that have competitive electricity markets. All of these prices decreases translate into real savings for most electricity customers. The savings are largest for commercial customers, who stand to save $33.9 Billion (real $2009) under the new gas supply projections in 2020. Residential customers also stand to save big, with estimates of $25.8 Billion (real $2009) in savings projected for 2020.

#### B. SMRs increase electricity prices - cost more per megawatt AND comparatively more costly than traditional fuel sources

Freebairn 7/25/12 (Mollie, Solar consultant with Missouri Solar Applications in Jefferson City and a former scientist at the Missouri Department of Natural Resources, "Related Stories," http://www.stltoday.com/news/opinion/guest-commentary-small-nuclear-reactors-are-too-little-too-late/article\_8f237dd0-9a8b-5912-a30d-b7a368282732.html)

Ameren Missouri recently announced a proposal for a small, modular nuclear reactor. What's the problem? Well, let's begin with the folly of picking an industry that is a loser from every vantage point. Missourians know from Ameren's repeated attempts to push through a nuclear plant proposal that private investors dismiss nuclear power plants as economically unsound.¶ According to Forbes, "The Department of Energy will spend $452 million — with a match from industry — over the next five years to guide two small modular reactor designs through the nuclear regulatory process by 2022. But cheap natural gas could freeze even small nuclear plants out of the energy market well beyond that date." Where will industry come looking for its share of matching funds? If history is any guide, Missouri ratepayers will be called upon to provide those funds, enabling Ameren to raise our electricity rates in perpetuity.¶ Envisioned to create an energy hub with thousands of jobs, the small 225-megawatt nuclear reactor would have about one-fifth the capacity of a large nuclear plant, which might not come online until 2022. As a strategic energy plan, this vision delivers too little, too late.¶ Missouri's aging energy infrastructure is dominated by one nuclear and 15 coal-burning power plants, ranging between 2,389 megawatts and 273 megawatts, many in need of retirement. Strikingly, Missouri has a dozen natural gas plants with 100 megawatts to 700 megawatts of generation capacity, enough to supply 50 percent of Missouri's electricity needs. Many of those plants are sitting virtually idle. With natural gas prices at all-time lows, these plants could be brought online today, with no new investment. Doing so would reduce toxic and greenhouse gas releases drastically.¶ Wind electricity generation is coming from across the Great Plains states, spanning from Texas to the Dakotas. Electricity costs from wind generation are declining steadily. Plans are underway to construct four major new transmission corridors to deliver electricity to Eastern and Western states where it is needed. Says Clean Line Energy spokesman Mark Lawlor, "We have far more electricity than Missouri needs to meet its renewable energy standards."¶ Missouri is capable of meeting most of its own energy needs, however, by creating thousands of jobs in a wide range of industries, tapping its own renewable energy potential. The renewable energy standards law spearheaded by Renew Missouri, Missouri Coalition for the Environment, the Sierra Club and Missourians for Safe Energy, among others, and passed overwhelmingly by Missouri voters, is designed to launch renewable energy industries. A University of Tennessee study shows that increasing renewable energy generation will create 10 jobs in construction, engineering, architecture, manufacturing and marketing for every coal and nuclear job we have in the United States today. That would be 240,800 new jobs in Missouri.¶ Solar power is the renewable energy resource that Missouri possesses in greatest abundance. One of the fastest-growing sectors in the U.S. economy, according to the Missouri Solar Energy Industries Association, the U.S. solar energy market grew 102 percent last year and is on track to grow another 100 percent in 2012. Many analysts project that the United States will become the largest solar market in the world in the next few years.¶ Nuclear reactors, large or small, will cost Missourians millions to start, producing high levels of toxic radiation. Far from blazing a road to prosperity, they are a costly diversion that does not address Missouri's energy needs. A better plan is to invest in renewable energy industries to revitalize our entire economy, keeping the major investments we make to power our homes and businesses here at home.

#### C. Low electricity prices spurs manufacturing "reshoring" and sparks US economic growth via consumer spending and investment

Perry 7/31/12 (Mark, Prof of Economics @ Univ. of Michigan, "America's Energy Jackpot: Industrial Natural Gas Prices Fall to the Lowest Level in Recent History," http://mjperry.blogspot.com/2012/07/americas-energy-jackpot-industrial.html)

Building petrochemical plants could suddenly become attractive in the United States. Manufacturers will "reshore" production to take advantage of low natural gas and electricity prices. Energy costs will be lower for a long time, giving a competitive advantage to companies that invest in America, and also helping American consumers who get hit hard when energy prices spike.¶ After years of bad economic news, the natural gas windfall is very good news. Let's make the most of it." ¶ The falling natural gas prices also make the predictions in this December 2011 study by PriceWaterhouseCoopers, "Shale gas: A renaissance in US manufacturing?"all the more likely: ¶ U.S. manufacturing companies (chemicals, metals and industrial) could employ approximately one million more workers by 2025 because of abundant, low-priced natural gas.¶ Lower feedstock and energy cost could help U.S. manufacturers reduce natural gas expenses by as much as $11.6 billion annually through 2025.¶ MP: As I have emphasized lately, America's ongoing shale-based energy revolution is one of the real bright spots in an otherwise somewhat gloomy economy, and provides one of the best reasons to be bullish about America's future. The shale revolution is creating thousands of well-paying, shovel-ready jobs in Texas, North Dakota and Ohio, and thousands of indirect jobs in industries that support the shale boom (sand, drilling equipment, transportation, infrastructure, steel pipe, restaurants, etc.). In addition, the abundant shale gas is driving down energy prices for industrial, commercial, residential and electricity-generating users, which frees up billions of dollars that can be spent on other goods and services throughout the economy, providing an energy-based stimulus to the economy. ¶ Cheap natural gas is also translating into cheaper electricity rates, as low-cost natural gas displaces coal. Further, cheap and abundant natural gas is sparking a manufacturing renaissance in energy-intensive industries like chemicals, fertilizers, and steel. And unlike renewable energies like solar and wind, the natural gas boom is happening without any taxpayer-funded grants, subsidies, credits and loans. Finally, we get an environmental bonus of lower CO2 emissions as natural gas replaces coal for electricity generation. Sure seems like a win, win, win, win situation to me.

#### D. Manufacturing strength is key to both the economy and military power

Ettlinger and Gordon 11 (Michael and Kate, the Vice President for Economic Policy at the Center for American Progress, former director of the Economic Analysis and Research Network of the Economic Policy Institute and Vice President for Energy Policy at the Center for American Progress. Most recently, Kate was the co-director of the national Apollo Alliance, where she still serves as senior policy advisor. Former senior associate at the Center on Wisconsin Strategy, "The Importance and Promise of American Manufacturing" [http://www.americanprogress.org/issues/2011/04/pdf/manufacturing.pdf-)](http://www.americanprogress.org/issues/2011/04/pdf/manufacturing.pdf-%29)

Manufacturing is critically important to the American economy. For generations, the strength of our country rested on the power of our factory floors—both the machines and the men and women who worked them. We need manufacturing to continue to be a bedrock of strength for generations to come. Manufacturing is woven into the structure of our economy: Its importance goes far beyond what happens behind the factory gates. The strength or weakness of American manufacturing carries implications for the entire economy, our national security, and the well-being of all Americans. Manufacturing today accounts for 12 percent of the U.S. economy and about 11 percent of the private-sector workforce. But its significance is even greater than these numbers would suggest. The direct impact of manufacturing is only a part of the picture. First, jobs in the manufacturing sector are good middle-class jobs for millions of Americans. Those jobs serve an important role, offering economic opportunity to hard-working, middle-skill workers. This creates upward mobility and broadens and strengthens the middle class to the benefit of the entire economy. What’s more, U.S.-based manufacturing underpins a broad range of jobs that are quite different from the usual image of manufacturing. These are higher-skill service jobs that include the accountants, bankers, and lawyers that are associated with any industry, as well as a broad range of other jobs including basic research and technology development, product and process engineering and design, operations and maintenance, transportation, testing, and lab work. Many of these jobs are critical to American technology and innovation leadership. The problem today is this: Many multinational corporations may for a period keep these higher-skill jobs here at home while they move basic manufacturing elsewhere in response to other countries’ subsidies, the search for cheaper labor costs, and the desire for more direct access to overseas markets, but eventually many of these service jobs will follow. When the basic manufacturing leaves, the feedback loop from the manufacturing floor to the rest of a manufacturing operation—a critical element in the innovative process—is eventually broken. To maintain that feedback loop, companies need to move higher-skill jobs to where they do their manufacturing. And with those jobs goes American leadership in technology and innovation. This is why having a critical mass of both manufacturing and associated service jobs in the United States matters. The "industrial commons" that comes from the crossfertilization and engagement of a community of experts in industry, academia, and government is vital to our nation’s economic competitiveness. Manufacturing also is important for the nation’s economic stability. The experience of the Great Recession exemplifies this point. Although manufacturing plunged in 2008 and early 2009 along with the rest of the economy, it is on the rebound today while other key economic sectors, such as construction, still languish. Diversity in the economy is important—and manufacturing is a particularly important part of the mix. Although manufacturing is certainly affected by broader economic events, the sector’s internal diversity—supplying consumer goods as well as industrial goods, serving both domestic and external markets— gives it great potential resiliency. Finally, supplying our own needs through a strong domestic manufacturing sector protects us from international economic and political disruptions. This is most obviously important in the realm of national security, even narrowly defined as matters related to military strength, where the risk of a weak manufacturing capability is obvious. But overreliance on imports and substantial manufacturing trade deficits weaken us in many ways, making us vulnerable to everything from exchange rate fluctuations to trade embargoes to natural disasters.

#### E. Econ decline risks extinction

Auslin 9 (Michael, Resident Scholar – American Enterprise Institute, and Desmond Lachman – Resident Fellow – American Enterprise Institute, “The Global Economy Unravels”, Forbes, 3-6, http://www.aei.org/article/100187)

What do these trends mean in the short and medium term? The Great Depression showed how social and global chaos followed hard on economic collapse. The mere fact that parliaments across the globe, from America to Japan, are unable to make responsible, economically sound recovery plans suggests that they do not know what to do and are simply hoping for the least disruption. Equally worrisome is the adoption of more statist economic programs around the globe, and the concurrent decline of trust in free-market systems. The threat of instability is a pressing concern. China, until last year the world's fastest growing economy, just reported that 20 million migrant laborers lost their jobs. Even in the flush times of recent years, China faced upward of 70,000 labor uprisings a year. A sustained downturn poses grave and possibly immediate threats to Chinese internal stability. The regime in Beijing may be faced with a choice of repressing its own people or diverting their energies outward, leading to conflict with China's neighbors. Russia, an oil state completely dependent on energy sales, has had to put down riots in its Far East as well as in downtown Moscow. Vladimir Putin's rule has been predicated on squeezing civil liberties while providing economic largesse. If that devil's bargain falls apart, then wide-scale repression inside Russia, along with a continuing threatening posture toward Russia's neighbors, is likely. Even apparently stable societies face increasing risk and the threat of internal or possibly external conflict. As Japan's exports have plummeted by nearly 50%, one-third of the country's prefectures have passed emergency economic stabilization plans. Hundreds of thousands of temporary employees hired during the first part of this decade are being laid off. Spain's unemployment rate is expected to climb to nearly 20% by the end of 2010; Spanish unions are already protesting the lack of jobs, and the specter of violence, as occurred in the 1980s, is haunting the country. Meanwhile, in Greece, workers have already taken to the streets. Europe as a whole will face dangerously increasing tensions between native citizens and immigrants, largely from poorer Muslim nations, who have increased the labor pool in the past several decades. Spain has absorbed five million immigrants since 1999, while nearly 9% of Germany's residents have foreign citizenship, including almost 2 million Turks. The xenophobic labor strikes in the U.K. do not bode well for the rest of Europe. A prolonged global downturn, let alone a collapse, would dramatically raise tensions inside these countries. Couple that with possible protectionist legislation in the United States, unresolved ethnic and territorial disputes in all regions of the globe and a loss of confidence that world leaders actually know what they are doing. The result may be a series of small explosions that coalesce into a big bang.

### 2NC Nuclear Power Links

#### Link outweighs the link turn – even failed projects jack up the price

Madsen et al 9 (Travis, Analyst @ Frontier Group and Maryland PIRG Foundation, Johanna Neumann @ Maryland PIRG Foundation, and Emily Rusch @ CalPIRG Education Fund, "The High Cost of Nuclear Power," http://www.nirs.org/nukerelapse/calvert/highcostnpower\_mdpirg.pdf)

N o power company has successfully ¶ ordered a nuclear reactor in the ¶ United States since 1973. Despite¶ promises of power that would be “too ¶ cheap to meter,” the last generation of ¶ nuclear reactors ran aground on skyrocketing construction costs. Of 75 nuclear¶ reactors completed between 1966 and¶ 1986, the average reactor cost more than¶ triple its original construction budget.¶ 1¶ Later-built reactors came in as much ¶ as 1,200 percent over-budget.¶ 2¶ In 1985,¶ Forbes magazine wrote that “the failure ¶ of the U.S. nuclear power program ranks ¶ as the largest managerial disaster in business history, a disaster on a monumental ¶ scale.”¶ 3¶ Electricity customers ended up paying¶ the price. Only one-half of the reactors¶ proposed were ever built, and ratepayers ¶ often had to bear the costs of abandoned ¶ projects. Where reactor projects were¶ completed, rates often increased. Finally,¶ during the restructuring of the electricity ¶ industry in the 1990s, ratepayers were¶ saddled with billions in “stranded costs” ¶ from failed investments in nuclear power, ¶ saving nuclear power plant owners (and¶ their shareholders) from huge losses.

#### Nuclear power triples the cost that consumers pay

Madsen et al 9 (Travis, Analyst @ Frontier Group and Maryland PIRG Foundation, Johanna Neumann @ Maryland PIRG Foundation, and Emily Rusch @ CalPIRG Education Fund, "The High Cost of Nuclear Power," http://www.nirs.org/nukerelapse/calvert/highcostnpower\_mdpirg.pdf)

Compounding the problem are the¶ high cost estimates for new nuclear ¶ reactors. Some estimates of the cost of ¶ power from a new nuclear reactor range ¶ as high as 25 to 30 cents per kWh –¶ triple electricity rates in most parts of ¶ the country.¶ 57¶ Adding power at even half ¶ this price to a service territory could ¶ increase the cost that consumers pay for ¶ electricity, motivating additional efforts ¶ to conserve and dampening the power ¶ demand the plant was built to serve.¶ This exact situation contributed to ¶ the failure of the last wave of nuclear ¶ power plant construction in the United ¶ States. Dozens of reactors were cancelled, and billions of dollars in unnecessary investment were lost.

### 2NC Econ Turns Nuclear Power

#### Econ decline tanks nuke power – undermines necessary investment

Simpson 9 (Fiona, associate director of New York University's Center on International Cooperation, Bulletin of Atomic Scientists, "The recession alone won't stop nuclear power's growth," http://www.thebulletin.org/web-edition/features/the-recession-alone-wont-stop-nuclear-powers-growth)

None of the IAEA's projections, however, account for the financial crisis, which may negatively impact the appeal of nuclear energy. Clearly, investors that need credit to build new nuclear plants face a great deal more uncertainty and difficulty securing financing. Such a situation, on the surface, would indicate that nuclear power will be less attractive to investors. The downturn also may reduce electricity demand and thus, potentially, make the need for new power plants less urgent.¶ At the same time, prices for natural gas and oil have fallen from earlier highs, increasing their attractiveness as energy sources (although the price of each has increased recently). Additionally, nuclear power plants have significant "front-loaded" costs, requiring much more investment at the outset than fossil-fuel burning plants, even if nuclear plants may eventually be cheaper to run. In light of the ongoing credit crunch, investors in countries that don't rely on state-owned enterprises may find the economic circumstances simply too difficult to justify an investment in nuclear power--especially if there's reliable (and domestic) access to natural gas, coal, or oil. One also would expect private lenders to shy from nuclear projects--both because they have less money to lend and because of nuclear power's history of cost overruns and delays. Finally, from the point of view of developing countries interested in nuclear power, multilateral development banks, such as the World Bank, tend to prohibit investment in new nuclear projects.

## Elections

### 1NC Obama Win

#### Obama will win --- a consensus of polls and forecasts prove.

**Silver**, **9/20**/2012 (Nate, Sept. 19: A Wild Day in the Polls, but Obama Ends Up Ahead, Five Thirty Eight, New York Times, p. <http://fivethirtyeight.blogs.nytimes.com/2012/09/20/sept-19-a-wild-day-in-the-polls-but-obama-ends-up-ahead/#h>[])

There are also going to be some outliers — sometimes because of unavoidable statistical variance, sometimes because the polling company has a partisan bias, sometimes because it just doesn’t know what it’s doing. (And sometimes: because of all of the above.) By the end of Wednesday, however, it was clear that the preponderance of the evidence favored Mr. Obama. He got strong polls in Ohio, Florida, Michigan, Wisconsin and Virginia, all from credible pollsters. Mr. Obama, who had been slipping in our forecast recently, rebounded to a 75.2 percent chance of winning the Electoral College, up from 72.9 percent on Tuesday. The most unambiguously bearish sign for Mr. Romney are the poor polls he has been getting in swing states from pollsters that use a thorough methodology and include cellphones in their samples. There have been 16 such polls published in the top 10 tipping point states since the Democratic convention ended, all conducted among likely voters. Mr. Obama has held the lead in all 16 of these polls. With the exception of two polls in Colorado — where Mr. Obama’s polling has been quite middling recently — all put him ahead by at least four points. On average, he led by 5.8 percentage points between these 16 surveys. If this is what the post-convention landscape looks like, then Mr. Romney is in a great deal of trouble. Perhaps these polls imply that Mr. Obama’s lead is somewhere in the range of five percentage points in the popular vote — national polls suggest that it’s a bit less than that, but state polls provide useful information about the national landscape. Or perhaps they imply that Mr. Obama is overperforming slightly in the swing states. Either way, that’s a pretty big deficit for Mr. Romney to overcome. What’s more, Mr. Obama was at 49.4 percent of the vote on average between these 16 surveys, meaning that he’d need to capture only a tiny sliver of the undecided vote to get to an outright majority. (If we’re being technical, 49.4 percent might be sufficient for him to win these states on its own, since perhaps 1 or 2 percent of the vote will go to third-party candidates.) To be clear: I do not recommend that this is the only data you look at. The forecast model also evaluates polls that exclude cellphones, although it gives them slightly less weight. Those have not necessarily shown a great deal of strength for Mr. Obama. And just as the model looks at state polls to infer the national trend, it also does the reverse, using the national polls (and essentially the assumption of ”uniform swing”) to infer where the states stand. The national polls show a spread right now from an effective tie to an eight-point lead for Mr. Obama. Taken as a whole, they seem to imply more like a three or four point lead for Mr. Obama rather than something in the range of five points. (These distinctions really do make a difference, especially with so few undecided voters left.) The other questions, of course, are whether Mr. Obama’s bounce is fading, and if it might fade further. His FiveThirtyEight forecast remains off its high of about an 80 percent chance of victory, that he achieved late last week.

### 2NC Obama Win

#### Obama is winning --- momentum

**Blake**, **9/20**/2012 (Aaron, Is the 2012 election tilting toward Democrats?, The Washington Post, p. <http://www.washingtonpost.com/blogs/the-fix/wp/2012/09/20/is-the-2012-election-tilting-toward-democrats/>)

Either we’re at a turning point in the 2012 election, or a lot of pollsters are getting it wrong. The question for the past week-plus has been whether President Obama’s convention bounce and a series of stumbles for Mitt Romney have recast the 2012 race. Some national polls say yes, and a few say no. But more and more, the data at the state level point to some real movement in Democrats’ favor. At least for now. As we wrote Tuesday, Gallup polling shows that the bump Obama got from the Democratic convention two weeks ago has subsided. And another new poll, released Wednesday by the Associated Press and pollster GfK, shows basically the same picture, with 47 percent of likely voters supporting Obama and 46 percent backing Romney — a tie ballgame nationally. But almost every state-specific poll in the last few days has shown progress for Democrats — both at the presidential level and in the very important contest for the Senate — with some showing unprecedented leads for the blue side in the the most important states. Swing-state polls from CBS News, the New York Times and Quinnipiac University released Wednesday morning in three key states — Colorado, Virginia and Wisconsin — showed Obama either gaining since last month or, in the case of Virginia, holding his lead. And Fox News polls released Wednesday evening showed Obama with a solid lead in the three biggest swing states; he’s up by seven points each in Ohio and Virginia and five points in Florida. The results confirm polls from NBC News and Marist College in the same three states last week. A Washington Post poll released Tuesday confirms the movement in Virginia, with Obama up by an unprecedented eight points. And a Marquette University Law School poll released Wednesday supports the idea that the race in Wisconsin has shifted, with Obama leading by an astounding 14 points. Even if some of these margins seem a little big, just consider that even the best polls for Romney haven’t shown him with that kind of lead in these states — or really anything close to it. In fact, Nate Silver points out that, of the 16 live-interview swing state polls conducted in the last two weeks, Obama is leading in all of them except Colorado by at least four points.

#### Obama will win --- economic factors, Romney’s favorability, increased approval rating, and swing states.

**Lombardo**, **9/20**/2012 (Steve – Global CEO of Edelman Berland, Election Monitor: 47 Days to Go and the Pendulum Has Swung Toward Obama, The Huffington Post, p. <http://www.huffingtonpost.com/steve-lombardo/election-monitor-47-days_b_1900540.html>)

We can talk about 47 percent, the Libya stumbles, the lack of message discipline and a weak convention, but the simple fact is that the president and his team have had a better strategy than Team Romney from Day 1 and they have executed it to perfection. The result? Governor Romney has a damaged political persona and he's running behind the President in key states like Ohio, Virginia and -- to a lesser extent -- Florida. Losses in those three guarantee an Obama victory. With 47 days to go, the president has reversed his decline after his "you didn't build that" comment, is on a three week message win roll and is now likely to be reelected. How did we get here? As usual, it hasn't been just one thing; instead, the cumulative impact of a series of external events and strategic and tactical moves by each team has resulted in a significant competitive advantage for the president. In no particular order, here is our take on the most important of those events: 1. Romney entered the general election as a damaged and flawed candidate. Yes, this has happened to others who have rebounded, but this is different. Governor Romney's political persona was formed during the primaries when voters began to view him as elitist, rich and out of touch. This is where the Democrats' early advertising was crucial. Remember, Romney had to fight a two-front war as both Gingrich and the Democrats attacked Bain. It helped to galvanize a perception that has stuck like glue. Of course, miscues by the candidate and the campaign both old (the $10,000 bet) and new (47 percent) have reinforced this perception. That is why the 47 percent comment was so problematic. It was another layer on an already existing perception. The problem now is that this thing has hardened, making it virtually impossible to change. 2. Team Obama's early advertising strategy to make Romney an unacceptable alternative worked. They were able to define Romney before he had a chance to define himself. Of course, the Romney team inadvertently aided that effort but not doing a substantial positive media buy to explain who Mitt Romney is and what kind of President he might be. Romney's favorability rating is currently underwater with 44 percent favorable and 45 percent unfavorable. In the latest WSJ/NBC poll only 38 percent of the electorate had a positive impression of him. According to the latest CBS/NYT poll, only 37 percent of Virginia voters think that Romney "cares about people like them." This is politically debilitating. 3. Perceptions of the economy are improving. While unemployment remains high and GDP growth is abysmal, the stock market has improved (taking 401(k)s with it). Additionally, don't underestimate how effectively Team Obama has hammered home the idea that the president inherited a big problem. He has been saying it since he was inaugurated with extraordinarily good message discipline. Voters are likely to give him partial credit here. 4. Obama's approval rating is now in the "likely reelect zone. " We have been saying for months that an approval rating in the low- to mid-40s makes reelection difficult. Since last year, however, Obama's approval rating has improved by 5-6 points. He is now at approximately 49 percent approval, which is comparable to where President George W. Bush was in 2004. 5. The President had a strong convention and Romney had a weak one. Poor speeches and Eastwood's chair aside, the fact is that the RNC did not achieve its principal objective: to re-launch a re-branded Romney and create momentum heading into September. Forget all the talk about the convention's mechanics; this was about transforming the narrative. And they did not do that. Of course, the Democrats had the advantage of going second but the RNC did not put Team Obama on its heels. Speaking of which... 6. Team Romney has been in reactive mode for a month. Of course, part of this is a continuous cycle of damage control but there does not appear to be a forward-looking strategy. By now, we fully expected to see some sort of economic proposal or initiative that would have forced the Obama campaign to respond. This has not happened. 7. Last but certainly not least there was Libya. With respect to Team Romney, there seemed to be little recognition of the most basic political tenet of a foreign crisis: when there is an international incident in which America is attacked, voters in this country will (at least in the short term) rally around the flag and the president. Always. It is stunning that Team Romney failed to recognize this. In times of domestic crisis (the BP oil spill is a great example) voters will look to their political leaders and can be pretty quick to lay blame. On the other hand, it usually takes some time for voters to sour on how their leaders have handled international crises. Iraq is the perfect example. 8. The result is that the President is now running ahead (beyond the margin of error) of Romney in key battleground states including Virginia, Ohio, Florida and New Hampshire. Ohio is particularly troubling since it is awfully hard to see a winning Romney coalition without it.

### 1NC Nuclear Power Link

#### Nuclear power incentives are massively unpopular --- the public does not want to foot the cost.

**Sheppard**, 3/23/**2011** (Kate – staff reporter at Mother Jones’ Washington bureau, Public Opinion on Nuclear Goes Critical, Mother Jones, p. <http://www.motherjones.com/blue-marble/2011/03/nuclear-power-public-opinion-poll>)

It's probably not too surprising, given the constant attention it's been getting in the press recently, but the Japanese nuclear crisis has turned more Americans off to nuclear power. Two new polls released Tuesday found that 58 percent of those polled said they are now less supportive of expanding nuclear power here in the US. The poll, conducted by ORC International on behalf of the Civil Society Institute (CSI), found that two-thirds of respondents said they would protest the construction of a new nuclear reactor within 50 miles of their homes. Fifty-three percent said they support "a moratorium on new nuclear reactor construction in the United States" and would prefer energy efficiency and renewables. (It's worth noting, though, that among those that already supported of nuclear power, 24 percent now said they are actually more supportive now.) The Pew Research Center for the People and the Press also released a new poll on Tuesday that found nuclear support had taken a nose-dive. As for funding these new nuclear plants, 73 percent in the CSI poll said they don't think taxpayers should "take on the risk for the construction of new nuclear power reactors" with federal loan guarantees. The Obama administration has made expanding the loan guarantees a major part of its energy agenda, but there have been plenty of concerns about forcing taxpayers to foot the bill if something goes wrong. When Gallup last polled Americans on nuclear power in 2009, it found support at a new high—59 percent of the public favored it. It had been years since a nuclear accident was all over the news. But as I noted last week, the last major nuclear power accident in the US was enough to turn Americans off from it for a generation. I ventured then that this latest situation in Japan may have a similar effect. Given that the latest polls were conducted in the aftermath of a nuclear disaster, it's unclear what their conclusions mean for the future of nuclear power. What will be interesting is the longer-term influence on public opinion once Japan's nuclear emergency fades from the news.

### 1NC Clean Energy Link

#### Clean energy attacks will swing the election for Romney ---it outweighs other issues.

**LeVine**, 6/13/**2012** (Steve – author of *The Oil and Glory*, How Dirty is Romney Prepared to get to win election, Foreign Policy, p. <http://oilandglory.foreignpolicy.com/posts/2012/06/12/how_dirty_is_romney_prepared_to_get_to_win_election>)

Is Barack Obama sufficiently dirty to win re-election? Not according to presumptive Republican nominee Mitt Romney, who says the president is too spic and span. Calculating that clean energy is passé among Americans more concerned about jobs and their own pocketbooks, Romney is gambling that he can tip swing voters his way by embracing dirtier air and water if the tradeoff is more employment and economic growth. Romney's gamble is essentially a bet on the demonstrated disruptive potency of shale gas and shale oil, which over the last year or so have shaken up geopolitics from Russia to the Middle East and China. Now, Romney and the GOP leadership hope they will have the same impact on U.S. domestic politics, and sweep the former Massachusetts governor into the White House with a strong Republican majority in Congress. A flood of new oil and natural gas production in states such as **North Dakota, Ohio, Pennsylvania, and Texas** is changing the national and global economies. U.S. oil production is projected to reach 6.3 million barrels a day this year, the highest volume since 1997, the Energy Information Agency reported Tuesday. In a decade or so, U.S. oil supplies could help to shrink OPEC's influence as a global economic force. Meanwhile, a glut of cheap U.S. shale gas has challenged Russia's economic power in Europe and is contributing to a revolution in how the world powers itself. But Romney and the GOP assert that Obama is slowing the larger potential of the deluge, and is not up to the task of turning it into what they say ought to be a gigantic jobs machine. The president's critics say an unfettered fossil fuels industry could produce 1.4 million new jobs by 2030. They believe that American voters won't be too impressed with Obama's argument that he is leading a balanced energy-and-jobs approach that includes renewable fuels and electric cars. The GOP's oil-and-jobs campaign -- in April alone, 81 percent of U.S. political ads attacking Obama were on the subject of energy, according to Kantar Media, a firm that tracks political advertising -- is a risk that could backfire. Americans could decide that they prefer clean energy after all. Or, as half a dozen election analysts and political science professors told me, energy -- even if it seems crucial at this moment in time -- may not be a central election issue by November. Yet if the election is as close as the polls suggest, the energy ads could prove a pivotal factor. "Advertising is generally not decisive. Advertising matters at the margins. ... But ask Al Gore if the margin matters," said Ken Goldstein, president of the Campaign Media Analysis Group at Kantar Media. "This is looking like an election where the margin may matter." Romney is hardly the first major U.S. presidential candidate to embrace Big Oil. The politics of clean go back to Lady Bird Johnson's war on litter and Richard Nixon's embrace of environmentalism. But both presidents Bush came from the oil industry, and former Alaska Gov. Sarah Palin, the last GOP vice presidential nominee, gleefully led chants of "Drill, baby, drill" in 2008. Yet President George W. Bush also famously declared that "America is addicted to oil" in his 2006 State of the Union address, and initiated most of the energy programs for which Obama is currently under fire. And Palin's drumbeat in the end seemed to fall flat. The Republican efforts appear to go beyond any modern campaign in their brash embrace of what is dirty, and their scorn of what is not. And **the times seem to favor them**. In 2009, the GOP, backed by heavy industry lobbying, **knocked back environmentalists on their heels** by crushing global warming legislation. Other previously central issues -- Afghanistan, Iraq, health care -- are still debated in the campaign, but not as centrally nor as viscerally as energy, said Frank Maisano, an energy and political analyst at Bracewell & Giuliani, a Houston-based law firm. Obama advisors have said rightly that energy is only one component of a much broader American and global economy, but the GOP appears to have at least partially successfully injected the oil and gas boom as a defining feature of the economic discourse. In a Sunday op-ed in the New York Times entitled "America's New Energy Reality," industry consultant Daniel Yergin remarked that while Obama's 2010 State of the Union address focused on clean-energy jobs, the president pivoted this year to talk as much about oil and natural gas. "His announcement that ‘American oil production is the highest it has been in eight years' turned out to be an applause line," Yergin noted.

### 1NC China Bashing !

#### GOP victory leads to China bashing over multiple issues – causes sanctions

Gerstein 11 (Josh – Politico, “The GOP's China syndrome”, 11/22, <http://www.politico.com/news/stories/1111/68952.html>)

Mitt Romney says America is at war with China — a “trade war” over its undervalued currency. “They’re stealing our jobs. And we’re gonna stand up to China,” the former Massachusetts governor declared in a recent Republican presidential debate, arguing that the United States should threaten to impose tariffs on Chinese imports. When Romney steps on stage tonight for another debate, this one devoted to foreign policy, that kind of China-bashing is likely to be a favorite theme. With a moribund economy and relatively little traction for other international issues, the threat posed by cheap Chinese imports and Chinese purchases of U.S. debt is an irresistible target. The problem, China experts are quick to point out, is that those attacks often fly in the face of the business interests Republicans have traditionally represented, not to mention the record many of the candidates have either supporting trade with China — or actively soliciting it. Just last year, for example, Romney slammed President Barack Obama for growth-killing protectionism after he put a 35 percent tariff on Chinese tires because of a surge of cheap imports. And, Romney wrote in his book, “No Apology: The Case for American Greatness,” “Protectionism stifles productivity.” And though Texas Gov. Rick Perry predicted at a debate this month that “the Chinese government will end up on the ash heap of history if they do not change their virtues,” a picture posted on the Internet shows a smiling Perry on a trade mission to Shanghai and Beijing posing with Chinese Foreign Minister Yang Jiechi after presenting him with a pair of cowboy boots. Nor has Perry been shy about encouraging Chinese investments in Texas: In October 2010, he appeared at the announcement of a new U.S. headquarters for Huawei Technologies to be located in Plano, Texas, despite lingering concerns among U.S. security officials that Huawei-made telecommunications equipment is designed to allow unauthorized access by the Chinese government. “There’s a certain pandering going on,” said Nicholas Lardy of the Peterson Institute for International Economics, who adds that the GOP rhetoric is squarely at odds with the views of the U.S. establishment, which believes a showdown with China over the trade issue “will make things worse, not better.” Not all of the 2012 GOP presidential hopefuls have taken to publicly pummeling Beijing. The only bona fide China expert in the group, former Ambassador to China Jon Huntsman, has criticized Romney for being cavalier and simplistic in his talk of tariffs. “You can give applause lines, and you can kind of pander here and there. You start a trade war if you start slapping tariffs randomly on Chinese products based on currency manipulation,” Huntsman said at a recent debate. “That doesn’t work.” Former Sen. Rick Santorum also rejected the idea of slapping tariffs on Beijing if it won’t buckle on the currency issue. “That just taxes you. I don’t want to tax you,” Santorum said. Newt Gingrich says he wants to bring a world of hurt down on Beijing for alleged Chinese cyberattacks on the U.S. and theft of intellectual property, though he’s vague about how. “We’re going to have to find ways to dramatically raise the pain level for the Chinese cheating,” the former house speaker declares. And Herman Cain talks of a threat from China, but says the answer is to promote growth in the U.S. “China’s economic dominance would represent a national security threat to the USA, and possibly to the rest of the world,” Cain wrote in May in the Daily Caller. “We can outgrow China because the USA is not a loser nation. We just need a winner in the White House.” Romney’s rhetoric has been particularly harsh. “It’s predatory pricing, it’s killing jobs in America,” he declared at the CNBC debate earlier this month, promising to make a formal complaint to the World Trade Organization about China’s currency manipulation. “I would apply, if necessary, tariffs to make sure that they understand we are willing to play at a level playing field.” The Romney campaign insists those tariffs are entirely distinguishable from the tire duties Obama imposed in 2009. “The distinction between Obama’s tire action and what Gov. Romney is proposing is simple,” said a Romney aide who did not want to be named. “President Obama is not getting tough with China or pushing them unilaterally, he is handing out political favors to union allies. [Romney’s] policy focuses on fostering competition by keeping markets open and the playing field level.” Romney, who helped set up investment bank Bain Capital, has long been a favorite of Wall Street, so his stridency on the China trade issue has taken some traditional conservatives — for whom free trade is a fundamental tenet — by surprise. National Review said Romney’s move “risk[ed] a trade war with China” and was “a remarkably bad idea.” In fact, many business leaders give Obama good marks for his China policy. “What the Obama administration has done in not labeling China as a ‘currency manipulator’ is correct,” said one U.S. business lobbyist who closely follows U.S.-China trade issues and asked not to be named. “We’re very leery of a tit-for-tat situation,” he added, while acknowledging that the anti-China rhetoric is “good politics.”

#### That causes a US-China trade war – escalates to conflict and collapses global trade

**Droke 10** (Clif, Editor – Momentum Strategies Report, “America and the Next Major War’, Green Faucet, 3-29, http://www.greenfaucet.com/technical-analysis/america-and-the-next-major-war/79314)

In the current phase of relative peace and stability we now enjoy, many are questioning when the next major war may occur and speculation is rampant as to major participants involved. Our concern here is strictly of a financial nature, however, and a discussion of the geopolitical and military variables involved in the escalation of war is beyond the scope of this commentary. But what we can divine from financial history is that "hot" wars in a military sense often emerge from trade wars. As we shall see, the elements for what could prove to be a trade war of epic proportions are already in place and the key figures are easily identifiable. Last Wednesday the lead headline in the Wall Street Journal stated, "Business Sours on China." It seems, according to WSJ, that Beijing is "reassessing China's long-standing emphasis on opening its economy to foreign business....and tilting toward promoting dominant state companies." Then there is Internet search giant Google's threat to pull out of China over concerns of censorship of its Internet search results in that country. The trouble started a few weeks ago Google announced that it no longer supports China's censoring of searches that take place on the Google platform. China has defended its extensive censorship after Google threatened to withdraw from the country. Additionally, the Obama Administration announced that it backs Google's decision to protest China's censorship efforts. In a Reuters report, Obama responded to a question as to whether the issue would cloud U.S.-China relations by saying that the human rights would not be "carved out" for certain countries. This marks at least the second time this year that the White House has taken a stand against China (the first conflict occurring over tire imports). Adding yet further fuel to the controversy, the U.S. Treasury Department is expected to issue a report in April that may formally label China as a "currency manipulator," according to the latest issue of Barron's. This would do nothing to ease tensions between the two nations and would probably lead one step closer to a trade war between China and the U.S. Then there was last week's Wall Street Journal report concerning authorities in a wealthy province near Shanghai criticizing the quality of luxury clothing brands from the West, including Hermes, Tommy Hilfiger and Versace. This represents quite a change from years past when the long-standing complaint from the U.S. over the inferior quality of Chinese made merchandise. On Monday the WSJ ran an article under the headline, "American Firms Feel Shut Out In China." The paper observed that so far there's little evidence that American companies are pulling out of China but adds a growing number of multinational firms are "starting to rethink their strategy." According to a poll conducted by the American Chamber of Commerce in China, 38% of U.S. companies reported feeling unwelcome in China compared to 26% in 2009 and 23% in 2008. As if to add insult to injury, the high profile trial of four Rio Tinto executives in China is another example of the tables being turned on the West. The executives are by Chinese authorities of stealing trade secrets and taking bribes. There's a touch of irony to this charge considering that much of China's technology was stolen from Western manufacturing firms which set up shop in that country. It seems China is flexing its economic and political muscle against the West in a show of bravado. Yet one can't help thinking that this is exactly the sort of arrogance that typically precedes a major downfall. As the Bible states, "Pride goeth before destruction, and an haughty spirit before a fall." In his book, "Jubilee on Wall Street," author David Knox Barker devotes a chapter to how trade wars tend to be common occurrences in the long wave economic cycle of developed nations. Barker explains his belief that the industrial nations of Brazil, Russia, India and China will play a major role in pulling the world of the long wave deflationary decline as their domestic economies begin to develop and grow. "They are and will demand more foreign goods produced in the United States and other markets," he writes. Barker believes this will help the U.S. rebalance from an over weighted consumption-oriented economy to a high-end producer economy. Barker adds a caveat, however: if protectionist policies are allowed to gain force in Washington, trade wars will almost certainly erupt and. If this happens, says Barker, "all bets are off." He adds, "The impact on global trade of increased protectionism and trade wars would be catastrophic, and what could prove to be a mild long wave [economic] winter season this time around could plunge into a global depression." Barker also observes that the storm clouds of trade wars are already forming on the horizon as we have moved further into the long wave economic "winter season." Writes Barker, "If trade wars are allowed to get under way in these final years of a long wave winter, this decline will be far deeper and darker than necessary, just as the Great Depression was far deeper and lengthier than it should have been, due to growing international trade isolationism. He further cautions that protectionism in Washington will certainly bring retaliation from the nations that bear the brunt of punitive U.S. trade policies. He observes that the reaction from one nation against the protectionist policies of another is typically far worse than the original action. He cites as an example the restriction by the U.S. of $55 million worth of cotton blouses from China in the 1980s. China retaliated by cancelling $500 million worth of orders for American rain. "As one nation blocks trade, the nation that is hurt will surely retaliate and the entire world will suffer," writes Barker.

#### US-China war goes nuclear

Johnson 1 (Chalmers, President – Japan Policy Research Institute, “Time to Bring the Troops Home”, The Nation, 4-26, http://ieas.berkeley.edu/cks/k12/girling\_troops.doc)

In East Asia, the United States maintains massive and expensive military forces poised to engage in everything from nuclear war to sabotage of governments that Washington finds inconvenient (for example, the government of former President Suharto in Indonesia, which in May 1998 the US government helped to bring down via troops its Special Forces had trained). At the beginning of the twenty-first century, the United States still deploys some 100,000 military personnel and close to an equal number of civilian workers and dependents in Japan and South Korea. These forces include the Third Marine Expeditionary Force in Okinawa and Japan; the Second Infantry Division in South Korea; numerous Air Force squadrons in both countries (Kadena Air Force Base in Okinawa is the largest US military installation outside the United States); the Seventh Fleet, with its headquarters in Yokosuka, Japan, patrolling the China coast and anywhere else that it wants to go; and innumerable submarine pens (for example, White Beach, Okinawa), support facilities, clandestine eavesdropping and intelligence-collecting units, Special Forces and staff and headquarters installations all over the Pacific. From approximately 1950 to 1990, the US government invoked the cold war to justify these so-called forward deployments--actually, in less euphemistic language, imperialist outposts. During the late 1940s, when it became apparent that the Chinese Communist Party was going to win the Chinese civil war, the United States reversed its policy of attempting to democratize occupied Japan and devoted itself to making Japan Washington's leading satellite in East Asia. The United States entered into an informal economic bargain with Japan: In return for Japan's willingness to tolerate the indefinite deployment of US weapons and troops on its soil, the United States would give it preferential access to the American market and would tolerate its protectionism and mercantilism. These were advantages the United States did not extend to its European allies or Latin American neighbors in the cold war. Oddly enough, this policy is still in effect some fifty-four years after it was first implemented. In return for hosting 40,000 US troops and an equal number of dependents in ninety-one US-controlled bases, Japan still has privileged access to the US economy and still maintains protectionist barriers against US sales and investment in the Japanese market. The overall results of this policy became apparent in the 1970s and led to acute problems for the US economy in the 1980s--namely, huge excess manufacturing capacity in Japan and the hollowing out of US manufacturing industries. The costs for the United States have been astronomical. During the year 2000 alone, it recorded its largest trade deficit ever, of which $81 billion was with Japan. During the mid-1980s, Japan became the world's largest creditor nation and the United States became the world's largest debtor nation, thereby turning upside down the original assumptions on which US economic policies toward Japan were based. But neither the United States nor Japan made any changes in its old trade-for-bases deal, despite occasional and futile protests by US business interests. Meanwhile, from the point of view of US elites committed to maintaining hegemony on a global basis, the sudden and unpredicted collapse of the Soviet Union in the period 1989 to 1991 was a disaster. They had to find some new justifications for their overseas presence, particularly in East Asia, where Japan's inherent power and the emergence of a commercially oriented China offered implicit challenges to the old American order. Among these justifications, one of the cleverest was the so-called two-war strategy, which requires the US military establishment to be able to fight two large wars on opposite sides of the globe at the same time. The beauty of this formulation is that it avoids specifying which nations might conceivably want to go to war with the United States and ignores the historical fact that in America's most recent wars--Korea, Vietnam, the Persian Gulf and Yugoslavia--no second nation (on the other side of the globe or nearby) challenged it. More concretely, Pentagon strategists have tried to find replacement enemies for the former USSR by demonizing North Korea and muttering ominously about China's successful transition from a Leninist command economy to a state-guided market system resembling the other successful capitalist countries of East Asia. Until June 2000, North Korea was routinely described as an extremely threatening "rogue state." Then, on the initiative of the South Korean president, the two Koreas began to negotiate their own reconciliation without asking for US permission. The possibility that North and South Korea might achieve some form of peaceful coexistence totally undercuts the main US rationale for a "national missile defense" and a "theater missile defense." Regardless of which ventriloquist is in charge of him on any given day, George W. Bush shows no sign of comprehending these matters. In March, when South Korean President Kim Dae Jung, last year's winner of the Nobel Peace Prize, visited Washington to ask for help in pursuing his country's rapprochement with the North, the newly designated "leader of the free world" rudely brushed him off. Korea policy has become a plaything of Congressional Republican mastodons, and the Bush White House seems much more interested in pleasing them than in the situation in East Asia. It is easy for the United States to attempt to bully both the North and South Koreas; it has been doing so since 1945. China is another matter. No sane figure in the Pentagon wants a war with China, and all serious US militarists know that China's minuscule nuclear capacity is not offensive but a deterrent against the overwhelming US power arrayed against it (twenty archaic Chinese warheads versus more than 7,000 US warheads). Taiwan, whose status constitutes the still incomplete last act of the Chinese civil war, remains the most dangerous place on earth. Much as the 1914 assassination of the Austrian crown prince in Sarajevo led to a war that no one wanted, a misstep in Taiwan by any side could bring the United States and China into a conflict that neither wants. Such a war would bankrupt the United States, deeply divide Japan and probably end in a Chinese victory, given that China is the world's most populous country and would be defending itself against a foreign aggressor. More seriously, it could easily escalate into a nuclear holocaust.

#### Collapse of trade causes extinction

Pazner 8 (Michael J., Faculty – New York Institute of Finance, Financial Armageddon: Protect Your Future from Economic Collapse, p. 137-138)

The rise in isolationism and protectionism will bring about ever more heated arguments and dangerous confrontations over shared sources of oil, gas, and other key commodities as well as factors of production that must, out of necessity, be acquired from less-than-friendly nations. Whether involving raw materials used in strategic industries or basic necessities such as food, water, and energy, efforts to secure adequate supplies will take increasing precedence in a world where demand seems constantly out of kilter with supply. Disputes over the misuse, overuse, and pollution of the environment and natural resources will become more commonplace. Around the world, such tensions will give rise to full-scale military encounters, often with minimal provocation. In some instances, economic conditions will serve as a convenient pretext for conflicts that stem from cultural and religious differences. Alternatively, nations may look to divert attention away from domestic problems by channeling frustration and populist sentiment toward other countries and cultures. Enabled by cheap technology and the waning threat of American retribution, terrorist groups will likely boost the frequency and scale of their horrifying attacks, bringing the threat of random violence to a whole new level. Turbulent conditions will encourage aggressive saber rattling and interdictions by rogue nations running amok. Age-old clashes will also take on a new, more heated sense of urgency. China will likely assume an increasingly belligerent posture toward Taiwan, while Iran may embark on overt colonization of its neighbors in the Mideast. Israel, for its part, may look to draw a dwindling list of allies from around the world into a growing number of conflicts. Some observers, like John Mearsheimer, a political scientists at the University of Chicago, have even speculated that an “intense confrontation” between the United States and China is “inevitable” at some point. More than a few disputes will turn out to be almost wholly ideological. Growing cultural and religious differences will be transformed from wars of words to battles soaked in blood. Long-simmering resentments could also degenerate quickly, spurring the basest of human instincts and triggering genocidal acts. Terrorists employing biological or nuclear weapons will vie with conventional forces using jets, cruise missiles, and bunker-busting bombs to cause widespread destruction. Many will interpret stepped-up conflicts between Muslims and Western societies as the beginnings of a new world war.

### 1NC Russia Rels !

#### Obama reelection maintains the US/Russian reset --- Romney will collapse relations

**Weir**, 3/27/**2012** (Fred, Obama asks Russia to cut him slack until reelection, Minnesota Post, p. <http://www.minnpost.com/christian-science-monitor/2012/03/obama-asks-russia-cut-him-slack-until-reelection>)

Russian experts say there's little doubt the Kremlin would like to see Obama re-elected. Official Moscow has been pleased by Obama's policy of "resetting" relations between Russia and the US, which resulted in the new START treaty and other cooperation breakthroughs after years of diplomatic chill while George W. Bush was president. The Russian media often covers Obama's lineup of Republican presidential challengers in tones of horror, and there seems to be a consensus among Russian pundits that a Republican president would put a quick end to the Obama-era thaw in relations. "The Republicans are active critics of Russia, and they are extremely negative toward Putin and his return to the presidency," says Dmitry Babich, a political columnist with the official RIA-Novosti news agency. "Democrats are perceived as more easygoing, more positive toward Russia and Putin." Speaking on the record in Seoul, Mr. Medvedev said the years since Obama came to power "were the best three years in the past decade of Russia-US relations.… I hope this mode of relations will maintain between the Russian Federation and the United States and between the leaders." During Putin's own election campaign, which produced a troubled victory earlier this month, he played heavily on anti-Western themes, including what he described as the US drive to attain "absolute invulnerability" at the expense of everyone else. But many Russian experts say that was mostly election rhetoric, and that in office Putin will seek greater cooperation and normal relations with the West. "Russian society is more anti-American than its leaders are," says Pavel Zolotaryov, deputy director of the official Institute of USA-Canada Studies in Moscow. "Leaders have to take popular moods into account. But it's an objective fact that the US and Russia have more points in common than they have serious differences. If Obama wins the election, it seems likely the reset will continue."

#### US/Russian relations prevent nuclear war

**Elliott**, 5/15/**1995** (Michael, Why Russia Still Matters to America, Newsweek, p. lexis)

"Russia," says Deputy Secretary of State Strobe Talbott, "is a big country." That it is; lop off the newly independent states born within the old Soviet husk and you've still got a lot left -- a highly educated work force sitting on top of some of the globe's most valuable resources. True, much of that vast territory has an awful climate (climate matters-for different reasons than Russia's, it explains why Australia will never be a great power). But unlike India and China, two other "giant" states, Russia will be able to husband its vast resources without the additional strain of feeding -- and employing-more than a billion souls. It also, of course, is the only country that can launch a **devastating nuclear attack** on the United States. That kind of power demands respect. And sensitive handling. Stephen Sestanovich, head Russia watcher at the Carnegie Endowment for International Peace in Washington, argues that present U.S. policy is geared too much to "dismantling Russian military might" -- a policy that, since it breeds Russian resentment of Western meddling, is self-defeating. "We have to reorient Russian power," says Sestanovich, "not eliminate it. Because we can't eliminate it." Indeed, Washington should prefer a strong Russia. A Russia so weak, for example, that it could not resist a Chinese land grab of its Far East **without resorting to nuclear weapons** is a 21st-century nightmare. **All this implies a close U.S. -- Russian relationship** stretching into the future. American officials say it will be a "pragmatic" one, recognizing that Russian and U.S. national interests will sometimes collide. The danger, for the United States, is that a pragmatic relationship could be dominated by security issues. In Western Europe, some futurists say that in the coming decades Russia will talk to the United States about nuclear weapons but to the European Union about everything else-trade, economic development and the rest.

### 2NC Russia Rels I/L

#### Romney will end cooperation with Russia --- spills over to Iran proliferation, Afghanistan and CTR programs

**Lyman**, 3/30/**2012** (John – editor-in-chief of International Policy Digest, Romney’s Foreign Policy and Russia, International Policy Digest, p. http://www.internationalpolicydigest.org/2012/03/30/romneys-foreign-policy-and-russia/)

U.S.-Russian relations transcend the United Nations and other multilateral institutions. The United States relies on Russian assistance in counterterrorism, Afghanistan, shoring up loose nuclear material in the former Soviet Republics, international narcotics trafficking, WMD proliferation and reducing American and Russian nuclear stockpiles, which has become a cause celeb for Mr. Obama. Obama has calculated that the Russians would be amendable to significant reductions in their nuclear stockpiles if he negotiates with the Russians in good faith over missile defense. This process was started several years ago in an effort to “reset” U.S.-Russian relations, when Obama ordered a different configuration to the missile defense system – the European Phased Adaptive Approach (EPAA) – planned for construction in Eastern Europe. The original system envisioned a radar base that was to be built in the Czech Republic with interceptors housed in Poland. The EPAA is designed to intercept ballistic missiles launched from “rogue” nations from interceptors housed in Poland and now Romania. The Russians have been highly critical of the system first announced by the Bush administration as they claim it would undermine their own nuclear deterrent. “This is not a matter of hiding the ball,” Mr. Obama said. “I want to see us gradually, systematically reduce reliance on nuclear weapons.” Now that Mr. Romney has antagonized the Russians, he might find it **difficult to negotiate with them over a whole host of issues**, much less getting Russia on board with prodding the Iranians to return to the negotiating table or facilitating America’s withdrawal from Afghanistan if he defeats Mr. Obama in November.

#### Iranian proliferation causes nuclear war

Henry **Sokolsky**, executive director – nonproliferation policy education center, 10/1/**2003**, Policy Review, p. lexis

If nothing is done to shore up U.S. and allied security relations with the Gulf Coordination Council states and with Iraq, Turkey, and Egypt, Iran's acquisition of even a nuclear weapons breakout capability could prompt one or more of these states to try to acquire a nuclear weapons option of their own. Similarly, if the U.S. fails to hold Pyongyang accountable for its violation of the NPT or lets Pyongyang hold on to one or more nuclear weapons while appearing to reward its violation with a new deal--one that heeds North Korea's demand for a nonaggression pact and continued construction of the two light water reactors--South Korea and Japan (and later, perhaps, Taiwan) will have powerful cause to question Washington's security commitment to them and their own pledges to stay non-nuclear. In such a world, Washington's worries would not be limited to gauging the military capabilities of a growing number of hostile, nuclear, or near-nuclear-armed nations. In addition, it would have to gauge the reliability of a growing number of nuclear or near-nuclear friends. Washington might still be able to assemble coalitions, but with more nations like France, with nuclear options of their own, it would be much, much more iffy. The amount of international intrigue such a world would generate would also easily exceed what our diplomats and leaders could manage or track. Rather than worry about using force for fear of producing another Vietnam, Washington and its very closest allies are more likely to grow weary of working closely with others and view military options through the rosy lens of their relatively quick victories in Desert Storm, Kosovo, Operation Iraqi Freedom, and Just Cause. This would be a world disturbingly similar to that of 1914 but with one big difference: It would be spring-loaded to go nuclear.

#### Afghanistan collapse results in nuclear war

**Morgan 7** (Stephen J., Political Writer and Former Member of the British Labour Party Executive Committee, “Better another Taliban Afghanistan, than a Taliban NUCLEAR Pakistan!?”, 9-23, http://www.freearticlesarchive .com/article/\_Better\_another\_Taliban\_Afghanistan\_\_than\_a\_Taliban\_NUCLEAR\_Pakistan\_\_\_/99961/0/)

However events may prove him sorely wrong. Indeed, his policy could completely backfire upon him. As the war intensifies, he has no guarantees that the current autonomy may yet burgeon into a separatist movement. Appetite comes with eating, as they say. Moreover, should the Taliban fail to re-conquer al of Afghanistan, as looks likely, but captures at least half of the country, then a Taliban Pashtun caliphate could be established which would act as a magnet to separatist Pashtuns in Pakistan. Then, the likely break up of Afghanistan along ethnic lines, could, indeed, lead the way to the break up of Pakistan, as well. Strong centrifugal forces have always bedevilled the stability and unity of Pakistan, and, in the context of the new world situation, the country could be faced with civil wars and popular fundamentalist uprisings, probably including a military-fundamentalist coup d’état. Fundamentalism is deeply rooted in Pakistan society. The fact that in the year following 9/11, the most popular name given to male children born that year was “Osama” (not a Pakistani name) is a small indication of the mood. Given the weakening base of the traditional, secular opposition parties, conditions would be ripe for a coup d’état by the fundamentalist wing of the Army and ISI, leaning on the radicalised masses to take power. Some form of radical, military Islamic regime, where legal powers would shift to Islamic courts and forms of shira law would be likely. Although, even then, this might not take place outside of a protracted crisis of upheaval and civil war conditions, mixing fundamentalist movements with nationalist uprisings and sectarian violence between the Sunni and minority Shia populations. The nightmare that is now Iraq would take on gothic proportions across the continent. The prophesy of an arc of civil war over Lebanon, Palestine and Iraq would spread to south Asia, stretching from Pakistan to Palestine, through Afghanistan into Iraq and up to the Mediterranean coast. Undoubtedly, this would also spill over into India both with regards to the Muslim community and Kashmir. Border clashes, terrorist attacks, sectarian pogroms and insurgency would break out. A new war, and possibly nuclear war, between Pakistan and India could no be ruled out. Atomic Al Qaeda Should Pakistan break down completely, a Taliban-style government with strong Al Qaeda influence is a real possibility. Such deep chaos would, of course, open a “Pandora's box” for the region and the world. With the possibility of unstable clerical and military fundamentalist elements being in control of the Pakistan nuclear arsenal, not only their use against India, but Israel becomes a possibility, as well as the acquisition of nuclear and other deadly weapons secrets by Al Qaeda. Invading Pakistan would not be an option for America. Therefore a nuclear war would now again become a real strategic possibility. This would bring a shift in the tectonic plates of global relations. It could usher in a new Cold War with China and Russia pitted against the US.

#### Cooperation on nuclear material prevents WMD terrorism --- escalates to global nuclear war

Patrick **Speice**, February, **2006**, 47 Wm and Mary L. Rev. 1427, p. lexis

Second, the economic decline that accompanied the transition to a market economy 36 exacerbated the problem, as the fiscal situation in the former Soviet states, most notably  [\*1437]  Russia, made security programs impossible to fund. 37 Graham Allison summarizes the implications of post-Soviet disorder in Russia: The dramatic changes ... have produced political uncertainty, economic distress, and social dislocation. For tens of millions of Russians, hardship and deprivation are inescapable facts of life... [H]arsh economic conditions can **create incentives for nuclear theft and smuggling**. For people who are poorly housed, poorly fed, and poorly paid (when paid at all), there will be a temptation to do what they can to improve their lives and secure their futures. Russia's nuclear custodians face these pressures as they preside over weapons and materials that are **immensely valuable** to any state or group that covets nuclear weapons. It is not hard to imagine that people leading bleak, uncertain, and difficult lives might find **irresistible** the prospect of wealth and security via the nuclear black market... ... Organizations such as the Russian military and Minatom are now operating in circumstances of great stress. Money is in short supply, paychecks are irregular, living conditions unpleasant ... [D]isorder within Russia and the resulting strains within the military could easily cause a lapse or a **breakdown in the Russian military's guardianship of nuclear weapons**. 38 Accordingly, there is a significant and ever-present risk that terrorists could acquire a nuclear device or fissile material from Russia as a result of the **confluence of Russian economic decline** and the end of stringent Soviet-era nuclear security measures. 39 Terrorist groups could acquire a nuclear weapon by a number of methods, including "steal[ing] one intact from the stockpile of a country possessing such weapons, or ... [being] sold or given one by [\*1438] such a country, or [buying or stealing] one from another subnational group that had obtained it in one of these ways." 40 Equally threatening, however, is the risk that terrorists will steal or purchase fissile material and construct a nuclear device on their own. Very little material is necessary to construct a highly destructive nuclear weapon. 41 Although nuclear devices are extraordinarily complex, the technical barriers to constructing a workable weapon are not significant. 42 Moreover, the sheer number of methods that could be used to deliver a nuclear device into the United States makes it incredibly likely that terrorists could successfully employ a nuclear weapon once it was built. 43 Accordingly, supply-side controls that are aimed at preventing terrorists from acquiring nuclear material in the first place are the most effective means of countering the risk of nuclear terrorism. 44 Moreover, the end of the Cold War eliminated the rationale for maintaining a large military-industrial complex in Russia, and the nuclear cities were closed. 45 This resulted in at least 35,000 nuclear scientists becoming unemployed in an economy that was collapsing. 46 Although the economy has stabilized somewhat, there [\*1439] are still at least 20,000 former scientists who are unemployed or underpaid and who are too young to retire, 47 raising the chilling prospect that these scientists will be tempted to sell their nuclear knowledge, or steal nuclear material to sell, to states or terrorist organizations with nuclear ambitions. 48 The potential consequences of the unchecked spread of nuclear knowledge and material to terrorist groups that seek to cause mass destruction in the United States are truly horrifying. A terrorist attack with a nuclear weapon would be **devastating** in terms of immediate human and economic losses. 49 Moreover, there would be immense political pressure in the United States to discover the perpetrators and **retaliate with nuclear weapons**, massively increasing the number of casualties and potentially **triggering a full-scale nuclear conflict**. 50 In addition to the threat posed by terrorists, leakage of nuclear knowledge and material from Russia will reduce the barriers that states with nuclear ambitions face and may trigger **widespread proliferation** of nuclear weapons. 51 This proliferation will **increase the risk of nuclear attacks** against the United States [\*1440] or its allies by hostile states, 52 as well as **increase the likelihood that regional conflicts** will draw in the United States and **escalate to the use of nuclear weapons**. 53 B. U.S.-Russian Nonproliferation Agreements: Cooperative Threat Reduction Recognizing the risks that accompanied Russia's economic decline and the concomitant inability to adequately secure assembled nuclear weapons and fissile material, the United States deemed it desirable to establish cooperative programs to control the emerging nuclear threat. In December 1991, the U.S. Congress approved, and President George H.W. Bush signed into law, the Soviet Nuclear Threat Reduction Act of 1991, commonly referred to as the Nunn-Lugar Act. n54 The Act created a framework through which the United States negotiates subsequent CTR agreements with the former Soviet states to provide bilateral assistance through the Department of Defense (DOD) n55 for coping with specific issues related to demilitarization in the post-Cold War world. n56 The United States has signed a number of CTR agreements with several former Soviet [\*1441] states, n57 and the success of these programs in reducing the national security risks of the crumbling former Soviet nuclear infrastructure is universally acknowledged. n58 Given the hazards that accompany activities involving nuclear material, n59 there has been an intense focus on the liability provisions that govern CTR assistance programs. n60

### 2NC US/Russia Relations Turns Warming

#### US/Russia relations is the critical internal link to global warming

**Light, Wong and Charap**, 6/30/**2009** (Andrew – senior fellow at the Center for American Progress, Julian – senior policy analyst at CAP, and Samuel – fellow at CAP, U.S.-Russia Climate and Energy Efficiency Cooperation: A Neglected Challenge, Center for American Progress, p. http://www.americanprogress.org/issues/2009/06/neglected\_challenge.html)

The summit between President Barack Obama and Russian President Dmitri Medvedev in Moscow on July 6-8 comes in the middle of a packed international schedule of bilateral and multilateral meetings for the United States. on climate change. In the run up to the critical U.N. climate talks in Copenhagen at the end of this year, when the extension or successor to the existing Kyoto Protocol must be agreed upon, it is crucial that the United States and Russia—both major emitters of greenhouse gases and potentially leaders on this crucial issue—explore ways of working together to ensure a positive outcome at these talks. Enhancing cooperation on climate change and energy efficiency should be a major plank of U.S. Russia policy and should be discussed at the highest levels when President Obama meets with President Medvedev next week. Russia, like the United States, is a significant contributor to global warming. If the European Union is disaggregated Russia is the third-largest emitter of carbon dioxide behind the United States and China and still currently ahead of India. More importantly Russian per capita emissions are on the rise, and are projected at this point to approach America’s top rank as per capita emitter by 2030. Russia is also the third-largest consumer of energy and one of the world’s most energy-intensive economies. Making Russia a partner on these issues could be critical in order to **advance a sound global climate change agenda**.

### 2NC START Impact

#### START prevents US/Russia nuclear war

**Isaacs**, 12/4/**2009** (John – executive director of the Center for Arms Control and Non-Proliferation, Rebuttals to Arguments Against New START, p. <http://www.armscontrolcenter.org/policy/nuclearweapons/articles/rebuttals_to_arguments_against_new_start/>)

Response: First, it is not necessarily the case that Russia will reduce its nuclear forces without a new arms control agreement. Nor is it true that Russia needs or wants a new arms control agreement far more than the U.S. does. Without limits on the size of U.S. and Russian nuclear forces, Russia would have less confidence in its ability to maintain a stable strategic nuclear relationship with the United States. This could give the upper-hand to hardliners in Moscow who want to slow or even halt plans to reduce the number of deployed warheads and delivery vehicles and invest in additional strategic modernization programs. Second, the Strategic Posture Commission found that “the sizing of U.S. forces remains overwhelmingly driven by Russia.” If the Russians are reducing nuclear weapons, it is appropriate for the U.S. to do so. Third, the fact the some Russian reductions might happen in any event is beside the point. If START I is allowed to expire without a new arms control agreement to replace it, so too would the limits on and the means of verifying the two countries’ still enormous nuclear stockpiles and delivery systems. These limits and verification provisions greatly enhance U.S. security by (1) bringing predictability and stability to U.S.-Russian nuclear relations, (2) giving each side confidence than neither side is attempting to retain a significant strategic advantage, and (3) reducing the chances for misunderstanding and worst-case scenario planning. Though the Cold War ended two decades ago, the risks of an accidental or mistaken U.S.-Russian nuclear exchange still exist. A new arms control treaty will reduce this risk.

# CP’s

## States

### 1NC Generic

#### 50 State action solves better

Milford 10 (Lewis – The founder and president of Clean Energy Group (CEG), “Federal Climate and Energy Legislation and the States: Legislative Principles and Recommendations for a New Clean Energy Federalism”, April, http://www.cleanenergystates.org/assets/Uploads/CEGCleanEnergyFederalismv3April2010.pdf)

States should and will remain the laboratories of experimentation and innovation on technology and economic development because most energy investment decisions are made at the state and/or local utility and customer level. 2. State and local clean energy development decisions are made closer to the markets, are often more politically durable and stable over time, and should be encouraged. 3. There is no simple, standard or optimal clean energy program design and practice that will achieve carbon stabilization; instead, all states and local jurisdictions should be given adequate federal resources and assistance to create and implement a diverse portfolio of finance, technology, and policy tools to create the necessary fifty state programs to advance a clean energy future. 4. There are many existing, experienced and “best practice” state-based, clean energy institutions that deserve continued and expanded support for their decade-long successes in these areas. 5. States can develop more nuanced and effective finance mechanisms that can leverage private sector development because they know their markets, their market players and their barriers to success. 6. Bottom-up, distributed solutions that the states can provide have always proved the most responsive and nimble solutions **that best respect the ever changing demands of locally regulated state energy investment decisions**, which are the hallmark of the US energy sector. 7. States should be given express authority to enact climate and clean energy policy and laws that are more stringent and aggressive than the federal programs.

#### States can provide financial incentives for energy policy – already being done

Piscitello and Bogach 97 (E. Scott and V. Susan, “Financial Incentives for Renewable Energy Development”, 1997, pg. 33)

Financial incentives for renewable energy development in the United States are set at both the federal and **state levels**. In many cases, policy frameworks are set by the federal government with states required to design and implement policy details. As a result, financial incentive policies for renewable energy development in the United Slates vary greatly among individual states. States often formulate financial incentive policies to promote development of a resource within their particular borders, but which is not as prominent in other states (such as financial incentives for energy from biomass in Georgia, Alabama, and other states located in the southeastern United States). The State of California, however, developed strong financial incentive policies that have succeeded in promoting a broad range of renewable energy resources, including wind and solar resources. California was therefore chosen as a focus for the financial incentives offered for renewable energy development in the United States. Examples of incentives used in other states arc documented at the end of this section-In reaction to the oil crisis of the 1970s, the State of California adopted energy policies for (a) promoting energy diversity; (b) reducing dependence on fossil fuels; (c) using indigenous energy resources; and (d) promoting environmentally benign energy sources. These principles led to a series of financial incentive policies for renewable energy development that has resulted in significant installed capacity. By the early 1990s, renewable energy facilities comprised approximately 10 percent of the installed generating capacity in California Due to an oversubscription by renewable energy facilities in the late 1980s and 1990s, financial incentives for renewable energy development were removed. At the same time, California was and is continuing to move toward deregulating its electric utility industry. Despite uncertainties regarding future evolution of the deregulated industry, energy prices are expected to remain below those at which renewable energy facilities are financially viable- As a result, California is presently developing new financial incentives aimed at maintaining its existing renewable energy facilities as well as promoting further development of the most promising technologies in the deregulated power market.

**1NC EOR**

**State-level financial incentives for EOR solve – reduce capital costs, provide financial certainty, and incentivize tech investment and adoption**

**NEORI 12** (National Enhanced Oil Recovery Initiative along with Center for Climate and Energy Solutions and the Great Plains Initiative, "CARBON DIOXIDE ENHANCED OIL RECOVERY: A CRITICAL DOMESTIC ENERGY,

ECONOMIC, AND ENVIRONMENTAL OPPORTUNITY," February, http://www.neori.org/NEORI\_Report.pdf)

C. OVERVIEW OF MODEL STATE INCENTIVES FOR ¶ CO2¶ -EOR DEPLOYMENT TO COMPLEMENT FEDERAL ¶ SUPPORT¶ Several states have incentives to encourage CO2¶ capture ¶ and transport from power plants and industrial facilities, ¶ which complement federal grants, tax credits, and other support mechanisms. States with these incentives **have ¶ provided critical support** for projects to advance toward ¶ deployment. Furthermore, as with the new federal tax ¶ credit recommended in this report, **state incentives for ¶ commercial CO2¶ capture and pipeline projects have the ¶ potential to be revenue positive, stimulate local oil production, and spur economic activity** at a time when most ¶ states face profound fiscal challenges. ¶ NEORI recommends consideration, adoption or ¶ adaptation of the following state policies to complement ¶ federal policy and encourage commercial deployment of ¶ CO2¶ capture and transport technologies.¶ Severance tax reduction and/or extension of existing ¶ severance tax reduction for oil produced with CO2¶ from ¶ anthropogenic sources. This policy provides a percentage reduction in the severance tax for oil production, ¶ if the taxpayer uses CO2¶ -EOR techniques and/or uses ¶ anthropogenic CO2¶ for EOR. **It creates an incentive to ¶ pursue CO2¶ -EOR** and use CO2¶ from man-made sources, ¶ although it would only work for states with a production ¶ or severance tax. ¶ Cost recovery approval for regulated entities. This ¶ policy enables regulatory approval by public utility commissions for a utility to recover certain costs associated ¶ with CO2¶ capture through rates paid by customers. Cost ¶ recovery approval **provides significant financial certainty** ¶ to attract the private investment necessary for a project ¶ to proceed to construction and commercial operation.¶ Off-take agreements. This policy enables projects to ¶ enter into long-term contracts for supply of a project’s ¶ output (e.g., electricity). Long-term off-take agreements ¶ provide significant financial certainty, similar to regulatory cost recovery.¶ Tax credits, exemptions, or abatements. This policy ¶ provides credits, exemptions, and abatements for taxes ¶ that would otherwise be incurred, such as property tax ¶ abatement, franchise tax credits, and sales tax exemption ¶ for sale of captured CO2¶ . **Such tax policies reduce the ¶ incremental capital cost** of capture, compression, infrastructure, and purchase of manmade CO2¶ .¶ State-level bonding of CO2¶ pipeline projects and/or ¶ capture and compression facilities. This policy supports ¶ project financing, development, and planning of infrastructure or facilities deemed to be in the public interest. ¶ Public infrastructure authorities commonly may issue ¶ bonds, make grants/loans, plan/coordinate infrastructure, or participate in infrastructure build-out (e.g., own, ¶ construct, maintain, and operate a facility). ¶ Inclusion in Portfolio Standards. This policy requires ¶ that a certain percentage of all electricity generated in ¶ a state must come from specific sources, such as power ¶ plants with CCS. Portfolio standards that include CCS ¶ are an effective tool to establish financial certainty ¶ through state policy requirements, by allowing for regulatory cost recovery of investments made to meet statutory obligations.¶ A more detailed description of model state policies ¶ can be found in Appendix C, including state-by-state ¶ links to specific policies to serve as a resource to state ¶ policy-makers.

# Case Negs

## Solar Neg

### 1NC Critical Local Solar

#### Problem isn't investment – resource production for solar is impossible

EC 12 -- European Commission, DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol (1/26/12, "Photovoltaic supply falls short of solar power targets," http://ec.europa.eu/environment/integration/research/newsalert/pdf/271na7.pdf)

Europe could struggle to meet the target set by the renewable energy sector of 25 per cent of electricity produced by solar energy by 2040 because the supply of materials, including rare metals, needed to produce photovoltaics (PV) is unlikely to meet demand. Production rates need to be drastically improved, according to a new study. Calculations based on available appropriate land, global irradiance and conversions of solar energy to electricity demonstrate that technically, solar energy could provide 7.5 to 9 times the expected electricity demand in 2050. However, several PV technologies employ rare metals, which could limit the capacity for electricity generation. The new study looked at whether current global production of rare metals could support the huge increase in solar panels generation required to meet ambitious energy targets for 2040 laid out by the European Renewable Energy Council (EREC). The scientists looked at the four main PV technologies: crystalline silicon (c-Si), amorphous silicon (a-Si), cadmium tellurium (CdTe) and copper indium gallium diselenide (CIGS). The scientists assumed that by 2040, each technology would have an equal market share of 25 per cent. This reflects the fact that although c-Si currently has the largest share (81 per cent), a shift is already taking place towards the other technologies, which require a thinner layer of PV material. They simulated a 'neutral' future scenario, where moderate technological developments gradually improve the efficiency of electricity generation, in line with current policy expectations. The results showed that the maximum demand for gallium and indium in tonnes per year for use in CIGS technology surpasses current production (2008) by a factor of 7.3 and 2.8, respectively. Even under an 'optimistic' future scenario, in which more ambitious technological advances in cell efficiency require less PV material, demand still outstrips current supply by a factor of 3.9 and 1.5, respectively. Neither cadmium nor copper were found to be seriously limiting, even when the scientists simulated a 'pessimistic' scenario in which technological advances do not meet current expectations. However, the predicted demand for tellurium was found to be 30-180 times higher than today's production rate, depending on the scenario used. Although silicon is the second most abundant element in the earth.s crust, only very high purity silicon is used in the solar industry and production will need to increase by 15 times to meet demand in the neutral scenario and by 10 times in the optimistic scenario. Even bigger shortages may result from competition with the electronics industry, which also uses high-purity silicon. On the other hand, amorphous silicon technology represents the only realistic option for large-scale electricity production since the cumulative demand by 2040 would equal just 20 per cent of production. The research shows that reaching solar power targets for 2040 will not necessarily be limited by known global reserves of silicon and rare metals, but that current production rates will be the limiting factor. Better refining techniques, increased exploitation of deposits and strategic planning of technological shifts are needed to satisfy the demand for PV materials. This poses a challenge as tellurium, indium, gallium, selenium and cadmium are by-products of other processes and are not currently mined separately. New production methods are also likely to take up to 10 years to develop and so research should be initiated soon to meet the anticipated demand.

#### Nat gas prevents solar development

Dumaine 12 -- senior editor-at-large @ CNNMoney (Brian, 4/17/12, "Will gas crowd out wind and solar?" http://tech.fortune.cnn.com/2012/04/17/yergin-gas-solar-wind/?iid=HP\_LN)

Fracking technology has given the U.S. a 100-year supply of cheap natural gas. What's its impact on coal, nuclear, wind, and solar power? Inexpensive natural gas is transforming the competitive economics of electric power generation in the U.S. Coal plants today generate more than 40% of our electricity. Yet coal plant construction is grinding to a halt: first, because of environmental reasons and second, because the economics of natural gas are so compelling. It is being championed by many environmentalists as a good substitute for coal because it is cleaner and emits about 50% less carbon dioxide. Nuclear power now generates 20% of our electricity, but the plants are getting old and will need to be replaced. What will replace them? Only a few nuclear plants are being built in the U.S. right now. The economics of building nuclear are challenging -- it's much more expensive than natural gas. Isn't the worry now that cheap natural gas might also crowd out wind and solar? Yes. The debate is over whether natural gas is a bridge fuel to buy time while renewables develop or whether it will itself be a permanent, major source of electricity. What do you think? Over the past year the debate has moved beyond the idea of gas as a bridge fuel to what gas means to U.S. manufacturing and job creation and how it will make the U.S. more globally competitive as an energy exporter. The President's State of the Union speech was remarkable in the way it wrapped the shale gas boom into his economic policies and job creation. I believe natural gas in the years ahead is going to be the default fuel for new electrical generation. Power demand is going to go up 15% to 20% in the U.S. over this decade because of the increasing electrification of our society -- everything from iPads to electric Nissan Leafs. Utilities will need a predictable source of fuel in volume to meet that demand, and natural gas best fits that description. And that won't make the environmental community happy? Well, natural gas may be a relatively clean hydrocarbon, but it's still a hydrocarbon. So wind and solar will have a hard time competing? Remember that wind and solar account for only 3% of our electric power, whereas natural gas is 23%, and its share will go up fast. Most of that 3% is wind. Natural gas has a new role as the partner of renewables, providing power when the wind is not blowing and the sun is not shining. Will solar scale? Solar is still under 1% of U.S. electric generation, and even though its costs have come down dramatically, they must come down a lot more. Solar is generally much more expensive than coal and natural gas. You have to remember that energy is a huge, capital-intensive business, and it takes a very long time for new technologies to scale. The euphoria that comes out of Silicon Valley when you see how quickly a Twitter or a YouTube can emerge doesn't apply to the energy industry.

#### Broader renewable integration technically impossible and hurts the grid in the short-run

Santoianni 12 -- combustion engineer who has worked on energy and environmental issues for 20 years, technical writing consultant @ Tau Technical Communications (Dawn, 5/17/12, "The Backbone of the Electric System: A Legacy of Coal and the Challenge of Renewables," http://news.yahoo.com/backbone-electric-system-legacy-coal-challenge-renewables-152900368.html)

Baseload generation currently provides the backbone for the electric grid. Baseload is the minimum level of electric demand over 24 hours, such as during late evening or early morning and is served by plants that provide steady and low-cost power with few unscheduled outages. Nuclear and coal have predominately served as baseload plants because they operate most efficiently at full, steady output and are slow to ramp up or down. Geothermal and hydropower have also been used in certain areas as baseload power. Hydropower with pumped storage is a flexible energy source able to serve sudden spikes in demand, such as during hot summer days (peak demand). Natural gas turbines, which can quickly ramp up or down to follow electric load, have been a preferred source of peaking power. Load-following or intermediate demand plants provide power in between off-peak and peak hours, which is when solar and wind power have had the most use. Intermittent or diurnal sources such as wind and solar have been widely considered unsuitable for baseload generation because of their variability. In other words, you can t count on them to meet demand 24×7. Energy storage may help bridge the gap for intermittent generating sources. Success with baseload solar power is promising, while other energy storage technologies are still under development. So why can t we just use wind and solar when available, supplement with current energy storage capabilities, and use quick-start resources such as natural gas turbines as needed? The problem lies with transmission constraints. While some studies have shown that load shifting using energy storage could help eliminate minimum generation constraints, these technologies have not reached wide-scale deployment and transmission infrastructure is lacking to fully support distributed renewable generation. Regional differences in available electric generating sources compound the problem. While some states such as California generate only a small percentage of power from coal, in other states including Kentucky and Indiana, over 85 percent of electricity generation is from coal. Hydropower sites are abundant in the Pacific Northwest, but relatively few installations exist in some areas of the U.S.. As a result, regional transmission system operators responsible for balancing load and maintaining electric reliability face a range of technical challenges. What works in the Northeast will not work in Texas. Each system has to find a way to incorporate renewable sources given the existing generating fleet, existing transmission infrastructure, and planned improvements. So we have an electric system based on large, centralized baseload plants that run (nearly) continuously and power that must be delivered in real-time by a transmission grid that needs modernization. To increase the complexity of this high-wire balancing act, increasing numbers of plug-in electric vehicles (EVs) are projected to hit the roadways. While electrification of transportation will help decrease reliance on fossil fuels, where will the power for those EVs come from? In some areas of the country, the answer right now is coal. Retiring older coal plants that operate off-peak can occur without impacting electric reliability, and is evidenced by the slate of recent retirement announcements. But replacing baseload coal generation with alternative power sources will be more difficult. Some people see repowering with natural gas as the solution, as carbon emissions from natural gas generation are 45 percent less than coal per megawatt-hour. Natural gas generation could serve as baseload generation, but opposition to hydraulic fracturing spurs concerns about future supply and potential price spikes. Permitting and constructing new nuclear plants is fraught with difficulties, partly due to opposition from environmental groups and ensuing cost overruns. Some envision smart grid technologies and transmission upgrades completely eliminating the reliance on baseload must-run generation, with an electric system powered mostly by renewable sources. Because renewable sources tend to be much smaller than coal-fired power plants, and located in areas that may not have sufficient transmission access, simply replacing coal for renewables is not straightforward. To reach 80 percent clean energy including combined cycle natural gas generation as clean would require the replacement of 35 percent of summer generating capacity (see Figure 2, coal + petroleum). The technological scale of such build out (over 370 gigawatts) is astounding. That would require about 185,000 2-megawatt wind turbines or over 700 large (500-megawatt) solar farms. Considering that even solar and wind projects have faced local opposition, this is a tall order.

### 1NC Silver DA

#### Silver fine but solar power strains the market

Phil et al 12 -- research study conducted by Division of Energy Technology and Division of Environmental Systems Analysis @ Chalmers University of Technology (Erik, Duncan Kushnir, Bjorn Sanden, Filip Johnson, 2/28/12, "Material constraints for concentrating solar thermal power," ScienceDirect)

The use of silver in mirrors for CSP requires a closer look as it is difficult to substitute, would constitute a large new demand for silver and the metal is potentially constrained in rate and available reserves. As Fig. 7 shows, there has been a significant supply deficit in terms of the difference between silver mining and fabrication demand for more than a decade. This deficit has been filled by drawing down government stockpiles and by recycling scrap and jewellery. The dwindling use of silver in photography has been offset by the increase in electronic, photovoltaic, medical and nanomaterial demand, applications which have a high ability to pay for silver and which do not typically result in a recyclable stock [55,56] The industrial demand for silver is thus very competitive at present, and represents 55% of fabrication demand and 75% of mine supply. The remaining demand is for new jewellery, coins, silverware and bullion. Diminishing recycled silver supplies may be difficult to compensate through mining; roughly two thirds of silver production occurs as a by-product of mining other base metals, predominantly copper and lead [56]. Furthermore, silver has been mined for thousands of years, and there is not a large potential for new primary silver mines. This situation implies that the mine supply response to higher prices would be muted for silver. There is thus a potential for a large increase in price that all prospective silver users should be considering in strategic plans. Reducing silver use for mirrors is a difficult challenge since it is already applied in extremely thin layers of about 100 nm. Alternative materials for reflective coating have been investigated, but none offer the same broadband reflection qualities [57]. The silver layer thickness could possibly be slightly reduced but there are durability and manufacturing issues strongly prohibiting layers thinner than about 50 nm [58]. A possible substitute is to instead use aluminium as reflective layer, on an aluminium substrate with a covering layer of oxides or polymer to protect from corrosion. Changing from silver to aluminium reflectors typically decreases the maximum reflectivity from w95% to w90% [59]. This decrease could be compensated by scaling up the reflector area which would increase the use of other less constrained materials and degrade the plant economics, but would not rule out feasibility. As silver is a small component of cost, the silver price would have to increase by multiples to make the increased reflector area needed for aluminium mirrors a cost-effective substitution.

#### Silver supply k2 global economy and turns solar development

SD 12 -- teaches at a local university, retired "Wall Streeter" (Silver Doctor, 6/25/12, "Silver Supply Crisis Looms, Price Expected to Soar!" http://034dc62.netsolhost.com/WordPress/2012/06/25/silver-supply-crisis-looms/)

In contrast, when the looming silver supply-crisis strikes this will produce a global, industrial crisis. Unlike gold, which must only satisfy investment/monetary demands, silver is becoming an essential raw material of the 21st century global economy. This can be illustrated by simply listing some of the current and future industrial uses of this most precious metal. Silver has reflective, chemical, and conductive properties that are superior to all other metals. This provides two key uses for silver in the production of solar energy. As the world’s most-reflective metal (reflecting 97% of all solar energy), silver is used to make the world’s best mirrors — a vital component of solar energy production. In addition, because silver is such a superb catalyst, it also can improve the efficiency of “solar cells,” by being blended with these semiconductor materials to increase the power output of any such power unit by approximately 12% (as reported by The Silver Institute).

#### Econ decline risks extinction

Auslin 9 (Michael, Resident Scholar – American Enterprise Institute, and Desmond Lachman – Resident Fellow – American Enterprise Institute, “The Global Economy Unravels”, Forbes, 3-6, http://www.aei.org/article/100187)

What do these trends mean in the short and medium term? The Great Depression showed how social and global chaos followed hard on economic collapse. The mere fact that parliaments across the globe, from America to Japan, are unable to make responsible, economically sound recovery plans suggests that they do not know what to do and are simply hoping for the least disruption. Equally worrisome is the adoption of more statist economic programs around the globe, and the concurrent decline of trust in free-market systems. The threat of instability is a pressing concern. China, until last year the world's fastest growing economy, just reported that 20 million migrant laborers lost their jobs. Even in the flush times of recent years, China faced upward of 70,000 labor uprisings a year. A sustained downturn poses grave and possibly immediate threats to Chinese internal stability. The regime in Beijing may be faced with a choice of repressing its own people or diverting their energies outward, leading to conflict with China's neighbors. Russia, an oil state completely dependent on energy sales, has had to put down riots in its Far East as well as in downtown Moscow. Vladimir Putin's rule has been predicated on squeezing civil liberties while providing economic largesse. If that devil's bargain falls apart, then wide-scale repression inside Russia, along with a continuing threatening posture toward Russia's neighbors, is likely. Even apparently stable societies face increasing risk and the threat of internal or possibly external conflict. As Japan's exports have plummeted by nearly 50%, one-third of the country's prefectures have passed emergency economic stabilization plans. Hundreds of thousands of temporary employees hired during the first part of this decade are being laid off. Spain's unemployment rate is expected to climb to nearly 20% by the end of 2010; Spanish unions are already protesting the lack of jobs, and the specter of violence, as occurred in the 1980s, is haunting the country. Meanwhile, in Greece, workers have already taken to the streets. Europe as a whole will face dangerously increasing tensions between native citizens and immigrants, largely from poorer Muslim nations, who have increased the labor pool in the past several decades. Spain has absorbed five million immigrants since 1999, while nearly 9% of Germany's residents have foreign citizenship, including almost 2 million Turks. The xenophobic labor strikes in the U.K. do not bode well for the rest of Europe. A prolonged global downturn, let alone a collapse, would dramatically raise tensions inside these countries. Couple that with possible protectionist legislation in the United States, unresolved ethnic and territorial disputes in all regions of the globe and a loss of confidence that world leaders actually know what they are doing. The result may be a series of small explosions that coalesce into a big bang.

### 1NC Prizes CP

#### Text – The United States federal government should allocate existing energy-related grant funding to provide cash prizes to the first private firm able to

[INSERT MODIFIED VERSION OF THE PLAN]

#### Prizes solve better, avoid picking winners, and don’t link to politics

Adler 11 -- Professor of Law and Director of the Center for Business Law & Regulation, Case Western Reserve University School of Law (Johnathan, 3/14/11, "EYES ON A CLIMATE PRIZE:REWARDING ENERGY INNOVATION TO ACHIEVE CLIMATE STABILIZATION," http://www.law.harvard.edu/students/orgs/elr/vol35\_1/HLE101.pdf)

Traditional grant-driven funding for research and development has several limitations. 200 First, decisions about projects or efforts to fund are centralized, limiting the range of promising ventures that may receive funding and increasing the risk that research funding will not result in useful technological innovations. As the history of prizes detailed in the prior section shows, valuable technological innovations often come from surprising directions. Second, with ex ante grants, the government pays for R&D whether or not the R&D produces anything of value in return. Third, traditional grant funding is more subject to political pressure and may create negative incentives among researchers. Like traditional R&D grants, governmentsupported prizes reward innovations that “are publicly valued but not privately marketable.” 201 Yet prizes do not suffer from these other drawbacks. Therefore, the federal government should reallocate portions of existing energy-related R&D funding from traditional research grants to the creation of technology inducement prizes. Allocating grant money effectively requires the grant-making entity to pick “winners” and “losers,” something the government has rarely done well. 202 This is particularly difficult to do when the awarding agency is not the primary “customer” of the technological solution that is to be funded. 203 Supporters of increased R&D funding often point to the successes of the Manhattan and Apollo projects as examples of successful, government-directed research. 204 Yet these are poor models for the climate technology challenge. 205 As Mowery, Nelson, and Martin note, both “were designed, funded and managed by federal agencies to achieve a specific technological solution for which the government was effectively the sole ‘customer.’” 206 In the climate context, there is no single technology that will solve the problem, nor is there a single “customer” to satisfy. 207 Meeting the climate policy challenge will require the development and adoption of multiple, costeffective technological innovations that are capable of satisfying consumers (or governments) the world over. 208

#### Government can’t start energy innovation – picking winners empirically failed

Mufson 11 -- energy staff writer for the Washington Post (Steven, 11/11/11, "Before Solyndra, a long history of failed government energy projects," http://www.windtaskforce.org/page/unsustainable-subsidies)

Solyndra, the solar-panel maker that received more than half a billion dollars in federal loans from the Obama administration only to go bankrupt this fall, isn’t the first dud for U.S. government officials trying to play venture capitalist in the energy industry. The Clinch River Breeder Reactor. The Synthetic Fuels Corporation. The hydrogen car. Clean coal. These are but a few examples spanning several decades — a graveyard of costly and failed projects. 478 Not a single one of these much-ballyhooed initiatives is producing or saving a drop or a watt or a whiff of energy, but they have managed to burn through far more more taxpayer money than the ill-fated Solyndra.An Energy Department report in 2008 estimated that the federal government had spent $172 billion since 1961 on basic research and the development of advanced energy technologies. What does Washington have to show for these investments? And should the government even be in the business of promoting particular energy technologies? Some economists, executives and financiers — as well as Energy Secretary Steven Chu — argue that the government must play a role because certain technologies have non-financial benefits, such as producing fewer greenhouse gas emissions or easing U.S. reliance on foreign oil. The semiconductor industry is often held up as a model of how government money can help build a new type of economy. But others argue that the history of government attempts to reach for the holy grail of new energy technology — a history that features both political parties — is not inspiring. “We’re making very large bets, and the decisions seem to be more grounded in politics and geography than in engineering and science,” said Michael Graetz, a professor at Columbia Law School and the author of “The End of Energy.” Consider the saga of the Clinch River Breeder Reactor. In 1971, President Richard Nixon set a goal of building an experimental nuclear power plant. The Clinch River reactor was supposed to be a sort of perpetual motion machine, producing power as well as plutonium that could be used in other plants. Private utilities agreed to kick in $175 million, less than half of the $400 million that the Atomic Energy Commission estimated it would cost to build. As expenses ballooned, the government covered all the overruns. The project was criticized by activists and scientists worried about the risk of nuclear weapons proliferation. Cheap uranium undercut it. After President Ronald Reagan was elected, Clinch River survived the first round of his spending cuts, in part out of deference to Senate Majority Leader Howard Baker (R-Tenn.), a strong supporter of the reactor, which was in his home state. But finally, in 1983, with the Congressional Budget Office saying the cost might exceed $4 billion, Congress terminated the program. Blueprints had been drawn up, modeling done, components ordered and some ground cleared, but the reactor was never built. The price tag for the federal government:$1.7 billion ($3.9 billion in today’s dollars). Then there was the Synthetic Fuels Corporation. President Jimmy Carter called it the “keystone” of U.S. energy policy; Congress authorized $17 billion for it to act as a sort of investment bank, funding projects that would turn plentiful U.S. coal and shale into oil and gas. Carter set a goal of producing 2 million barrels a day of “synfuels” by 1990. Not quite. A handful of coal and auto companies tapped the new funds to build a facility that was intended to produce 50,000 barrels a day, the first of what was supposed to be a network of synfuel plants, many on federal lands. But after oil prices leveled off, then fell, in the early 1980s, the project was not economically sound, even with government help. The private partners pulled out. Congress ousted the corporation’s president in 1983 after the entity was accused of handing out money for political reasons. In 1986 the corporation closed down. It had spent $2 billion (more than $4 billion in today’s dollars). This sort of industrial policy fell out of favor in the Reagan era and into the 1990s, but then it returned, as fears of climate change spawned new “clean energy” ideas. President George W. Bush had his own pet projects. In his 2003 State of the Union address, he called for “a new national commitment” to work toward hydrogen-powered vehicles so that “our scientists and engineers will overcome obstacles to taking these cars from laboratory to showroom.” But on the road to the showroom, the hydrogen car made a wrong turn. From 2004 through 2008, the federal government poured $1.2 billion into hydrogen vehicle projects; the Government Accountability Office noted that about a quarter of that money went to “congressionally directed projects” outside the initiative’s original research and development scope. Visitors to General Motors outside Detroit could drive a vehicle powered by hydrogen, but the technology was costly, and there was no infrastructure to support the vehicles. They died in development. The “clean coal” movement has been no more successful. Politicians on both sides of the aisle have sought to put money into efforts that would make coal more appealing by taking its greenhouse emissions and burying them. After a carbon-capture project in Alaska burned through $117 million during the 1990s, Republican lawmakers tried to give the moribund project another $125 million in 2005. Just this year, the utility AEP, one of the nation’s largest emitters of carbon dioxide, abandoned a pilot project because it was too expensive — even though the Energy Department was willing to kick in $334 million, half the expected cost. A North Dakota project was shelved last December despite a $100 million federal grant. Bush launched what was supposed to be a $1 billion project to separate carbon dioxide from the emissions of a coal power plant in Illinois and bury the gas underground. Several years later, cost estimates have climbed, the project has been scaled back — and it still hasn’t broken ground. Despite this track record and the recent Solyndra failure, Energy Secretary Chu remains undeterred. Citing examples from Civil War-era railroads to airplanes to semiconductors, he has defended government’s role in funding new technologies and promising companies. “Americans have always led by looking ahead. Even in the midst of the Civil War, when our country was under incredible stress, we planned for the future,” Chu said in September. “President Lincoln signed the Pacific Railway Act of 1862, which authorized generous public financing for two private companies — Union Pacific Railroad Company and Central Pacific Railroad Company — to lower the investor risk in building railroads in unsettled territories. In 1869, the first Transcontinental Railroad was completed at Promontory Summit, Utah, revolutionizing transport in this country and opening up a world of possibilities for industry.” Enter Stanford University professor Richard White, a historian of the American West who wrote “Railroaded: The Transcontinentals and the Making of Modern America.” “I admire Steven Chu a great deal, but his knowledge of the Pacific Railway Act unfortunately appears to be about equal to my knowledge of high-energy physics,” White said in an interview. He said the legislation produced a disaster far larger than the lifeless factory that Solyndra has left behind. White said that Union Pacific and Central Pacific became two of the most hated corporations in the West, spawning political opposition wherever they went. Within 10 years of giving them land grants and loan guarantees, the federal government reversed its policy and eventually sued to recover its investment. The litigation dragged on into the 20th century. Chu has also argued that the government should help ramp up manufacturing. He says that while the internal-combustion engine was invented in Germany, Henry Ford mastered the assembly line and made the United States the world leader in automaking. However, historians note, Ford did not receive government assistance. Some experts also question the semiconductor example, in which the government purportedly created an industry through military purchases. Jack Spencer, a nuclear power and energy expert at the Heritage Foundation, said that the Pentagon supported the semiconductor industry because it wanted “to kill people better through innovation, but its goal wasn’t to create commercial enterprises.” Moreover, he added, if the broader marketplace hasn’t created enough incentives for a new technology such as solar or wind energy to thrive, then loan guarantees or grants will only postpone the death of a company. But Chu isn’t the only one who thinks the government has a role to play. David Eaglesham, chief technology officer at First Solar, a leading maker of thin-film solar panels, says government funding for basic research during the 1990s kept the company alive when it comprised about “10 guys working in Toledo.” He said the Energy Department’s National Renewable Energy Laboratory funded “pretty much everything” when it came to technology, but “at low levels.” Many policy experts say some of government’s biggest energy investment payoffs have come in the small stuff, such as testing the use of magnesium alloys to make lightweight car batteries more efficient or developing ballasts that make compact fluorescent bulbs more efficient. Still others say that the nearly $40 billion paid out by the federal government so far to subsidize corn-based ethanol is a success story; ethanol has displaced more than half a million barrels a day of petroleum. But that benefit must be weighed against whether ethanol has driven up corn prices, along with evidence that it may be worse than oil from a greenhouse gas perspective. Energy innovation is simply different from innovation in other industries, argue Edward Steinfeld and Jason Lee of the Massachusetts Institute of Technology. In electronics and information technology, they note in an unpublished article, the end products are cheap, consumers buy new ones every few months or years, and much of the value is captured by the front-end designer rather than the manufacturer. (Think Apple.) Energy technologies, however, “are more expensive by several orders of magnitude, and they have much longer life cycles,” they say. “A solar panel is expected to last 20 to 25 years. Moreover, for many of these technologies, including thin-film solar, the key knowledge lies not just in upstream design, but also in learning how to produce inexpensively at high volume.” Essentially, Steinfeld and Lee conclude, “to pull off energy innovation successfully, you need scale.” And, of course, you also need to keep innovating. As First Solar’s Eaglesham says, “there’s never the last word in technology.” Doing all this requires massive sums of money — and an acceptance of the inevitability of frequent failure. That could be a tough sell in Washington, given the downfall of Solyndra and the unsteady status of some other recipients of Energy Department assistance. Massachusetts-based Beacon Power, maker of a nifty and effective — but unprofitable — method of using flywheels for electricity storage, filed for bankruptcy on Oct. 30. Ener1, a maker of lithium-ion batteries and a recipient of an Energy Department grant, was delisted by the Nasdaq Oct. 28 because of its low stock price. Perhaps the federal government is, as former Obama economic adviser Lawrence Summers put it, “a crappy VC,” or venture capitalist. Or perhaps it should stick to funding basic research. But if more recipients of Energy Department loan guarantees falter, they will become part of a long, if undistinguished, history of failure.

### **2NC Prizes Solvency**

#### **Solar best solves – past SunShot initiative proves**

DOE 12

[Department of Energy, 6/13/12, <http://www1.eere.energy.gov/solar/sunshot/news_detail.html?news_id=18413>]

As part of the Energy Department's SunShot Initiative, which aims to drive solar to cost-competition with other energy sources by 2020, Secretary Steven Chu today announced a new competition and investments to make it easier and cheaper for utilities, businesses and consumers to deploy clean, renewable solar energy. While speaking at the SunShot Grand Challenge Summit in Denver, Secretary Chu announced "America's Most Affordable Rooftop Solar competition" to aggressively drive down the cost of rooftop solar energy systems as well as awarding nearly $8 million to nine start-ups to lower the cost of financing, permitting, and other "soft costs," which can amount to nearly half the cost of residential solar systems. These announcements support the Department's aggressive goal of achieving cost-competitive solar energy by 2020. The Summit in Denver this week is convening the best and brightest minds in the solar industry to assess progress and plot the path forward toward the SunShot goal of solar price parity. Celebrating the SunShot Initiative's second anniversary, the Summit will highlight progress made by more than 200 SunShot partners and outline a path forward for solar energy innovation. "As President Obama has repeatedly said, we need an all-out, all-of-the-above strategy that deploys every available source of American energy, driving job creation, energy innovation and manufacturing leadership in our country," said Secretary Chu. "Through the SunShot Initiative, we're tackling the technological, scientific and market barriers facing America's solar industry to make sure solar power continues to play an important role in our diverse energy mix. The investments in American start-ups and the new competition announced today further our efforts to seize on the tremendous global market for clean energy technologies, representing hundreds of billions of dollars worldwide." To spur the use of low-cost residential and small commercial rooftop solar systems across the nation, the Department is launching the first SunShot competition to challenge U.S. teams to quickly drive down the cost of installed rooftop photovoltaic (PV) systems. "America's Most Affordable Rooftop Solar competition " offers a total of $10 million in prize money to the first three U.S. teams that can install 5,000 rooftop solar PV systems at an average price of $2 per watt. By setting an ambitious target, the competition aims to spur creative public-private partnerships, original business models, and innovative approaches to make solar energy affordable for millions of families and businesses. Secretary Chu also today announced up to $8 million to support nine highly innovative startups through the SunShot Incubator program. These companies are developing transformative solutions to streamline solar installation processes such as financing, permitting, and inspection. This investment builds on the Incubator program's proven track record of attracting follow-on investment for solar startups at a ratio of $30 in private investment for every $1 of government funding. Since 2007, the Energy Department has invested more than $60 million in the Incubator program, accelerating the development of solar technologies that have since attracted more than $1.6 billion in private investment. View the full list of projects selected for final negotiation of award . The SunShot Initiative is a collaborative national effort to make solar energy cost competitive with other forms of energy by the end of the decade. Inspired by President Kennedy's "Moon Shot" program that put the first man on the moon, the SunShot Initiative has created new momentum for the solar industry by highlighting the need for American competitiveness in the clean energy race.

#### **New prize funds expand existing abilities – ensures best innovation**

Kalil 6

 [Thomas, Special Assistant to the Chancellor for Science and Technology at UC Berkeley, Senior Fellow with the Center for American Progress & Former Deputy Assistant to President Clinton for Technology and Economic Policy, “Prizes for Technological Innovation,” The Hamilton Project, The Brookings Institution, Discussion Paper 2006-08, http://www.brookings.edu/views/papers/200612kalil.pdf]

Fossil fuels account for roughly 85 percent of the world’s energy consumption (Hoffert et al. 2002). Burning fossil fuels increases atmospheric carbon dioxide, threatening global warming and climate change known as the greenhouse effect. In addition, burning fossil fuels creates a number of lower-level air pollutants such as mercury and sulfur dioxide. Prizes and AMCs can play a role in energy and climate change policy, although they are clearly not a substitute for the more sweeping actions such as a cap and trade system to control carbon dioxide and other greenhouse gas (GHG) emissions. Congress has begun recently to support energy prizes. In May 2006, the House passed legislation (U.S. Congress 2006) authorizing seventy million dollars over ten years for so-called H-Prizes to accelerate the emergence of a hydrogen economy. Prizes would be awarded for technological advancements in hydrogen production, storage, distribution, and use; prototype vehicles; and transformational technologies. The Energy Policy Act of 2005 (U.S. Congress 2005a) gives the secretary of energy the authority to award cash prizes of ten million dollars for “**breakthrough achievements in research, development, demonstration, and commercial application”** that are related to the Department of Energy’s (DOE) mission, and five-million-dollar Freedom Prizes (§1012, p. 46) that reduce our dependence on Middle East oil. I propose that the DOE not only implement this program, but also lay the groundwork for even more ambitious prizes by working with successful entrepreneurs and foundations that may be willing to **match the federal government’s investment**. Out of its annual $5.1 billion budget for nondefense R&D, **DOE should invest at least one hundred million to two hundred million dollars in energy-related prizes.** Following are discussions of some prizes I recommend.

#### Plan can’t solve climate without the CP – no incentive for innovation

Adler 11 -- Professor of Law and Director of the Center for Business Law & Regulation, Case Western Reserve University School of Law (Johnathan, 3/14/11, "EYES ON A CLIMATE PRIZE:REWARDING ENERGY INNOVATION TO ACHIEVE CLIMATE STABILIZATION," http://www.law.harvard.edu/students/orgs/elr/vol35\_1/HLE101.pdf)

Meeting the climate policy challenge will require policymakers to expand their policy toolkit. Spurring technological innovation requires something more ambitious, and yet more simple, than the traditional tools deployed most often today. If the goal is to spur needed innovation of the sort that might make various greenhouse GHG targets achievable, policymakers should reconsider the use of technology inducement prizes. Prizes are particularly well-suited for the climate policy challenge because the threat of global warming cannot be reduced by any meaningful degree without dramatic technological breakthroughs that enable reductions in atmospheric concentrations of GHGs, and traditional innovation tools are inadequate. Patent protection provides ample incentive to innovate in many areas, but not where, as here, there is no direct economic benefit to be derived from relevant inventions. Specifically, because the atmosphere is, for all practical purposes, a global, open-access commons, there is no price on GHG emissions, no direct economic incentive to reduce such emissions, and consequently no meaningful market for GHG emission-reducing technologies. 23 Without such a market, there is little economic incentive to pursue patents in this area. 24 Prizes can fill the gap by providing the promise of supercompetitive returns for the development of climate-protecting innovations. Whatever their faults in other contexts, prizes are particularly well suited to the climate policy challenge. To enhance the incentive for the development of climate-friendly technologies, the federal government should shift a substantial portion of climate-related research and development funding from grants to prizes. Instead of doling out billions to researchers in the hope that they will invent something that will help solve the global warming challenge, the government should offer substantial rewards to those who invent or develop technologies that solve particular climate-related problems. While no policy measure guarantees technological innovation, greater reliance on inducement prizes would increase the likelihood of developing and deploying needed technologies in time to alter the world’s climate future.

### 2NC Coercion NB

#### CP funnels energy out of current incentives to give it the private sector – that is coercive

Sokolski 12 -- executive director of the Nonproliferation Policy Education Center and editor (Henry, 3/12, "Pure Risk: Federal Clean Energy Loan Guarantees," <http://www.npolicy.org/userfiles/file/ure%20Risk-Federal%20Clean%20Energy%20Loan%20Guarantees.pdf>)

Beyond having to pay for actual defaults, though, there are two other signifi cant risks associated with these loans. The fi rst is the moral costs of government offi cials backing commercial projects that turn out to be signifi cant money losers. Such misjudgments are rarely conceded until very late in the game (e.g., synfuels in the l970s, the Clinch River Breeder Reactor in the l980s, and corn ethanol in the l990s). Worse, in some cases, the government must cover its tracks by mandating that the public buy the product produced (e.g., ethanol) even though it clearly is not cost effective against less expensive alternatives. The net effect of such fi scal cynicism is the diversion of fi nancing – public and private – from more worthy energy innovations to projects that otherwise would fail fi nancially. More important, public faith and credit in thefederal government suffers with each transaction.

#### Every instance of coercion brings us closer to tyranny and must be rejected

Browne 95, former Libertarian presidential candidate

(Harry, executive director of public policy at American Liberty Foundation, editor of Liberty Magazine, financial advisor and economist, *Why Government Doesn’t Work*, pg 66-67) \*edited for gendered language

[YELLOW]

The reformers of the Cambodian revolution claimed to be building a better world. They forced people into reeducation programs to make them better citizens. Then they used force to regulate every aspect of commercial life. Then they forced office workers and intellectuals to give up their jobs and harvest rice, to round out their education. When people resisted having their lives turned upside down, the reformers had to use more and more force. By the time they were done, they had killed a third of the country’s population, destroyed the lives of almost everyone still alive, and devastated a nation. It all began with using force for the best of intentions—to create a better world. The Soviet leaders used coercion to provide economic security and to build a “New Man”—a human being who would put his fellow (hu)man ahead of himself. At least 10 million people died to help build the New Man and the Workers’ Paradise. But human nature never changed—and the workers’ lives were always Hell, not Paradise. In the 1930s many Germans gladly traded civil liberties for the economic revival and national pride Adolf Hitler promised them. But like every other grand dream to improve society by force, it ended in a nightmare of devastation and death. Professor R.J. Rummel has calculated that 119 million people have been killed by their own governments in this century. Were these people criminals? No, they were people who simply didn’t fit into the New Order—people who preferred their own dreams to those of the reformers. Every time you allow government to use force to make society better, you move another step closer to the nightmares of Cambodia, the Soviet Union, and Nazi Germany. We’ve already moved so far that our own government can perform with impunity the outrages described in the preceding chapters. These examples aren’t cases of government gone wrong; they are examples of government—period. They are what governments do—just as chasing cats is what dogs do. They are the natural consequence of letting government use force to bring about a drug-free nation, to tax someone else to better your life, to guarantee your economic security, to assure that no one can mistreat you or hurt your feelings, and to cover up the damage of all the failed government programs that came before.

### 2NC Picking Winners NB

#### Government specific energy policies fail

Kerpen 12 -- president of American Commitment, served as vice president for policy at Americans for Prosperity (Phil, 3/13/12, "It’s Time to End Energy Subsidies," http://energy.nationaljournal.com/2012/03/should-government-subsidize-en.php)

The most important question for the United States Senate as it considers the Stabenow, Burr/Menendez, and DeMint amendments on energy subsidies is not what our country’s energy mix should be, but who should decide. For decades, Washington’s so-called experts, bureaucrats, technocrats, and would-be central planners have insisted that consumers are massively irrational and make bad energy choices. Politicians across the political spectrum have fallen under their sway and created a vast array of incentives, subsidies, mandates, and regulations to push consumers toward their favored technologies. It hasn’t worked. It won’t work. It can’t work. Just as central economic planning was exposed as a tragedy of unprecedented scale in the Soviet Union and elsewhere in the 20th century, the idea that experts can successfully displace the essentially dispersed knowledge of millions of consumers is doomed to fail on a piecemeal basis. Not in spectacular fashion, but in the usual dreary way – higher prices, less choice, less innovation. Obama looks at the scandals, corruption, and waste that large-scale subsidies of renewables have wrought and insists that we should “double down.” Like a reckless gambler desperately trying to get back to even, Obama is risking our tax dollars and economic future. According to the EIA, Washington gave away $37 billion in energy subsidies in 2010, more than double what it gave in 2007. Renewables received about 3.5 times as much in subsidies as fossil fuels. Some on the left attempt to mischaracterize legitimate cost recovery mechanisms for oil companies as subsidies, but it should be noted that EIA’s official estimates correctly do not. Getting the base right is the most important part of designing any tax system, and legitimate business costs should be deductible for everyone, including politically vulnerable oil and gas companies. But actual subsidies – market distortions designed to change behavior and replace consumer preference with political preference – should all be eliminated. That includes the $2.8 billion in annual subsidies received by oil and gas companies.

### 2NC AT Perm – Do Both

#### 2. Still links – it fiats incentives for specific technology promotion which means they still bias the market

**Mills 7** - physicist and a co-founding partner in [Digital Power](http://www.digitalpower.com/) [Capital,](http://www.digitalpower.com/) an energy tech venture fund (Mark, “Bubble Energy?”, Forbes, 9/11, <http://www.forbes.com/personalfinance/2007/09/11/energy-bubble-solar-pf-guru_in_mm_0911energy_inl.html>)

Physical chemistry hasn't and won't change; there is a fixed amount of energy available in chemical bonds--whether oil, alcohol, lithium or lead. The amount of solar energy arriving on Earth's surface is at most 1,000 watts per square meter (high noon, clear day in the south), and it will never be more, or constant. These and many similar inherent laws of nature constrain reality. You would think the foregoing you should be obvious. Yet surprisingly, many slick venture capital-oriented business plans and Microsoft PowerPoints fail what we might call the perpetual motion or cold fusion test, though some such still get government or venture capital funding. Governments create their own (temporary) laws of physics The gravitational pull for government to create its own laws of "physics" (make pigs fly, if briefly) remains undiminished. Technologies that are otherwise impractical are readily made viable by government fiat, sometimes for long enough for the well positioned to make money. The reality is that there are myriad ways to disguise or mute otherwise expensive policies. (Ironically, as society's wealth expands, so does our tolerance for this economic kabuki dance.) Politicians also control the viability of all energy technologies, both directly and indirectly, through the natural purview of governments: land use, taxes and regulations.

#### 3. Any permutation destroys innovation – the permutation both specifies the technological goal AND the means to achieve it. Prizes are only effective in spurring innovation because the means can’t be dictated in advance

**Kalil 6** – Brookings institution (Thomas, “Prizes for Technological Innovation,” December,

<http://www.brookings.edu/views/papers/200612kalil.pdf>)

1. Prizes are especially suitable when the goal can be deﬁned in concrete terms but the means of achieving that goal are too speculative to be reasonable for a traditional research program or procurement. For example, the Methuselah Foundation is sponsoring the Mprize for the research team that develops the longest living mouse. The long-term goal of the foundation is the “defeat of age-related disease and the extension of the healthy human lifespan.” Re-searchers from MIT, Harvard, and UCLA have already announced their intention to compete for the prize, which currently stands at $3.9 mil- lion (Mprize 2006), although many researchers in gerontology are skeptical about the potential of radical life extension. 2. Government research grants typically require that the funding agency both determines who will receive funds to achieve a certain goal and chooses among different approaches for achiev- ing that goal. In contrast, public inducement prizes allow the government to establish a goal without being prescriptive as to how that goal should be met or who is in the best position to meet it. The value of leaving open the best way to meet the goal is vividly illustrated by the outcome of the Orteig Prize, a twenty-ﬁve thousand dollar prize sponsored in 1919 by ho- tel owner Raymond Orteig for the ﬁrst nonstop ﬂight between New York and Paris (Schroeder 2004). The conventional wisdom of the day was that such a transatlantic ﬂight would require a heavy, multiengine plane with a large crew. Charles Lindbergh successfully completed the ﬁrst transatlantic ﬂight in 1927 solo in a single- engine plane.

#### 4. Government incentives crowd-out prize innovation – CP solves better

Gansler 1 (JS, Former Under Secretary of Defense for Acquisition, Technology and Logistics, is the first holder of the Roger C. Lipitz Chair in Public Policy and Private Enterprise, “Memorandum for Service Acquisition Executives Directors, Defense Agencies Director, Defense Logistic Agency,” Under Secretary of Defense, 1-5, http://www.dau.mil/pubscats/PubsCats/incentivesguide-0201.pdf)

Incentives can be monetary or non-monetary, and should be positive but balanced, when necessary, with remedies for missing specific program targets or objectives. They can be based on price, cost, schedule, and/or performance. Regardless of the final consumption and structure of the incentive(s), the goal is to encourage and motivate optimal performance. Historically, choice of contract type has been the primary strategy for structuring contractual incentives. With the exception of competitive firm fixed price awards, procurement incentives have predominately been based on projected or actual costs. This practice, while effective where costs cannot be precisely estimated, does not always ensure that contractors maximize efficiencies regarding underutilized or inefficient operations, practices and facilities. Such incentives can have the opposite effect of rewarding industry for the retention of inefficient practices or underutilized capability. When cost-based incentives are used, care should be taken to ensure that these unintended consequences do not occur.

#### Econ turns solar -- Europe proves

Trendforce 12 (8/8/12, "TrendForce: European economic decisions impact PV industry," http://www.solarserver.com/solar-magazine/solar-news/current/2012/kw32/trendforce-european-economic-decisions-impact-pv-industry.html)

On August 8th, 2012, TrendForce Corp. (Taipei, Taiwan) announced that solar industry is severely affected by the sluggish European economic outlook. Solar industry so far relies on government subsidies. The industry hoped the European Central Bank's (ECB) monetary policy meeting held in early August could come up with a solution for the European debt crisis. However, ECB did not lower the interest rate as expected, nor did it announce a specific policy, which ushered in uncertainty for the European economy. According to EnergyTrend, the green energy division of TrendForce, certain investment projects in Europe have been either postponed or come to a halt due to lack of fund. Based on the statistics, growth momentum for European market in the first-half 2012 was still there – the first-half 2012 installed solar capacity in Germany reached 4.3 gigawatts (GW). Grid parity reached in certain areas of Germany and southern Europe Moreover, due to the climbing electricity price and declining solar system cost in Europe, certain areas of Germany and southern Europe have reached grid parity. Solar power prices in certain regions are reaching grid parity as the solar power generation cost continues to drop, which will trigger demand for replacement energies. However, under the current economic circumstances, the actual orders have yet to reflect the potential demand, according to EnergyTrend. Pessimistic outlook at H2, 2012 Related manufacturers noted that although certain areas in Europe have achieved grid parity, the industry is still pessimistic about the second-half 2012 outlook for the European market due to the bleak economy and the fact that banks now hold tighter to the funds. Related companies indicated that growth momentum for the European market may not pick up in the short run due to the current downturn, but once the economy begins to look up, Europe may see a sharp upswing on account of solar grid parity, according to EnergyTrend.

## Nuclear / SMR Neg

### AT Warming

#### Nuclear doesn’t solve warming –

#### A) Not cost-competitive and can’t produce enough hydrogen

Ahearne et al, 12 – adjunct scholar for Resources for the Future and an adjunct professor of engineering at Duke University (John F, February. Federation of American Scientists. “The Future of Nuclear Power in the United States.” http://www.fas.org/pubs/\_docs/Nuclear\_Energy\_Report-lowres.pdf)

In response to mitigating climate change, many countries will ﬁnd that nuclear power is neither the least-cost nor the quickest approach to reducing carbon dioxide emissions.1 Until nuclear energy is able to produce hydrogen or process heat, or until transportation sectors are electriﬁed, nuclear energy’s potential contribution to reducing carbon dioxide emissions will be somewhat limited.

#### B) Takes too long and can’t reduce emissions

**Madsen and Dutzik, 9** – Policy Analyst at Frontier Group and senior policy analyst with Frontier Group (Travis and Tony, November. With Bernadette Del Chiaro and Rob Sargent of the Environment America Research & Policy Center. “Generating Failure: How Building Nuclear Power Plants Would Set America Back in the Race Against Global Warming.” http://www.environmentamerica.org/sites/environment/files/reports/Generating-Failure---Environment-America---Web\_0.pdf)

Building 100 new nuclear reactors would happen too slowly to reduce global warming pollution in the near-term, and would actually increase the scale of emission cuts required in the future. At best, the nuclear industry could have a new reactor up and running by 2016, assuming that construction could be completed in four years. This pace would be faster than 80 to 95 percent of all reactors completed during the last wave of reactor construction in the United States. 70 If construction follows historical patterns, it could take nine years after a license is issued before the first reactor is up and running – into the 2020s. Under this very plausible scenario, new nuclear power could make no contribution toward reducing U.S. emissions of global warming pollution by 2020 – despite the investment of hundreds of billions of dollars for the construction of nuclear power plants. And even if the industry completed 100 new reactors by 2030, which is highly unlikely, these reactors would reduce cumulative power plant emissions of carbon dioxide over the next two decades by only 12 percent below business as usual, when a reduction of more than 70 percent is called for. In other words, 100 new nuclear reactors would be too little, too late to successfully meet our goals for limiting the severity of global warming.

#### C) Transportation outweighs

**Gordon, 10** – nonresident senior associate in Carnegie’s Energy and Climate Program, where her research focuses on climate, energy, and transportation issues in the United States and China (Deborah, December. “The Role of Transportation in Driving Climate Disruption.” http://carnegieendowment.org/files/transport\_climate\_disruption.pdf)

Climate impacts differ by sector. On-road transportation has the greatest negative effect on climate, especially in the short term. This is primarily because of two factors unique to on-road transportation: (1) nearly exclusive use of petroleum fuels, the combustion of which results in high levels of the principal warming gases (carbon dioxide, ozone, and black carbon); and (2) minimal emissions of sulfates, aerosols, and organic carbon from on-road transportation sources to counterbalance warming with cooling effects. Scientists find that cutting on-road transportation climate and air-pollutant emissions would be unambiguously good for the climate (and public health) in the near term. Transportation’s role in climate change is especially problematic, given the dependence on oil that characterizes this sector today. There are too few immediate mobility and fuel options in the United States beyond oil-fueled cars and trucks. U.S. and international policy makers have yet to tackle transportationclimate challenges. In its fourth assessment report, the Intergovernmental Panel on Climate Change (IPCC) found that the global transportation sector was responsible for the most rapid growth in direct greenhouse gas emissions, a 120 percent increase between 1970 and 2004. To further complicate matters, the IPCC projects that, without policy intervention, the rapidly growing global transportation sector has little motivation to change the way it operates, because consumer choices are trumping best practices. Herein lies a fundamental mismatch between the climate problem and solutions: transportation is responsible for nearly one of every three tons of greenhouse gas emissions but represents less than one of every twelve tons of projected emission reductions. Clearly this sector is a major contributor to climate change; therefore, it should be the focus of new policies to mitigate warming. Government must lead this effort as the market alone cannot precipitate the transition away from cars and oil, which dominate this sector.

#### D) No global spillover – can’t solve developing countries

**Socolow and Glaser, 9** – Professor of Mechanical and Aerospace Engineering at Princeton University and Assistant Professor at the Woodrow Wilson School of Public and International Affairs and in the Department of Mechanical and Aerospace Engineering at Princeton University (Robert H. and Alexander, Fall. “Balancing risks: nuclear energy & climate change.” Dædalus Volume 138, Issue 4, pp. 31-44. MIT Press Journals.)

In this paper we consider a nuclear future where 1,500 GW of base load nuclear power is deployed in 2050. A nuclear fleet of this size would contribute about one wedge, if the power plant that would have been built instead of the nuclear plant has the average CO2 emissions per kilowatt hour of all operating plants, which might be half of the value for a coal plant. Base load power of 1,500 GW would contribute one fourth of total electric power in a business-as-usual world that produced 50,000 terawatt-hours (TWh) of electricity per year, two-and-a-half times the global power consumption. However, in a world focused on climate change mitigation, one would expect massive global investments in energy efficiency–more efficient motors, compressors, lighting, and circuit boards–that by 2050 could cut total electricity demand in half, relative to business as usual. In such a world, 1,500 GW of nuclear power would provide half of the power. We can get a feel for the geopolitical dimension of climate change mitigation from the widely cited scenarios by the International Energy Agency (iea) presented annually in its World Energy Outlook (weo), even though these now go only to 2030. The weo 2008 estimates energy, electricity, and CO2 emissions by region. Its 2030 world emits 40.5 billion tons of CO2, 45 percent from electric power plants. The countries of theOrganisation for Economic Co-operation and Development (oecd) emit less than one third of total global fossil fuel emissions and less than one third of global emissions from electric power production. By extrapolation, at midcentury the oecd could contribute only one quarter of the world’s greenhouse gas emissions. It is hard for Western analysts to grasp the importance of these numbers. The focus of climate change mitigation today is on leadership from the OECD countries, which are wealthier and more risk averse. But within a decade, the targets under discussion today can be within reach only if mitigation is in full gear in those parts of the developing world that share production and consumption patterns with the industrialized world. The map (see Figure 1) shows a hypothetical global distribution of nuclear power in the year 2050 based on a highnuclear scenario proposed in a widely cited mit report published in 2003. Three-fifths of the nuclear capacity in 2050 as stated in the mit report is located in the oecd, and more nuclear power is deployed in the United States in 2050 than in the whole world today. The worldview underlying these results is pessimistic about electricity growth rates for key developing countries, relative to many other sources. Notably, per capita electricity consumption in almost every developing country remains below 4,000 kWh per year in 2050, which is one-fifth of the assumed U.S. value for the same year. Such a ratio would startle many analysts today–certainly many in China. It is well within limits of credulity that nuclear power in 2050 could be nearly absent from the United States and the European Union and at the same time widely deployed in several of the countries rapidly industrializing today. Such a bifurcation could emerge, for example, if public opposition to nu clear power in the United States and Europe remains powerful enough to prevent nuclear expansion, while elsewhere, perhaps where modernization and geopolitical considerations trump other concerns, nuclear power proceeds vigorously. It may be that the United States and other countries of the oecd will have substantial leverage over the development of nuclear power for only a decade or so. Change will not happen overnight. Since 2006, almost 50 countries that today have no nuclear power plants have approached the International Atomic Energy Agency (iaea) for assistance, and many of them have announced plans to build one or more reactors by 2020. Most of these countries, however, are not currently in a good position to do so. Many face important technical and economic constraints, such as grid capacity, electricity demand, or gdp. Many have too few trained nuclear scientists and engineers, or lack an adequate regulatory framework and related legislation, or have not yet had a public debate about the rationale for the project. Overall, the iaea has estimated that “for a State with little developed technical base the implementation of the first [nuclear power plant] would, on average, take about 15 years.” 11 This lead time constrains rapid expansion of nuclear energy today. A wedge of nuclear power is, necessarily, nuclear power deployed widely– including in regions that are politically unstable today. If nuclear power is suf-ficiently unattractive in such a deployment scenario, nuclear power is not on the list of solutions to climate change.

### 1NC Nuke Leadership

#### -- No impact – prolif will be limited and slow

Yusuf 9 (Moeed, Fellow and Ph.D. Candidate in the Frederick S. Pardee Center for the Study of the Longer-Range

Future – Boston University, “Predicting Proliferation: The History of the Future of Nuclear Weapons”, Brookings Policy Paper 11, January, http://www.brookings.edu/~/media/Files/rc/papers/2009/01\_nuclear\_proliferation\_ yusuf/01\_nuclear\_proliferation\_yusuf.pdf)

It is a paradox that few aspects of international security have been as closely scrutinized, but as incorrectly forecast, as the future nuclear landscape. Since the advent of nuclear weapons in 1945, there have been dozens, if not hundreds of projections by government and independent analysts trying to predict horizontal and vertical proliferation across the world. Various studies examined which countries would acquire nuclear weapons, when this would happen, how many weapons the two superpowers as well as other countries would assemble, and the impact these developments might have on world peace. The results have oscillated between gross underestimations and terrifying overestimations. Following the September 11, 2001 attacks, the fear that nuclear weapons might be acquired by so-called “rogues states” or terrorist groups brought added urgency – and increased difficulty – to the task of accurately assessing the future of nuclear weapons. A survey of past public and private projections provides a timely reminder of the flaws in both the methodologies and theories they employed. Many of these errors were subsequently corrected, but not before, they made lasting impressions on U.S. nuclear (and non-nuclear) policies. This was evident from the time the ‘Atoms for Peace’ program was first promulgated in 1953 to the 1970 establishment of the Nuclear Non- Proliferation Treaty (NPT), and more recently during the post-Cold War disarmament efforts and debates surrounding U.S. stance towards emerging nuclear threats. This study offers a brief survey of attempts to predict the future of nuclear weapons since the beginning of the Cold War.1 The aim of this analysis is not merely to review the record, but to provide an overall sense of how the nuclear future was perceived over the past six decades, and where and why errors were made in prediction, so that contemporary and future predictive efforts have the benefit of a clearer historical record. The survey is based on U.S. intelligence estimates as well as the voluminous scholarly work of American and foreign experts on the subject. Six broad lessons can be gleaned from this history. First, it reveals consistent misjudgments regarding the extent of nuclear proliferation. Overall, projections were far more pessimistic than actual developments; those emanating from independent experts more so than intelligence estimates. In the early years of the Cold War, the overly pessimistic projections stemmed, in part, from an incorrect emphasis on technology as the driving factor in horizontal proliferation, rather than intent, a misjudgment, which came to light with the advent of a Chinese bomb in 1964. The parallel shift from developed-world proliferation to developing-world proliferation was accompanied by greater alarm regarding the impact of proliferation. It was felt that developing countries were more dangerous and irresponsible nuclear states than developed countries. Second, while all the countries that did eventually develop nuclear weapons were on the lists of suspect states, the estimations misjudged when these countries would go nuclear. The Soviet Union went nuclear much earlier than had been initially predicted, intelligence estimates completely missed China’s nuclear progress, and India initially tested much later than U.S. intelligence projections had anticipated and subsequently declared nuclear weapon status in 1998 when virtually no one expected it to do so. Third, the pace of proliferation has been consistently slower than has been anticipated by most experts due to a combination of overwhelming alarmism, the intent of threshold states, and many incentives to abstain from weapons development. In the post-Cold War period, the number of suspected threshold states has gradually decreased and the geographical focus has shifted solely to North-East Asia, South Asia, and the Middle East. There is also much greater concern that a nuclear chain reaction will break out than was the case during the Cold War.

#### US nuclear leadership high now – Vogtle project proves

**Peterson, 12** – Senior Vice President of Communications, Nuclear Energy Institute (J. Scott, 2/21. “New Nuclear Construction Will Help Secure U.S. Energy Technology Leadership.” http://www.huffingtonpost.com/j-scott-peterson/new-nuclear-construction-\_b\_1292429.html)

Ayers, who leads the AFL-CIO's building trades unions, understands the value of 4,000 to 5,000 construction jobs that will be created by the Vogtle nuclear energy project -- the largest construction project ever in Georgia. The two reactors, awarded federal construction permits last week, represent "a strong and unmistakable signal that nuclear energy will now assume an important role in a low-carbon energy future." Chu, at the Vogtle site on Wednesday, reviewed for hundreds of workers the Obama administration's commitment to nuclear energy, and announced an investment of $10 million in advanced nuclear technologies research. Nuclear energy, Chu said, will have growing influence globally as nations confront a changing climate and increasing energy demand. Southern Company already has invested more than $1.5 billion in two advanced reactors that will power about 1.5 million homes. Two existing reactors at Vogtle already serve 600,000 customers in the fast-growing Southeast market. The region is the most hospitable to nuclear energy, with about one-third of America's 104 reactors in seven Southeastern states. The Southern States Energy Board -- a band of government leaders from 14 southern states -- recognizes the economic and environmental benefits of safely operated reactors: "Without nuclear energy, carbon dioxide emissions would have been 28 percent greater... and an additional 700 million tons of carbon dioxide would have been emitted each year." The Nuclear Regulatory Commission is expected to vote in the coming weeks on the construction permits for two more reactors in South Carolina. In addition, the Tennessee Valley Authority is completing its Watts Bar 2 reactor in Tennessee, a facility where construction started many years ago but was never completed. New reactors are becoming a reality in the face of low-priced natural gas for several reasons. Nuclear energy facilities are large, 24/7 power producers that operate at industry-leading levels of reliability. Around the clock production, coupled with low uranium fuel prices, results in low production costs for residential and industrial customers alike. That's an important economic driver for companies that are migrating to the Southeast, where regulated electricity markets provide stability and predictability in energy costs. Add to that package of benefits the fact that nuclear energy facilities emit no greenhouse gases in the production of electricity and the prospect for powering electric vehicles, and one can understand the appeal to long-term energy planners. Will Marshall, president of the Progressive Policy Institute, wrote last week that an expansion of nuclear power "shows that the United States is serious about meeting growing energy demand without pumping more carbon into the atmosphere. At a time when political support for some kind of carbon cap or tax has seemingly collapsed, that's an important sign that Americans aren't giving up on protecting the Earth's climate." Given our troubled economy, public concern over climate change has taken a back seat to more pressing policy issues. Americans are more concerned about the safety and price of electricity options, but climate and environmental issues remain strong drivers. That's why 82 percent of Americans believe that U.S. companies should learn and apply the lessons from the Fukushima Daiichi accident in Japan, but continue to develop new reactors to supply electricity here at home, according to a September 2011 survey by Bisconti Research Inc. Nuclear energy, like all energy sources, has hurdles it must clear. The capital investment required for new reactors makes it difficult to build new projects in competitive electricity markets with today's gas prices. The industry also has suffered from decades of intractable federal policy on used fuel management. The Energy Department, which is 15 years in arrears of meeting contractual obligations to take used uranium fuel rods from commercial reactors, now will make recommendations to Congress to revamp the program. This is a political problem however, not a technical challenge. The Vogtle project, featuring U.S. reactor innovation, is a significant signal of American leadership in nuclear energy technology, which the Commerce Department forecasts to be a $740 billion global market over the next decade. It would be shortsighted for our nation to cede this leadership, and tens of thousands of jobs, to other nations by not building on this momentum.

#### Nuke leadership fails – it’s an ineffective tool and outdated

Weiss 9 (Leonard, Affiliated Scholar – Stanford University's Center for International Security and Cooperation, “Reliable Energy Supply and Nonproliferation,” Nonproliferation Review, 16(2), July, http://cns.miis.edu/npr/pdfs/npr\_16-2\_weiss.pdf)

Part of the problem is that its value as a nonproliferation tool was at its height at the beginning of the nuclear age**,** when few countries were in a position to achieve nuclear autarky. The probability of consensus on establishing a worldwide regime in which there are fuel guarantees and no nationally owned fuel cycle facilities has been on a decreasing slope. Technology denial has become a less effective tool, thanks especially to A.Q. Khan and others. The spread of fuel cycle technologies has perhaps reached a tipping point in which the technology is**,** if not widely available, then sufficiently available to any determined party**.** Hence, the argument made by proponents of internationalization that giving up national nuclear development in favor of more restrictive international efforts will result in much greater security for all does not have the power it may once have had.

#### US leadership can’t solve the prolif – no enforcement mechanism for regulations

**Mez, 12** – senior Associate Professor at the Department of Political and Social Sciences, Freie Universität Berlin, and managing director of the Environmental Policy Research Centre (Lutz, "Nuclear energy–Any solution for sustainability and climate protection?” Energy Policy. ScienceDirect.)

Viewed in historical terms, military use of nuclear energy has gone hand in hand with the development of civil nuclear technology, because most countries attached first priority to the development of nuclear weapons and other military uses, with production of energy in nuclear power plants at first only being a waste product. This by-product developed its own momentum, however: nuclear power became an icon for clean, highly modern technology and technological progress. Moreover, it was a risk-free, highly profitable business for operators of plants because governments paid considerable sums in subsidies and producers could pass on costs to electrical power customers. Branches of the economy which are the most intensive users of electrical power profited from ‘cheap nuclear power’—as did the militaries in countries with nuclear weapons—because civil nuclear facilities offer many possibilities for military use. The borderlines between military and civil nuclear technology and thus between war and peace are often hazy (Mez et al., 2010). In order to minimize the risks of military use, regulation of civil use of nuclear energy have been contemplated within a multilateral framework for some time. The idea of establishing an international atomic energy agency (IAEA), to which states are to transfer uranium stocks and other fissionable material, was proposed by former US President Dwight D. Eisenhower in his ‘Atoms for Peace’ speech3 as far back as 1953 and during the first Geneva atomic conference in 1955. The purpose of the IAEA was to develop methods to ensure that fissionable nuclear material can be used by humankind in a ‘peaceful’ manner—in agriculture, medicine and energy production for countries and regions of the world with limited energy resources. The Non-Proliferation Treaty, which went into effect in 1970, constituted an attempt to prevent nuclear ‘beggars’ from becoming nuclear powers through civil nuclear technology transfer. In reality, however, a series of countries including Israel, India, Pakistan and North Korea have obtained nuclear weapons under the pretext of civil use of nuclear power, while other countries such as Iran are accused of having this same intention. This development shows that it is difficult to prevent nuclear weapons from being built and that there is a great likelihood that more and more countries will obtain nuclear capabilities in the future. When a nuclear infrastructure is in place and the basic material for weapons is being produced in facilities for enrichment or reprocessing—in military reactors, dual-purpose reactors or fast breeder-reactors—then it is merely a question of political will and willingness to invest in nuclear technology which decides whether a country develops nuclear weapons or not.

### 1NC Streamline Solvency

#### No delays based on the licensing process – consensus of experts after thorough review

Domenici and Meserve, 10 – senior fellow at the Bipartisan Policy Center, and President of Carnegie Institution (Pete V. and Richard, 4/6. Letter to Gregory B. Jaczko, Chairman of the Nuclear Regulatory Commission. http://bipartisanpolicy.org/sites/default/files/NRC%20Licensing%20Review.pdf)

We are writing in response to your request that the Bipartisan Policy Center conduct a review of the NRC licensing process for new reactors. You asked that we examine whether there have been unnecessary delays in the licensing process for new nuclear plants caused either by the NRC or by the nuclear industry. In short, we did not find any evidence that either the NRC or industry has needlessly delayed or extended the licensing process. You also asked for a report on any findings and recommendations to improve the process going forward. This letter constitutes our response to your request. To accomplish this task, we interviewed NRC staff and former NRC commissioners, representatives of reactor vendors, applicants for Combined Operating Licenses (COLs), nuclear engineering firms, and representatives of environmental and other organizations that have actively engaged in the licensing process. We also hosted a half-day forum to which we invited a broad group of stakeholders to discuss issues raised during the individual interviews and to elicit additional views and comments. General Themes/Issues In summary, we found that, while many of the stakeholders have encountered some problems in maneuvering through the licensing process, there was a near-unanimous view that all parties have acted appropriately and in good faith to resolve any problems. The NRC was not seen to have needlessly delayed or extended the licensing process. Based on our interviews, we believe that the difficulty of obtaining financing is a bigger obstacle to nuclear plant construction at the moment than licensing issues.

#### Developers won’t follow the streamlined process – history proves

**Fahring, 11** – J.D. from the University of Texas School of Law, law clerk at the Texas Eleventh Court of Appeals interested in energy law, environmental law, and tax law (T.L., “NOTE: Nuclear Uncertainty: A Look at the Uncertainties of a U.S. Nuclear Renaissance.” Texas Environmental Law Journal, 41 Tex. Envtl. L.J. 279, Lexis.)

Developers Have Not Followed the Ideal Sequence in the NRC's Streamlined Licensing Process First, developers have failed to follow the ideal steps of the NRC's streamlined licensing process. n269 NRC Commissioner Gregory Jaczko explains: The idea was that utilities could get a plant design completed and certified and a site reviewed first ... They could then submit an application that simply references an already certified design and an approved early site permit. But almost no one is following that ideal process. Instead, we are once again doing everything in parallel ... n270 Developers also are delaying review of their applications. n271 They have put four of the seventeen COL applications filed with the NRC on hold. n272 They also have yet to complete the seventeen applications for designs filed with the NRC and are continuing to revise the four designs under review. n273 A possible explanation for the problems with the streamlined licensing process is that much of 2005 EPACT provides incentives only for the first few developers to proceed with new nuclear construction. In particular, the production tax credits, as construed by the IRS, were available only for the first 6,000 megawatts of additional nameplate capacity filed through COL applications with the NRC. n274 All COL applications that the NRC has received were filed after IRS Notice 2006-40, which provided this guidance. n275 "The deadline for automatic eligibility for the tax credit appears to [have provided] a strong incentive for nuclear plant applicants to file with the NRC by [\*304] the end of 2008 ..." n276 Given this incentive, developers might have filed quickly and with incomplete information, in the process failing to follow the NRC's ideal streamlined licensing sequence. n277 These problems with the licensing process could be detrimental to continued nuclear development. Defects in the licensing process led to cost overruns in the 1970s and 1980s, which dissuaded developers from undertaking any new nuclear construction for nearly thirty years. n278 Continued problems would constitute an input cost uncertainty to developers who have not yet filed applications, which might cause them to further delay new construction.

#### Streamlining the licensing process is unnecessary and risks increased accidents

Lyman et al, 10 – Senior Scientist, Global Security Program, Union of Concerned Scientists (Edwin, with Dr. Thomas B. Cochran, Senior Scientist, Nuclear Program, Natural Resources Defense Council; Peter Bradford, Adjunct professor, Vermont Law School, former Commissioner, USNRC; Robert Alvarez, Senior Scholar, Institute for Policy Studies, 6/28. http://www.ucsusa.org/assets/documents/nuclear\_power/NRCstreamliningletter6-28-2010.pdf)

If we’ve learned anything from the BP disaster in the Gulf, it’s that lax regulation and weak oversight of high-risk industries can prove disastrous to our environment. Even more important is the need for strong government oversight of industries with the greatest potential to negatively impact human health and safety. With this in mind, we urge you to preserve and enhance the Nuclear Regulatory Commission’s (NRC) statutory authority to ensure that existing plants are operated safely and that new plants are safe before they become operational. The president has said that expanding our use of nuclear power will be necessary to meet our greenhouse gas reduction targets. Although we do not believe that nuclear power is the safest or most cost-effective way of achieving this goal, we do believe that it is critical that Congress not promote an expansion of the nuclear industry while allowing the NRC’s existing oversight ability to be undermined, especially for proposed new and untested reactor designs. For example, there are several provisions in the American Power Act (APA) that would weaken important safety protocols and impede the NRC’s ability to ensure that new reactors are safe to operate. We fear that the net effect of weakening these safety protocols will be to increase the likelihood of accidents that could threaten public safety. While we agree that passing a comprehensive climate and energy bill is critical, we strongly urge you not to include these provisions in any proposed climate and energy legislation. Both Congress and the NRC have already streamlined the NRC’s licensing process. An NRC 1989 rulemaking and the Energy Policy Act of 1992 collapsed the former two-step licensing process (construction permit review followed by operating license review) into a one-step Combined Operating License (COL) process. In 2004, the NRC further truncated the licensing process by eliminating the public’s right to take depositions or cross-examine opposing witnesses in individual licensing hearings. Further attempts to streamline or accelerate the NRC licensing process or to curtail the NRC’s ability to identify and require correction of equipment problems prior to startup would be irresponsible. A recent review of the licensing process for new reactors by the Bipartisan Policy Center at the request of the NRC “did not find any evidence that either the NRC or industry has needlessly delayed or extended the licensing process.” According to the BPC, “although the licensing process is new, both the NRC and the industry have done a remarkable job in very trying circumstances assuring the thorough and timely evaluation of license applications.”

### 1NC SMR Solvency

#### New incentives for SMR’s fail

**Spencer and Loris, 11** – Research Fellow in Nuclear Energy in the Thomas A. Roe Institute for Economic Policy Studies, and Research Associate in the Roe Institute, at The Heritage Foundation (Jack and Nicolas, 2/2. “A Big Future for Small Nuclear Reactors?” http://www.heritage.org/research/reports/2011/02/a-big-future-for-small-nuclear-reactors)

While some designs are closer to market introduction than others, the fact is that America’s regulatory and policy environment is not sufficient to support a robust expansion of existing nuclear technologies, much less new ones. New reactor designs are difficult to license efficiently, and the lack of a sustainable nuclear waste management policy causes significant risk to private investment. Many politicians are attempting to mitigate these market challenges by offering subsidies, such as loan guarantees. While this approach still enjoys broad support in Congress and industry, the reality is that it has not worked. Despite a lavish suite of subsidies offered in the Energy Policy Act of 2005, including loan guarantees, insurance against government delays, and production tax credits, no new reactors have been permitted, much less constructed. These subsidies are in addition to existing technology development cost-sharing programs that have been in place for years and defer significant research and development costs from industry to the taxpayer. The problem with this approach is that it ignores the larger systemic problems that create the unstable marketplace to begin with. These systemic problems generally fall into three categories: 1. Licensing. The Nuclear Regulatory Commission (NRC) is ill prepared to build the regulatory framework for new reactor technologies, and no reactor can be offered commercially without an NRC license. In a September 2009 interview, former NRC chairman Dale E. Klein said that small nuclear reactors pose a dilemma for the NRC because the commission is uneasy with new and unproven technologies and feels more comfortable with large light water reactors, which have been in operation for years and has a long safety record. 11 The result is that enthusiasm for building non-light-water SMRs is generally squashed at the NRC as potential customers realize that there is little chance that the NRC will permit the project within a timeframe that would promote near-term investment. So, regardless of which attributes an SMR might bring to the market, the regulatory risk is such that real progress on commercialization is difficult to attain. This then leaves large light water reactors, and to a lesser extent, small ones, as the least risky option, which pushes potential customers toward that technology, which then undermines long-term progress, competition, and innovation. 2. Nuclear Waste Management. The lack of a sustainable nuclear waste management solution is perhaps the greatest obstacle to a broad expansion of U.S. nuclear power. The federal government has failed to meet its obligations under the 1982 Nuclear Waste Policy Act, as amended, to begin collecting nuclear waste for disposal in Yucca Mountain. The Obama Administration’s attempts to shutter the existing program to put waste in Yucca Mountain without having a backup plan has worsened the situation. This outcome was predictable because the current program is based on the flawed premise that the federal government is the appropriate entity to manage nuclear waste. Under the current system, waste producers are able to largely ignore waste management because the federal government is responsible. The key to a sustainable waste management policy is to directly connect financial responsibility for waste management to waste production. This will increase demand for more waste-efficient reactor technologies and drive innovation on waste-management technologies, such as reprocessing. Because SMRs consume fuel and produce waste differently than LWRs, they could contribute greatly to an economically efficient and sustainable nuclear waste management strategy. 3. Government Intervention. Too many policymakers believe that Washington is equipped to guide the nuclear industry to success. So, instead of creating a stable regulatory environment where the market value of different nuclear technologies can determine their success and evolution, they choose to create programs to help industry succeed. Two recent Senate bills from the 111th Congress, the Nuclear Energy Research Initiative Improvement Act (S. 2052) and the Nuclear Power 2021 Act (S. 2812), are cases in point. Government intervention distorts the normal market processes that, if allowed to work, would yield the most efficient, cost-effective, and appropriate nuclear technologies. Instead, the federal government picks winners and losers through programs where bureaucrats and well-connected lobbyists decide which technologies are permitted, and provides capital subsidies that allow investors to ignore the systemic problems that drive risk and costs artificially high. This approach is especially detrimental to SMRs because subsidies to LWRs distort the relative benefit of other reactor designs by artificially lowering the cost and risk of a more mature technology that already dominates the marketplace.

#### Natural gas competition blocks SMRs

**Biello 12** (David, Associate Editor at Scientific American, March 27, "Small Reactors Make a Bid to Revive Nuclear Power", <http://www.scientificamerican.com/article.cfm?id=small-reactors-bid-to-revive-nuclear-power>)

Regardless of how cheap such Small Modular Reactors may allow nuclear to be in future, it is unlikely to be as cheap as natural-gas-fired turbines in the present. In fact, low natural gas prices stalled the U.S. nuclear renaissance outside Georgia and South Carolina, long before the reactor meltdowns at Fukushima Daiichi in Japan. "Because of an unanticipated abundance of natural gas in the United States, nuclear energy, in general, is facing tough competition," noted an analysis of the prospects for small modular reactors from the University of Chicago published last November. The analysis also suggested that small reactors would be more expensive than large reactors on a per-megawatt basis until manufacturing in significant quantities has happened. "It [is] unlikely that SMRs will be commercialized without some form of government incentive." But the Department of Energy funding may only support two designs. Innovation spurred by competition seems unlikely. And that may ultimately erode the current U.S. nuclear industry advantage—from design to operation to regulation.

#### Long timeframe to deployment

**ITA, 11** – International Trade Administration (U.S. Department of Commerce, February. Manufacturing and Services Competitiveness Report. “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)

Although SMRs have significant potential and the market for their deployment is growing, their designs must still go through the technical and regulatory processes necessary to ensure that they can be safely and securely deployed. Lightwater technology–based SMRs may not be ready for deployment in the United States for at least a decade, and advanced designs might be even further off. Light-water SMRs and SMRs that have undergone significant testing are the most likely candidates for near-term deployment, because they are most similar to existing reactors that have certified designs and significant operating histories. NuScale is on track to submit its reactor design to the NRC by 2012, as is Babcock & Wilcox for its mPower design. In addition, GE-Hitachi, which already completed an NRC preapplication review for its PRISM reactor in 1994, plans to submit its PRISM design for certification in 2012.

#### SMRs fail – assumes their predicted design

**Vujic, Antic, and Vukmirovic 12** (Jasmina, University of California at Berkeley, Dragoljub, ENECENIT Center in Belgrade, Serbia, and Zorka, ENECONIT Center in Belgrade, Serbia, "Environmental impact and cost analysis of coal versus nuclear power: The U.S. case", Energy, Volume 45, Issue 1, September 2012, Pages 31-42)

SmallModularReactors (SMRs) came into the focus over the last several years, primarily due to large initial capital investment requirements for large nuclear power plants. In the recently published paper on SMRs [35], it was pointed out that SMRs could offer simpler, standardized, and safer modular design by being factory built, requiring smaller initial capital investment, and having shorter construction times. The SMRs could be small enough to be transportable, could be used in isolated locations without advanced infrastructure and without power grid, or could be clustered in a single site to provide a multi-module large capacity power plant. There are technical and institutional challenges to be addressed regarding broader deployment of SMRs: testing and validation of technological innovations in components, systems and engineering (especially testing and fabrication of fuel), fear of first-of-kind reactor designs, economy-of-scale, perceived risk factors for nuclear power plants, and regulatory and licensing issues. Other issues to be addressed are the cost of reactor decommissioning and spent nuclear fuel (SNF) management. [35]

### 2NC SMR’s Not Solve Meltdowns

#### SMR’s don’t solve meltdowns.

McMahon 12 (Jeff, Contributor – Forbes, “Small Modular Nuclear Reactors By 2022 -- But No Market For Them,” Forbes, 5-23, http://www.forbes.com/sites/jeffmcmahon/2012/05/23/small-modular-reactors-by-2022-but-no-market-for-them/)

Senate staff also heard criticism of the Administration’s hopes for SMRs from Edwin Lyman, Senior Scientist in the Global Security Program at the Union of Concerned Scientists: The last panelist, Dr. Lyman, provided a more skeptical viewpoint on SMRs, characterizing public discussion on the topic as “irrational exuberance.” Lyman argued that, with a few exceptions, safety characteristics were not significantly better than full‐size reactors, and in general, safety tended to rely on the same sorts of features. Some safety benefits, he stated, also declined as reactor power approached the upper bound of the SMR category…. Lyman argued that the Fukushima disaster should lead to a “reset” in licensing. In his opinion, the incident exposed numerous weaknesses in how nuclear power is regulated, and in order to remedy these oversights, regulation should be revisited.

### 1NC Solvency Military SMRs

#### Military SMRs rely on foreign grids that are fragile – takes out solvency

Smith 11 (Terrence P., Program Coordinator and Research Assistant with the William E. Simon Chair in Political Economy – CSIS, “An Idea I Can Do Without: “Small Nuclear Reactors for Military Installations”,” Center for Strategic & International Studies, 2-16, http://csis.org/blog/idea-i-can-do-without-small-nuclear-reactors-military-installations)

Nowhere in these key points is there even a hint of, “Hey this is not necessarily the best thing since sliced bread.” My initial response to each of these “key points”: (1) Takes the assumption it is a good idea and pushes a pursuit of the capability soon and hard to maintain a competitive technological edge, before examining the wisdom of the idea to begin with; (2) Just because DoD is interested in it, does not make it a good idea; (3) Arguing that they are better than larger reactors is not an argument for them being a good idea; (4) See my first point, but add in military advantage. The report describes DoD’s interest in the reactors as stemming from two “critical vulnerabilities”: 1) “the dependence of U.S. military bases on the fragile civilian electrical grid,” and 2) “the challenge of safely and reliably supplying energy to troops in forward operating locations.” The proposed solution: small nuclear reactors that (in many of the proposed plans) are “self-contained and highly mobile.” This would allow the military to use them in forward bases and pack ‘em up and move ‘em out when we are done. But in an era where the U.S. is engaged in global fights with our bases often placed in unfriendly neighborhoods, the idea of driving around nuclear reactors and material (particularly through areas that have “ a fragile civilian electrical grid”) hardly seems like the idea of the century to me. The report counters that “some” designs promise to be “virtually impervious to accidents” and have design characteristics that “might” allow them to be proliferation-resistant. The plans that use low-enriched uranium, sealed reactor cores, ect., do make them a safer option that some current designs of larger nuclear reactors, but, again, if we are going to be trucking these things around the world, when it comes to nuclear material a “might” doesn’t sit well with me.

#### No solvency—no expertise

Parthemore and Rogers 10 (Christine and Will, Bacevich Fellow – CNAS, “Nuclear Reactors on Military Bases May Be Risky,” Center for a New American Security, 5-20, http://www.cnas.org/node/4502)

The media have reported that Tennessee Sen. Lamar Alexander (R) is proposing a joint Department of Energy/Department of Defense demonstration project to examine the use of small reactors on federal sites. For some Department of Energy sites, such as Oak Ridge National Lab in Alexander’s home state — a site certainly accustomed to housing nuclear technology — demonstrating new nuclear reactor technology is largely a no-brainer. However, using nuclear reactors to power the nation’s defense installations warrants deeper consideration. Proponents of boosting this carbon-free energy source on military bases argue that these installations have unique capacities that would ease concerns over its use, namely more gates and more armed guards already on base 24/7. Likewise, the U.S. military services have unique energy security needs. Consistent energy supplies are a critical component of America’s ability to train at home and to operate globally. Energy is so important that some analysts are even exploring “islanding” the energy systems on some military installations to reduce vulnerabilities related to their reliance on often brittle domestic electric grids. Consideration of nuclear energy as part of these islanding concepts is on the rise. On the other hand, opponents contend that sufficient numbers of military base personnel may not have the requisite training in nuclear reactor management, oversight and regulatory credentials to attend to reactors in the round-the-clock manner necessary. In most cases, additional qualified personnel and improved physical security and safety requirements would be needed. As with all nuclear power generation, materials proliferation, water usage, radioactive waste management and public opinion will also be major concerns. Most military bases also strive to be integrated into their surrounding communities, and, by our experience, many base officials consider integrated electric infrastructure an important point of connection between local and military needs. Concepts for nuclear energy generation solely to supply military bases must be sensitive to what public perceptions could be in the event of extended blackouts for surrounding communities. Any legislation to consider the option of small nuclear reactors on military bases must include examination of these important concerns.

#### No solvency – siting

King et al, 11 – Research Analyst and Project Director at CNA Corporation's Center for Naval Analyses (Marcus, with LaVar Huntzinger and Thoi Nguyen, March. “Feasibility of Nuclear Power on U.S. Military Installations.” http://www.cna.org/sites/default/files/research/Nuclear%20Power%20on%20Military%20Installations%20D0023932%20A5.pdf)

Finding specific sites for nuclear power plants on or near military installations will be challenging. There are many considerations that affect whether a site is appropriate. Some of the considerations relate to safety and others to limiting risks of attack or sabotage, and still others to public opinion. Being located on a military installation provides some advantages, but it also imposes some constraints on how portions of the installation near the nuclear power plant can be used. Trade-offs will be required.

### 1NC Naval Power

Naval power is good for nothing

**Reed 8** [John T. Reed, West Point Graduate and platoon leader in the 82nd Airborne Division., June, 2008.<"Are U.S. Navy surface ships sitting ducks to enemies with modern weapons?"http://www.johntreed.com/sittingducks.html]

I have read media stories that said whenever the U.S. Navy did computer war games against the Soviet Union, all significant U.S. Navy surface ships were destroyed by the Soviets within about **20 minutes** of the start of the computerized war. How? Nukes. A reader says that the Soviet submarines in the Cuban missile crisis had nuclear torpedoes which they would have used if we did an amphibious landing. I have no way to confirm that. Although the Navy ships and their carrier-based planes perform spectacularly well against third-rate enemies like Afghanistan and Iraq, I wonder how they would do against Argentina or any other enemy equipped with modern weapons. In short, I wonder if **U.S. Navy surface vessels are obsolete.** Think about it. They are large, slow-moving, metal objects that float on the surface of the ocean—in the Twenty-First Century! Ocean liners were the main way to get across the oceans for civilian passengers until the second half of the Twentieth Century. Since then, most people have used planes because they are much faster and cheaper. Except the U.S. military. Civilians essentially got rid of their “navy” around 1950. Only the hidebound military would still have a Navy in the Twenty-First Century. Nowadays, civilians only ride passenger ships for pleasure cruises. An argument can be made that the Navy does the same. Only maybe the old line, “you can tell the men from the boys by the size of their toys” is a more accurate way to put it. Navy brass want to grow up to captain a ship. A big ship. The bigger the better. Before WW II, they wanted to be captains of battleships. After WW II, British historian B.H. Liddell Hart said, “A battleship had long been to an admiral what a cathedral is to a bishop.” Now Navy officers want to captain aircraft carriers. Very exciting. Very romantic. Great fun. But obsolete. WW II in the Pacific last time they were not obsolete The last time we used them to fight worthy opponents was in the Pacific during World War II. At that time, warring navies had to send out slow-moving patrol planes to search for the enemy’s ships. The motion picture Midway does an excellent job of showing both the Japanese and the Americans doing this. Low-visibility weather would often hide ships back then. Easily detected- Those days are long gone. Surface ships are not only easily seen by the human eye absent fog or clouds, they are also easily detected, pinpointed, and tracked by such technologies as radar, sonar, infrared detectors, motion detectors, noise detectors, magnetic field detectors, and so forth. Nowadays, you can probably create an Exocet-type, anti-ship missile from stuff you could buy at Radio Shack. Surface ships can no longer hide from the enemy like they did in World War II. Satellites- Satellites and spy planes obviate the need for World War II-type patrol planes and blimps, unless someone shoots them down, in which case planes can accomplish the same thing.. Too slow- Anti-ship missiles can travel at speeds up to, what, 20,000 miles an hour in the case of an ICBM aimed at a carrier task force. Carriers move at 30 knots or so which is 34.6 miles per hour. Too thin-skinned- Can you armor the ships so anti-ship missiles do not damage them? Nope. They have to stay relatively light so they can float and go 34.6 miles per hour. Cannot defend themselves-Can you arm them with anti-missile defenses? They are trying. They have electronic Gatling guns that automatically shoot down the incoming missiles. But no doubt those Gatling guns have a certain capacity as to number of targets they can hit at a time and range and ammunition limitations. They also, like any mechanical device, would malfunction at times. Generally, one would expect that if the enemy fired enough missiles at a Gatling-gun-equipped ship, one or more would eventually get through. How many? Let’s say the capacity of an aircraft carrier and its entourage body-guard ships to stop simultaneous Exocet-type anti-ship missiles is X. The enemy then need only simultaneously fire X + 1 such missiles to damage or sink the carrier. In the alternative, the enemy could fire one Exocet-type missile at a time at the carrier. Unless they are programmed otherwise, having only one such target, all the relevant guns would fire at it, thereby exhausting the carrier task force’s anti- missile ammunition more quickly, in which case fewer than X +1 Exocet-type missiles might be enough to put the carrier out of action. As Japan’s top WW II Admiral Yamamoto said, There is no such thing as an unsinkable ship. The fiercest serpent may be overcome by a swarm of ants. U.S. warships also have electronic warfare jamming devices that screw up the guidance systems of some types of incoming missiles. These, of course, are ineffective against nuclear-tipped missiles that need little guidance. Furthermore, if the enemy uses 20,000-miles-per-hour nuclear missiles, there is no known anti-missile defense. They move too fast for the electronic Gatling guns and do not need to ever get within the Gatling guns’ range to destroy the ships. Our enemy certainly would use nukes if they had enough of them and were in an all-out war against us. Cannot hide, run, or defend themselves In summary, Navy surface ships cannot hide from a modern enemy. They cannot run from a modern enemy. And they cannot defend themselves against a modern enemy. Accordingly, they are only useful for action against backward enemies like Afghanistan and Iraq or drug smugglers.

**Naval power sustainable**

**Goure 10**—Vice President, Lexington Institute, PhD (Daniel, 2 July 2010, Can The Case Be Made For Naval Power?,[http://www.lexingtoninstitute.org/can-the-case-be-made-for-naval-power-?a=1&c=1171](http://www.lexingtoninstitute.org/can-the-case-be-made-for-naval-power-?a=1&c=1171" \t "_blank))

This is no longer the case. The U.S. faces no great maritime challengers. While China appears to be toying with the ideaof building a serious Navy this is many years off. Right now it appears to be designing a military to keep others, including the United States, away, out of the Western Pacific and Asian littorals. But even if it were seeking to build a large Navy, many analysts argue that other than Taiwan it is difficult to see a reason why Washington and Beijing would ever come to blows. Our former adversary, Russia, would have a challenge fighting the U.S. Coast Guard, much less the U.S. Navy.After that, there are no other navies of consequence. Yes, there are some scenarios under which Iran might attempt to close the Persian Gulf to oil exports, but how much naval power would really be required to reopen the waterway? Actually, the U.S. Navy would probably need more mine countermeasures capabilities than it currently possesses. More broadly, it appears that the nature of the security challenges confronting the U.S. has changed dramatically over the past several decades.There are only a few places where even large-scale conventional conflict can be considered possible. None of these would be primarily maritime in character although U.S. naval forces could make a significant contribution by employing its offensive and defensive capabilities over land. For example, the administration’s current plan is to rely on sea-based Aegis missile defenses to protect regional allies and U.S. forces until a land-based variant of that system can be developed and deployed. The sea ways, sometimes called the global commons, are predominantly free of dangers. The exception to this is the chronic but relatively low level of piracy in some parts of the world. So, the classic reasons for which nations build navies, to protect its own shores and its commerce or to place the shores and commerce of other states in jeopardy, seem relatively unimportant in today’s world.

### 2NC Naval Power

**Navies are obsolete – cruise missiles and submarines will take out the fleet**

**Burleson 07 –** (Mike, columnist with Sea Classics magazine. “An All-Submarine Navy” 6-19-07. http://www.opinioneditorials.com/guestcontributors/mburleson\_20070619.html)

Last week, the third in a new class of underwater battleships, the USS MICHIGAN, joined the fleet after a $1 billion face lift. The 4 converted subs of the OHIO class, former Trident missile ships, are the undersea equivalent of the reborn IOWA class from the 1980’s. Armed with over 150 Tomahawk cruise missiles, plus the ability to carry special forces and unmanned vehicles, they give the Navy an incredible ability to strike decisively from the sea. I am of the opinion that in full-scale shooting war at sea, the US surface navy will be devastated in the first day., by the combination of cruise missiles and stealthy submarines. The survivors would all be forced into port, unable to participate in the counterattack, which would likely be initiated by our own deadly nuclear attack submarines. What this means is, our current force of colossal and pricey warships including aircraft carriers, cruisers, destroyers, and amphibious ships are obsolete in today’s precision, push button warfare. They are also tremendously expensive to build and operate, with only the richest of earth’s superpowers able to afford them in ever declining numbers. If this wasn’t reason enough for maritime nations to reevaluate their shipbuilding priorities, there are few if any jobs the surface fleet can do which the submarine cannot. I’ll elaborate: Command of the Sea Submariners say there are only 2 types of ships: submarines and targets. There’s valid reasons for this. Since World War 2 anti-submarine defenses have failed to match the attack boat’s advancements in speed, stealth, and weaponry. For instance, since 1945 the average speed of destroyers have remained at 30 knots, with only nuclear vessels able to maintain this rate for any period. In contrast, the velocity of nuclear attack submarines, beginning with the launch of USS NAUTILUS in 1954, has tripled and quadrupled from around 10 knots submerged to 30-40 knots. Also, an antisubmarine vessel must get within a few miles of an enemy sub to fire its rockets or torpedoes. Its only long-range defense, the helicopter, is slow and must linger in a vulnerable hover while its sonar buoys seek out their prey. Some Russian-built boats come equipped with anti-aircraft missiles which makes this standard ASW tactic suicidal. In contrast, a modern submarine can launch its missiles from 75 miles away and farther. Should it choose to close the distance, as occurred when a Chinese SONG class stalked the USS KITTY HAWK last year, to fire its ship killing torpedoes, it can do so at speeds as fast as and sometimes surpassing surface warships. Whether attacking with cruise missiles or wake-homing torpedoes the attack boat remains submerged; the preeminent stealth vessel. The sub has likely held this dominate position on the high seas, since the dawn of the first nuke ships beginning in the 1950’s. The only lacking factor has been a full-scale naval war to prove it. The single example is the sinking of the Argentine cruiser BELGRANO 25 years ago by the British submarine HMS CONQUEROR in the Falklands Conflict. Afterward, the Argentine Navy fled to port and remained there! Commerce Raiding/Protection: This traditional role of the submarine is one which it excelled in the last century. The difference today is, neither America nor Britain has the capability to mass produce the thousands of anti-submarine escorts which just barely defeated Germany’s U-boats in 2 world wars, even if it would matter. In the next war at sea, the submarine would bring all commerce to a halt, making a mockery of the globalized free market system. The only counter to this menace is perhaps a combination of aircraft and submarine escorts, with the latter acting as the destroyer, shepherding its convoy through the “shark” ridden waters.

#### Naval power resilient – no challengers to overwhelming U.S. power

Posen 3 (Barry R., Professor of Political Science – Massachusetts Institute of Technology, “Command of the Commons: The Military Foundation of U.S. Hegemony”, International Security, 28(1), Ebsco)

Command of the commons is the military foundation of U.S. political preeminence. It is the key enabler of the hegemonic foreign policy that the United States has pursued since the end of the Cold War. The military capabilities required to secure command of the commons are the U.S. strong suit. They leverage science, technology, and economic resources. They rely on highly trained, highly skilled, and increasingly highly paid military personnel. On the whole, the U.S. military advantage at sea, in the air, and in space will be very difficult to challenge—let alone overcome. Command is further secured by the worldwide U.S. base structure and the ability of U.S. diplomacy to leverage other sources of U.S. power to secure additional bases and overflight rights as needed.

**We’re too far ahead in every sector of the military, and our navy is predominant in every region**

**Kagan 12** [Robert Kagan, Senior Fellow, Foreign Policy, Center on the United States and Europe, 1/5/12, <http://www.brookings.edu/opinions/2012/0105_international_relations_kagan.aspx>]

Military capacity matters, too, as early nineteenth-century China learned and Chinese leaders know today. As Yan Xuetong recently noted, “military strength underpins hegemony.” Here the United States remains unmatched. It is far and away the most powerful nation the world has ever known, and there has been no decline in America’s relative military capacity—at least not yet. Americans currently spend less than $600 billion a year on defense, more than the rest of the other great powers combined. (This figure does not include the deployment in Iraq, which is ending, or the combat forces in Afghanistan, which are likely to diminish steadily over the next couple of years.) They do so, moreover, while consuming a little less than 4 percent of GDP annually—a higher percentage than the other great powers, but in historical terms lower than the 10 percent of GDP that the United States spent on defense in the mid-1950s and the 7 percent it spent in the late 1980s. The superior expenditures underestimate America’s actual superiority in military capability. American land and air forces are equipped with the most advanced weaponry, and are the most experienced in actual combat. They would defeat any competitor in a head-to-head battle. American naval power remains predominant in every region of the world.

**More evidence - our navy is bigger than the next 13 combined**

**Jelinek 11** (11/16/11 Pauline, AP Writer citing experts, “Pentagon spending cuts: Dangerous or just overdue?” <http://www.newsvine.mobi/_news/2011/11/16/8831798-pentagon-spending-cuts-dangerous-or-just-overdue>)

In the 10 years since the Sept. 11 terror attacks, annual budgets for the military have nearly doubled to close to $700 billion. The U.S. accounts for nearly half of the defense money spent around the world — more than the next 17 nations combined. The U.S. naval fleet is as big as the next 13 navies combined, according to various analyses and some of the Pentagon's own accounting in recent years.

### 1NC Water Reactor PIC

#### Text: the United States Federal Government should .

[Replace “Small Modular Reactors” with “gas-cooled reactors, liquid metal-cooled reactors, and molten salt-cooled reactor”.]

#### It competes – “small modular reactors” include 60 different reactor designs – the plan mandates the inclusion of “water reactors” – the CP excludes it

King et al 11 (Dr. Marcus, Research Analyst and Project Director – CNA Corporation's Center for Naval Analyses, LaVar Huntzinger, and Thoi Nguyen, “Feasibility of Nuclear Power on U.S. Military Installations,” CNA Analysis and Solutions, March, <http://www.cna.org/sites/default/files/research/Nuclear%20Power%20on%20Military> %20Installations%20D0023932%20A5.pdf)

Status of SMR technologies and commercialization

According to two recent International Atomic Energy Agency (IAEA) reports, more than 60 SMRs with a diverse set of features and spanning the full gamut of technical readiness are being studied by various countries [4, 5]. The systems are typically categorized by their primary coolant:

• Water - light and heavy

• Gas - carbon dioxide and helium

• Liquid metal - sodium, lead, and lead-bismuth

• Molten salt - with or without dissolved fuel.

Using the number of reactor-years of experience as a basis of technology maturity, it follows that water-cooled reactors have the greatest maturity (greater than 20,000 reactor years), followed by gas-cooled reactors (~1,500 reactor-years), sodium-cooled reactors (~320 reactor-years), and lead or lead-bismuth-cooled reactors (~80 reactoryears). Clearly water- and gas-cooled reactors make them better suited for near-term deployment. Other designs, such as liquid-metalcooled fast reactors, have attractive performance potential for longer7 term sustainable development and deployment, but they require additional development to achieve viability in the market place. Several U.S.-based companies are seeking to bring new SMR designs to market within the next decade. In the category of LWR-based designs, vendors that have already initiated discussions with the NRC include Westinghouse, NuScale, and Babcock and Wilcox (B&W). Beginning in 1999, Westinghouse led an international consortium in the development of the International Reactor Innovative and Secure (IRIS) design, which is a 335 MWe integral pressurized water reactor (PWR) design. In August 2010, Westinghouse withdrew from the consortium in favor of developing an alternative design, the details of which have not been released yet. Also beginning in 1999, Idaho National Laboratory and Oregon State University collaborated on a 45 MWe integral PWR, which was later licensed to a new "start up" company called NuScale. In July 2009, B&W announced its 125 MWe mPower integral PWR design. While the IRIS design was expected to be deployed as single or twin-pack units, the reference NuScale plant is composed of 12 modules, and the mPower plant uses four modules. Models of the IRIS, mPower, and NuScale designs are given in figure 1.

Beyond these near-commercial designs, several advanced SMR designs are also being developed by U.S. vendors, including familiar vendors such as General Electric-Hitachi (GE-H) and General Atomics (GA), and new "start up" companies such as Hyperion and Advanced Reactor Concepts (ARC). The 311 MWe GE-H Power Reactor Inherently Safe Module (PRISM) design was first developed in the 1980s as part of the DOE-funded Advanced Liquid Metal Reactor program. The sodiumcooled reactor design is almost entirely complete and has had extensive review by the NRC. The helium-cooled 280 MWe Modular Hightemperature Reactor (MHR) design emerged in the 1990s and also has had significant NRC review. The 25 MWe Hyperion Power Module (HPM) design, which uses lead-bismuth coolant, has been under development since 2009, as is the 100 MWe sodium-cooled Advanced Reactor Concept (ARC) design. It is expected that additional advanced SMR designs will emerge as vendors address specific energy markets that are best served by small-sized power units. Models of the PRISM, MHR, and HPM designs are given in figure 2.

#### Light water reactors causes widespread proliferation

Sokolski 4 (Henry, Executive Director – Nonproliferation Policy Education Center, in the Preface of "A Fresh Examination of the Proliferation Dangers of Light Water Reactors," NPEC, 10-19, http://npec.xykon-llc.com/files/20041022-GilinskyEtAl-LWR.pdf)

The U.S. and its allies are now trying to deny Iran the ability to enrich uranium out of fears it might use this capability to make bombs. The problem is that no country has yet clearly countered Iran’s claim that it has a legal right to pursue all of its nuclear activities. A key reason why is the peaceful status the U.S. and others have long conferred upon the centerpiece of Iran’s nuclear program -- the light water power reactor. LWRs, in fact, produce and consume massive quantities of lightly enriched uranium and plutonium-laden spent fuel, materials that are quite useful to would-be bomb makers if they have reprocessing or uranium enrichment plants. Yet, for years, it was assumed that these plants and their construction could not be concealed from international inspectors or national intelligence agencies and that therefore, one could promote peaceful nuclear power with LWRs without risking the spread of nuclear weapons. Supporters of nuclear power also have insisted that the plutonium LWRs produce could not be used to make nuclear weapons. This last point was debated throughout the l970s: Nuclear critics insisted that even “reactor-grade” plutonium could be used to make workable, if not optimal, nuclear explosives. As for the inability to covertly reprocess or enrich, though, most nonproliferation analysts were all too willing to downplay or dismiss it. The reason why, in part, was to avoid the worst. At the time, many nuclear supporters insisted that “advanced” states should have the complete fuel cycle, including large reprocessing and enrichment plants. Yet, these bulk handling facilities were much more dangerous than having LWRs alone. Nuclear critics saw promoting LWRs without reprocessing or the further spread of enrichment plants, then, as the best path. Enrichment and reprocessing, they argued, would be difficult to hide and, therefore, could and should be discouraged. The report that follows, which The Nonproliferation Policy Education Center first released September 27, 2004, constitutes a significant qualification of this given wisdom. Written by national authorities on nuclear chemistry, commercial nuclear power reactors, and nuclear weapons designs, the report makes clear that building and operating small, covert reprocessing and enrichment facilities are now far easier than they were portrayed to be 25 years ago. A key reason why is the increasing availability of advanced centrifuge enrichment technology. This allows nations to make weapons-grade uranium with far less energy and in far less space than was required with older enrichment methods. It also allows them to distribute and hide their uranium enrichment facilities among a number of sites, something traditional gaseous diffusion uranium enrichment (the next most popular way to enrich uranium) does not permit. Another reason why is that nations can quickly separate out the plutonium contained in spent reactor fuel in relatively affordable facilities that can be quite small (as little as 65 feet square) and therefore, be easily hidden. The bottom line -- LWRs no longer should be given to any nation that might divert the reactor’s fresh lightly enriched fuel or the plutonium-laden spent fuel to make bombs. The report details how fresh and spent LWR fuel can be used to accelerate a nation’s illicit weapons program significantly. In the case of a state that can enrich uranium (either covertly or commercially), fresh lightly enriched reactor fuel rods could be seized and the uranium oxide pellets they contain quickly crushed and fluoridated. This lightly enriched uranium feed material, in turn, could enable a would-be bomb maker to produce a significant number of weapons with one-fifth the level of effort than what would otherwise be required to enrich the natural uranium to weapons grade. As for spent LWR fuel, the report details how about a year after an LWR of the size Iran has was brought on line, as much as 60 Nagasaki bombs’ worth of near-weapons grade material could be seized and the first bomb made in a matter of weeks. The report also details how the reliability of the bombs made of this material, moreover, is similar to that of devices made of pure weapons grade plutonium.

#### Specifically – water-based reactors produce massive amounts of tritium as a byproduct

Morgan and Shea 10 (Daniel, and Dana A., Special in Science and Technology – CRS, “The Helium-3 Shortage: Supply, Demand, and Options for Congress,” Congressional Research Service, 12-22, http://www.fas.org/sgp/crs/misc/R41419.pdf)

In addition to the nuclear weapons program, potential sources of helium-3 include tritium produced as a byproduct in commercial heavy-water nuclear reactors; extraction of naturally occurring helium-3 from natural gas or the atmosphere; and production of either tritium or helium-3 using particle accelerators. Until recently, the ready supply of helium-3 from the nuclear weapons program meant that these alternative sources were not considered economic. With the current shortage, this perception may change.

#### Even a limited amount of tritium causes thermonuclear weapon development – makes nuclear terrorism feasible

Gsponer and Hurni 8 (Dr. Andre, PhD in Physics and Research Associate – University of Chicago, and Jean-Pierre, PhD in Physics – University of Geneva, “ITER: The International Thermonuclear Experimental Reactor and the Nuclear Weapons Proliferation Implications of Thermonuclear-Fusion Energy Systems,” Independent Scientiﬁc Research Institute, 2-2, http://arxiv.org/pdf/physics/0401110.pdf)

Technical points related to thermonuclear weapons and their proliferation • A few grams of tritium are sufﬁcient to “boost” ﬁssion explosives made of a few kilograms of military- or reactor-grade plutonium. (As is explained in section 2.1, this is because tritium boosting obviates the preignition problems which makes non-boosted plutonium weapons unreliable and unsafe). Such boosted explosives are sufﬁciently compact to be used in relatively unsophisticated long-range missiles, or as primaries of two-stage thermonuclear bombs (see Fig.4 and Sec.2.2.2). • A few tens of grams of tritium are sufﬁcient to “boost” the “sparkplug” of the secondary of a two-stage thermonuclear weapon, which can then be made sufﬁciently small to be deliverable by a missile. In such weapons a “third-stage” made of a few tens of kilograms of ﬁssile material is often used to provide additional yield without increasing the size and weight of the warhead. While this third-stage (i.e., essentially a “blanket” surrounding the secondary of a two-stage H-bomb) is preferably made of enriched uranium, it can also be made of reactor-grade plutonium without degrading the military performance of the device, which may correspond to yields in the range of 200–500 kilotons equivalent TNT (see Fig.4 and Sec.2.2.2). • Next-generation (i.e., fourth-generation) nuclear weapons will have substantially lower yields (i.e., tons instead of kilotons) and will rely on fusion materials rather than on ﬁssile materials for their main explosive charge (see Sec.2.6.3). This means that the emphasis of safeguarding militarily useful materials will gradually shift from ﬁssion materials such as plutonium to fusion materials such as tritium. • Both magnetic conﬁnement fusion (MCF) reactors, such as ITER, and inertial conﬁnement fusion reactors (ICF), such as the GEKKO XII laser facility of the Institute of Laser Engineering at Osaka University in Japan, have nuclear-weapon-materials proliferation implications due to their use of tritium (see Sec.2.5). However, ICF facilities have the additional proliferation problem that they enable the physics of thermonuclear weapons to be studied in the laboratory (see Sec.2.6). As a result, it is well known by nuclear proliferation experts that Japan has not only the capability to build boosted 15nuclear weapons, but also the potential to build two-stage thermonuclear weapons that are likely to work ﬁrst-time without testing. 13 Today, the main impediment that would prevent Japan from building such second-generation nuclear weapons on short notice is the unavailability of sufﬁcient amounts of tritium. • Any future commercial fusion reactor (based on the either the MCF or ICF principle) poses the problem of tritium proliferation because during operation each such reactor will contain several tens of kilograms of tritium, i.e., enough for an arsenal of several hundreds or thousands thermonuclear weapons (see Sec.2.5.2). • Since 1 g of deuterium-tritium fuel produces about 340 GJ of energy, a nominal 1 GW (electric) commercial fusion power plant with a thermal efﬁcient of 30% would consume 10 mg of DT-fuel per second. 14 If the plant is based on the MCF principle this amount of fuel is burnt relatively slowly in a steady-state plasma conﬁned by magnetic ﬁelds. However, if the plant is based on the ICF principle, the fuel is burnt in a continuous salvo of micro-thermonuclear-bombs (so-called “pellets”) exploding at the center of a containment vessel. Assuming that one pellet is detonated each second, the explosive yield of each pellet would be 3.4 GJ, i.e., equivalent to about 810 kg of TNT (see Sec.2.4). • The many kilograms of tritium implied in the daily operation of a number of GW-scale reactor in a fusion-based power industry will provide numerous possibilities of diversion or theft of tritium for military or terrorist purposes. With ICF reactors, one will have the additional problem of safeguarding the fusion pellets themselves, because they may possibly be used as the explosive charge of some future-generation nuclear weapons.

#### Extinction

Wilson 4 (Jim, Professor – Naval Post Graduate School and Chief Scientist – Neptune Sciences, “Dangerous Science,” Popular Mechanics, Vol. 181, Iss. 8; pg. 75, Research Library database. 2004, August. Project muse)

BEYOND H-BOMBS Although explosions have from time to time occurred in cold fusion apparatus (see "Two Deaths And Two Mysteries," page 79), these devices would not be incorporated directly into nuclear weapons. Instead, cold fusion cells could, with minimal effort and expense, be used to provide a supply of much-needed tritium. It is difficult to speculate about how much gas they would have to produce since the size of the nation's tritium reserve and the current production of civilian power reactors is, for obvious reasons, a closely guarded secret. Even if the tritium production from some of these devices proves to be too small to be significant for America's H-bomb production needs, a positive review from the new DOE cold fusion evaluation committee will move this controversial field of research back into the scientific mainstream. Cold fusion researchers are rightly excited by this possibility. Among other things they are hopeful that Science and Nature, the two leading international science journals, will begin publishing results of their cold fusion research. But this time their dream must be tempered with the fearsome new reality of international terrorism. Mallove told PM that scores of cold fusion experiments have revealed the production of enriched uranium, plutonium and tritium. If, as much of this research suggests, cold fusion can be used to produce weapons-grade materials, terrorists will have the ability to unleash destructive force previously available only to the world's major nuclear powers. The same tabletop devices that fulfill mankind's dream of creating unlimited quantities of cheap power may also be the source of the world's greatest nightmare: homemade H-bombs in the hands of terrorists bent on ending civilization.

### 2NC PIC – Solvency

#### PBR’s solves every advantage better – and avoid meltdowns

Gee 2 (Donald, on Keith Holbert’s Webpage, Associate Professor in Energy Engineering – ASU, “The Pebble Bed Modular Reactor,” Arizona State University, 3-16, http://holbert.faculty.asu.edu/eee460/dfg/index.html)

ADVANTAGES: The PBMR is proposed as a solution to meet some of the future energy needs of the world and is being heralded by engineers because of the following advantages: Safe The past nuclear mishaps at TMI and Chernobyl were because of human error and mechanical failure. They were due to the disruption of the active cooling mechanisms (i.e. pumps, valves, etc.) to the reactor cores. PBMR reactors have passive cooling mechanisms and have a negative temperature coefficient. In other words, through natural radiation, convection and conduction, decay heat is removed from the reactor. Therefore, no melt-down scenario could physically occur. Each module reactor has a peak temperature that is well under the burn-up temperature of the fuel pebbles. The fuel pebbles themselves contain the radioactive fission products [L3]. Only a small amount of radioactive nuclides would be released in the event if a single fuel pebble should break. The fuel contained in the broken fuel element would still be divided among 15,000 particles, individually coated with ceramic materials [L3]. The helium used to cool the reactor is chemically inert. It doesn't react with any of the PBMR components and is non-combustionable [L3]. Operation of the plant involves little human intervention which will dramatically reduce the probability of error, even though the plant would remain stable after such an error. The reactor does not have a radiation containment building but is housed by a protective structure to shield it from aircraft crashes and earthquakes. Radiation is contained with the pebble coatings. Cost Competitive Students at MIT compared energy costs to the capital and operational cost of a MPBR plant (which is very similar to the PMBR). The following results come from the 1992 National Energy Institute Study of Electricity: Natural Gas = 3.4 Cents/kwhr, Pebble Bed 3.3 Cents/kwhr [4]. Compared to the LWRs, the capital and operational costs are now competitive. Because of the small size of the reactor, main components can be manufactured remotely and shipped to the reactor build site. The ability to manufacture remotely reduces capital expenditures. Proliferation Resistant The PBMR is proliferation resistant since the uranium is located inside the TRISO fuel pebbles and it is difficult to reprocess them. There is also only a small about of radioactive material in each fuel element to begin with.

#### Meltdowns cause mass death

**Lendman 11** – Research Associate of the Centre for Research on Globalization (Stephen, 03/ 13, “Nuclear Meltdown in Japan,” http://www.thepeoplesvoice.org/TPV3/Voices.php/2011/03/13/nuclear-meltdown-in-japan)

Reuters said the 1995 Kobe quake caused $100 billion in damage, up to then the most costly ever natural disaster. This time, from quake and tsunami damage alone, that figure will be dwarfed. Moreover, under a worst case core meltdown, all bets are off as the entire region and beyond will be threatened with permanent contamination, making the most affected areas unsafe to live in. On March 12, Stratfor Global Intelligence issued a "Red Alert: Nuclear Meltdown at Quake-Damaged Japanese Plant," saying: Fukushima Daiichi "nuclear power plant in Okuma, Japan, appears to have caused a reactor meltdown." Stratfor downplayed its seriousness, adding that such an event "does not necessarily mean a nuclear disaster," that already may have happened - the ultimate nightmare short of nuclear winter. According to Stratfor, "(A)s long as the reactor core, which is specifically designed to contain high levels of heat, pressure and radiation, remains intact, the melted fuel can be dealt with. If the (core's) breached but the containment facility built around (it) remains intact, the melted fuel can be....entombed within specialized concrete" as at Chernobyl in 1986. In fact, that disaster killed nearly one million people worldwide from nuclear radiation exposure. In their book titled, "Chernobyl: Consequences of the Catastrophe for People and the Environment," Alexey Yablokov, Vassily Nesterenko and Alexey Nesterenko said: "For the past 23 years, it has been clear that there is a danger greater than nuclear weapons concealed within nuclear power. Emissions from this one reactor exceeded a hundred-fold the radioactive contamination of the bombs dropped on Hiroshima and Nagasaki." "No citizen of any country can be assured that he or she can be protected from radioactive contamination. One nuclear reactor can pollute half the globe. Chernobyl fallout covers the entire Northern Hemisphere." Stratfor explained that if Fukushima's floor cracked, "it is highly likely that the melting fuel will burn through (its) containment system and enter the ground. This has never happened before," at least not reported. If now occurring, "containment goes from being merely dangerous, time consuming and expensive to nearly impossible," making the quake, aftershocks, and tsunamis seem mild by comparison. Potentially, millions of lives will be jeopardized. Japanese officials said Fukushima's reactor container wasn't breached. Stratfor and others said it was, making the potential calamity far worse than reported. Japan's Nuclear and Industrial Safety Agency (NISA) said the explosion at Fukushima's Saiichi No. 1 facility could only have been caused by a core meltdown. In fact, 3 or more reactors are affected or at risk. Events are fluid and developing, but remain very serious. The possibility of an extreme catastrophe can't be discounted. Moreover, independent nuclear safety analyst John Large told Al Jazeera that by venting radioactive steam from the inner reactor to the outer dome, a reaction may have occurred, causing the explosion. "When I look at the size of the explosion," he said, "it is my opinion that there could be a very large leak (because) fuel continues to generate heat." Already, Fukushima way exceeds Three Mile Island that experienced a partial core meltdown in Unit 2. Finally it was brought under control, but coverup and denial concealed full details until much later. According to anti-nuclear activist Harvey Wasserman, Japan's quake fallout may cause nuclear disaster, saying: "This is a very serious situation. If the cooling system fails (apparently it has at two or more plants), the super-heated radioactive fuel rods will melt, and (if so) you could conceivably have an explosion," that, in fact, occurred. As a result, massive radiation releases may follow, impacting the entire region. "It could be, literally, an apocalyptic event. The reactor could blow." If so, Russia, China, Korea and most parts of Western Asia will be affected. Many thousands will die, potentially millions under a worse case scenario, including far outside East Asia. Moreover, at least five reactors are at risk. Already, a 20-mile wide radius was evacuated. What happened in Japan can occur anywhere. Yet Obama's proposed budget includes $36 billion for new reactors, a shocking disregard for global safety. Calling Fukushima an "apocalyptic event," Wasserman said "(t)hese nuclear plants have to be shut," let alone budget billions for new ones. It's unthinkable, he said. If a similar disaster struck California, nuclear fallout would affect all America, Canada, Mexico, Central America, and parts of South America.

#### Turns the case – meltdowns magnify the risk of nuclear power – overwhelms cost concerns remedied by the plan – crushes investment.

#### PBRs are cheaper

Madrigal 11 (Alexis, Senior Editor – The Atlantic, “The Search for a Better, Safer Nuclear Power,” The Atlantic 3-22, http://www.theatlantic.com/technology/archive/2011/03/the-search-for-a-better-safer-nuclear-power/72765/)

In this week's excerpt from my book, Powering the Dream: The History and Promise of Green Technology, I look at the story of the Oyster Creek Power Plant, which is the oldest operating nuclear plant in the United States and the same boiling water reactor model designed by General Electric as the Fukushima plant in Japan. It was the first of many plants sold at a discount to utilities by GE and Westinghouse in the 1960s in their efforts to drive the adoption of nuclear power. They received substantial government support in a variety of ways, but especially from the Atomic Energy Commission, which was charged with both regulating and promoting atomic energy. Most importantly, Oyster Creek was used to sell the American public on the idea that the era of cheap nuclear power had arrived, when, in fact, it had not. Even American nuclear scientists were convinced that a cost "breakthrough" had been achieved, though they should have known better. President Lyndon Johnson and his administration sent the message that we were going to use nuclear power, and it would be largely through the reactor designs that already existed, regardless of whether they had the best safety characteristics that could be imagined. We learned in later years that boiling water reactors like Fukushima are subject to certain types of failure under very unusual circumstances, but we probably would have discovered such problems if we'd explored the technical designs for longer before trying to start building large numbers of nuclear plants. Why's this history especially important right now? No new nuclear power plants have been built in the United States for 25 years. During that time, the operational record of the plants has improved tremendously and the specter of climate change has made nuclear power more popular among some greens. In Washington, a consensus appeared to have coalesced around developing more nuclear power. Meanwhile, during nuclear power's long lull, plant designers reopened the history books and began to look at new ideas for tapping the atom's energy. From the thorium reactor featured in Wired to the modular plant backed by Bill Gates to the pebble bed reactors developed in South Africa and China, a host of new ideas are on the table for the future of nuclear energy. With the Fukushima plant's problems putting safety back at the forefront of Americans' minds, these new reactors could be the only real way forward for nuclear power, if the globe's citizens decide they want that future. Many engineers think they're safer. For example, they incorporate "passive" safety features instead of the active pumping systems that failed at Fukushima. As importantly, some new reactor designs are made to be smaller than the one-gigawatt behemoths we built for decades. That could assuage some critics' contention that nuclear power exacerbates the centralization of an energy system that's already too centralized. Because they're smaller and may be safer, the plants may cost less too. That's important considering that a new standard reactor may cost up to $10 billion, which is more than the market value of all but a handful of the largest utilities.

### 2NC Perm – Do CP

#### The term SMR includes and will result in light water reactors – there the most commercially viable.

Rosner and Goldberg 11 (Robert, Visiting Professor – Center for International Security and Cooperation, and Stephen, Special Assistant to the Director – Argonne National Laboratory, “Small Modular Reactors – Key to Future Nuclear Power Generation in the U.S.,” Energy Policy Institute at Chicago, November, http://epic.uchicago.edu/sites/epic.uchicago.edu/files/uploads/SMRWhite\_Paper\_Dec.14.2011copy.pdf)

APPENDIX A: ALTERNATIVE SMR TECHNOLOGIES

SMRs refer generically to a wide variety of reactor technologies and nuclear fuels. The alternative SMR technologies, organized both by reactor technology and by coolant, are listed in Table A.1. Of these options, the SMRs based on LWR technology, using uranium oxide fuels, are considered ready for commercialization at the time of publication of this paper. These are the NuScale, Babcock & Wilcox (B&W), Westinghouse, and Holtec designs. For purposes of the present analysis, the study team assumed that additional R&D is not necessary to support licensing and commercialization of the integral LWR SMRs. As with any technology though, additional R&D efforts, such as simulation and modeling, could result in further enhancements to the designs to improve performance or reduce costs.

TABLE A.1

Types of Small and Modular Reactor Technologies

Integral Light Water Reactors (LWR)

o Babcock & Wilcox – mPower Reactor (160 MW)

o NuScale Power Inc. – NuScale Reactor (45 MW)

o Westinghouse – AP 1000 derived SMR (200 MW)

o Holtec – Inherently Safe Modular Underground Reactor (HI-SMUR 140) (140 MW)

High Temperature Gas-Cooled Reactors

o AREVA – Antares

o General Atomics – Gas Turbine Modular Helium Reactor (GT-MHR)

o Pebble Bed Modular Reactor Ltd. – Pebble Bed Modular Reactor (PBMR)

Liquid Metal-Cooled and Fast Reactor

o GE Hitachi – Nuclear Power Reactor Innovative Small Module (PRISM) (311 MW)

o Hyperion Power Generation – Hyperion Power Module (HPG) (70 MW)

o Toshiba – Toshiba 4S (Super Small, Safe and Simple) (10 MW)

The other SMR technologies are less mature and may require additional R&D and testing. While the more advanced technologies may offer potential advantages over integral LWRs, these advantages are largely on paper. This should not be a reason to delay commercialization of the integral LWR SMRs. As Admiral Rickover pointed out, there are significant differences between an existing reactor design and one that exists only on paper

#### Here’s more evidence that SMRs include two distinct reactor designs – LWRs and PBRs

Coyne 10 (Philip D., “Addressing How Light Water Small Modular Reactors Should be Licensed,” Washington Internships for Students of Engineering, 7-29, http://www.wise-intern.org/journal/2010/PhilipCoyneWISE2010.pdf)

Brief Discussion of Small Modular Reactors (SMRs) The research and development of new nuclear technologies has driven unique innovations for today’s society. One such innovation is the development of the Small Modular Reactors (SMRs). The SMR is a nuclear power plant that is smaller in size and produces fewer megawatts electric (approximately 300 MWe or less) than current large nuclear power plants in operation. [1] SMRs will require significantly less on-site preparation than their large light water reactor counterparts [1] and the smaller sizing of the units will allow the bulk of production to take place in factories, after which the modules can be shipped to the site for installation. [2] With the smaller size comes reduced costs, thus opening the nuclear market to more companies wishing to enter this growing energy field. Companies are searching on how they can become “Green” and Nuclear energy leaves a significantly smaller carbon footprint than fossil fuel plants. The small modular Light Water Reactors (LWR) reactors may be much more practical, in some cases, than the large LWRs since small modular LWRs are designed for the production of nuclear power plants in developing areas that do not require the power output of a large reactor. Additionally, it is anticipated that more units could be added to a site if power demands increase for an area. [1] Currently a majority of SMR designs are in the conceptual phase, but safety is a priority in all designs. SMR are designed to have passive safety features and some are designed to be built underground as well. [3][4] These small reactors may use different coolant in its design. For example: NuScale is using Light Water coolants, and Babcock & Wilcox’s mPower is using Advanced Light Water coolants. Some other reactors use liquid metals, like sodium or lead bismuth, and high temperature gas coolants such as Toshiba’s Super-Safe, Small, and Simple (4S),

### 2NC Perm – Do Both

#### **First – any government backing of LWRs locks out any other design – the CP puts other reactors on an uneven playing field – functionally excluding them**

Madrigal 11 (Alexis, Senior Editor – The Atlantic, “The Search for a Better, Safer Nuclear Power,” The Atlantic 3-22, http://www.theatlantic.com/technology/archive/2011/03/the-search-for-a-better-safer-nuclear-power/72765/)

Every variable in building an immensely complex industrial plant was up for grabs: the nature of the radioactive fuel and other substances that form the reactor's core, the safety systems, the containment buildings, the construction substances, and everything else that might go into building an immensely complex industrial plant. The light water reactor became the technological victor, but no one is quite sure whether that was a good idea. Few of these alternatives were seriously investigated after light water reactors were selected for Navy submarines by Admiral Hyman Rickover. Once light water reactors gained government backing and the many advantages that conferred, other designs could not break into the market, even though commercial nuclear power wouldn't explode for years after Rickover's decision. "There were lots and lots of ideas floating around, and they essentially lost when light water came to dominate," University of Strasbourg professor Robin Cowan told the Boston Globe in an excellent article on "technological lock-in" in the nuclear industry. As it turned out, there were real political and corporate imperatives to commercialize nuclear power with whatever designs were already to hand. It was geopolitically useful for the United States to show they could offer civilian nuclear facilities to its allies and the companies who built the plants (mainly GE and Westinghouse) did not want to lose the competitive advantage they'd gained as the contractors on the Manhattan Project. Those companies stood to make much more money on nuclear plants than traditional fossil fuel-based plants, and they had less competitors. The invention and use of the atomic bomb weighed heavily on the minds of nuclear scientists. Widespread nuclear power was about the only thing that could redeem their role in the creation of the first weapon with which it was possible to destroy life on earth. In other words, the most powerful interest groups surrounding the nuclear question all wanted to settle on a power plant design and start building.

#### Second – investors will pick LWRs – they’re the most commercially viable

Rosner and Goldberg 11 (Robert, Visiting Professor – Center for International Security and Cooperation, and Stephen, Special Assistant to the Director – Argonne National Laboratory, “Small Modular Reactors – Key to Future Nuclear Power Generation in the U.S.,” Energy Policy Institute at Chicago, November, http://epic.uchicago.edu/sites/epic.uchicago.edu/files/uploads/SMRWhite\_Paper\_Dec.14.2011copy.pdf)

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### Tritium Bad – Impact 2NC

#### Probability – tritium removes all obstacles to proliferation

Gsponer and Hurni 8 (Dr. Andre, PhD in Physics and Research Associate – University of Chicago, and Jean-Pierre, PhD in Physics – University of Geneva, “ITER: The International Thermonuclear Experimental Reactor and the Nuclear Weapons Proliferation Implications of Thermonuclear-Fusion Energy Systems,” Independent Scientiﬁc Research Institute, 2-2, http://arxiv.org/pdf/physics/0401110.pdf)

Using boosting, it is straightforward to build highly efﬁcient and reliable ﬁssion weapons using reactor-grade plutonium. In particular, the possibility of a preinitiation of the chain reaction, which creates difﬁculties in making a nonboosted ﬁssion bomb [24, 25], is no longer a serious problem. In fact, two of the ﬁve devices tested by India in May 1998 are believed to have used plutonium that was not classiﬁed as weapons grade [26]. Moreover, independently of the type of ﬁssile material used, the construction of “simple” and “deliverable” tritiumboosted nuclear weapons can be easier than the construction of primitive Hiroshima or Nagasaki type atomic bombs: the main problem is to acquire the few grams of tritium that are needed for every weapon (see Fig.1).

#### Generic prolif defense is outdated and doesn’t assume tritium-based weapons – which are more probable, produced covertly, and smaller. The impact is thermonuclear fourth-generation weapon development

Gsponer and Hurni 8 (Dr. Andre, PhD in Physics and Research Associate – University of Chicago, and Jean-Pierre, PhD in Physics – University of Geneva, “ITER: The International Thermonuclear Experimental Reactor and the Nuclear Weapons Proliferation Implications of Thermonuclear-Fusion Energy Systems,” Independent Scientiﬁc Research Institute, 2-2, http://arxiv.org/pdf/physics/0401110.pdf)

Indeed, it soon became clear that if the bombs included in the tests were relatively compact devices ready for delivery by aircrafts or missiles, they were not some kind of “crude” second-world-war type of weapons, but fairly advanced “tritium-boosted” devices — as are, most probably, those recently claimed to have been assembled by North Korea. 3 This highlighted the fact that thermonuclear- fusion materials such as tritium, and the related scientiﬁc/technical knowhow, are just as important as the much better known nuclear-ﬁssion materials for making deliverable nuclear weapons. Moreover, it reminded that if countries like India, Pakistan, and North Korea were able to deploy such weapons, countries that are relatively much more advanced in science and technology should easily be able to do the same, or better, especially if they have access to advanced nuclear and thermonuclear facilities. As a result, the current situation with nuclear weapons proliferation is in almost every way different and more complex than it was only a couple of years ago. For instance, the term “proliferation of nuclear weapons” used to cover (i) the increase in the number and the quality of such weapons within the ﬁve “ofﬁcial” nuclearweapon States (namely 4 China, France, Russia the U.K. and the U.S.A.); and (ii) the spread of nuclear weapons to other countries. While the former is known as vertical proliferation, the latter is called horizontal proliferation. Today, with an overall trend towards a decrease in the number of deployed nuclear weapons in the “ofﬁcial” nuclear-weapon States, the emphasis of vertical proliferation is shifting away from the problem of more and better nuclear weapons to the question of the feasibility of modifying existing types of nuclear weapons for new missions such as deep earth penetration, or of radically new types of nuclear weapons, i.e., fourth-generation nuclear weapons, that could possibly be better adapted to perceived new military needs. Similarly, with the stabilization and the possible decrease in the number of additional countries likely to acquire ﬁrst- and second-generation nuclear weapons, 5 the traditional horizontal proliferation concern (which mainly focussed on the possible spread of ﬁssion-weapons) is shifting to the problem of the proliferation of thermonuclear-fusion weapons technology (and possibly of the technology of even more advanced types of nuclear weapons) to Israel, India, and Pakistan, as well as to countries which already have the technical capability to build nuclear-ﬁssion weapons but which have decided not to build them. Indeed, as we now know for a fact, during the 1950s to the 1980s, a number of larger and smaller industrialized countries 6 have acquired the technical and in dustrial capability (e.g., by means of “peaceful” nuclear activities) to manufacture nuclear weapons components and to assemble them on short notice. Because such an approach to a nuclear weapon capability is inherently ambiguous and does not force a nation to signal or even decide in advance its actual intentions, it is termed latent proliferation [17].

#### Causes a nuclear winter – guarantees extinction

Davis 2 (Dr. W. Sumner, Lecturer and Writer of Religious History, Social Science and Modern Science, “A Model of Thermonuclear Extinction on Planet Mars,” Nuclear Age Peace Foundation, March, http://www.wagingpeace.org/articles/2002/03/00\_davis\_extinction.htm)

What about a much feared "all out thermonuclear exchange" implementing tens of thousands of weapons? We strangely enough have a reasonable facsimile to such a catastrophe-the planet Mars. In 1984, a meteorite, later christened ALH84001U, was found in Antarctica. This meteorite, which originated about 4.5 billion years ago on Mars, contained what appears to be fossilized microorganisms, along with other traces of life. The ramifications of these discoveries cannot and must not be dismissed. Life on Earth first appeared about 3.8 billion years ago, at a time when it is believed the planets formed. Mars is almost exactly the same age as Earth, and most probably had the same reducing atmosphere. Observed astronomical evidence is fully consistent with the occurrence of microorganisms on a cosmic scale, in both meteorites as well as comet dust. This may seem at first, unbelievable, however the relative comparisons between the early planetary development of both Mars and the Earth were very similar. One catastrophic event ensured that no higher life would develop on the Red Planet. In the newly published book, Many Worlds, which includes many of the brightest writers and scientists in their fields, and is edited by the renown historian, scientists and author, Stephen J. Dick, there is a section by Christopher P. McKay titled "Astrobiology: The Search For Life Beyond The Earth." On page 51 of Many Worlds, there is a small chart comparing the development of the two planets between 4.5 Billion years ago and today. At some point, about 3.3 billion years ago, some catastrophic event, most probably a huge asteroid collision, snuffed out any beginnings of life. The event would have been far greater than Earth has experienced, thus putting an end to any microbiological life that had begun. The likely candidate is the impact of an asteroid or small moon, causing the crater Hellas Planitia. This crater dwarfs any that have been found on our own planet, measuring 1,243 miles wide and nearly four miles deep. Because of this enormous impact, the process of life would have to be halted. There would be no development of organisms that give off oxygen as a waste product, as on our planet. No more atmosphere of any kind would remain, for it would have been blasted into space by the shock wave. The tremendous heat from the impact would have boiled most of the liquid water away-what remained would be frozen solid by the impending winter. The crater of the object that formed the KT boundry left a relatively small crater, about 112 miles in diameter, yet its impact leveled most of North and South America's vast forests. As destructive as that rather small impact was, what should happen if an asteroid the size of the rock that formed the Hellas crater hit Earth? That answer is quite simple: there would be no life on Earth today, not even microbes. Humanity currently has in its possession, enough weapons to reproduce such an event. Bomb shelters would be useless. No shelter could withstand such blasts, and if anyone could survive the initial air bursts, radiation, acid rains, plumeting tempersatures, lack of food and drinkable water, the devastation of approximately millions of megaton detonations would destroy all life on our planet. The forests, planet wide, would be rapidly burned to dust by the blast front that would be traveling many times the speed of sound. The heat from the blast front would erase any trace of humanity. Much of the ocean would be heated to the point that oxygen maturation would be unable to support life. Massive earthquakes would contort and twist our planet; volcanic eruptions would begin simultaneously around the globe. However, no creature would be here to know. Between the heat flash, acid rains, radiation and first rising, then quickly dropping temperatures, the Earth would enter into what could be a permanent ice age. The physical planet would go right on spinning at 900 miles an hour. It would still move along with the sun and other planets at over a million miles a day around our tiny galaxy. Nevertheless, life, even the hardiest bacteria or virus, would be utterly eradicated. Some time latter, I would guess about 12-18 months, the dust would settle, and the Earth would be left an arid and cold brown ball. Certainly fossils would exist that would show some alien visitor that we were here, but little else would define planet Earth as the once home of a reasonably advanced civilization. A civilization that had chosen, rather than to put aside petty grievances, to self-destruct.

### Tritium Bad – Impact – Prolif/Turns Case

#### T/prolif and case

Morgan and Shea 10 (Daniel, and Dana A., Special in Science and Technology – CRS, “The Helium-3 Shortage: Supply, Demand, and Options for Congress,” Congressional Research Service, 12-22, <http://www.fas.org/sgp/crs/misc/R41419.pdf>)

Nonproliferation concerns

Because tritium is a component of nuclear weapons, it is possible that increasing tritium production would raise nuclear nonproliferation concerns. Existing arms control treaties limit the number of U.S. nuclear warheads, not the tritium that is used in them. Nevertheless, some countries or activists might perceive an increased tritium production capacity as enabling or increasing the likelihood of future increases in nuclear warhead capacity. Using civilian facilities to produce tritium might be seen by these observers as a precedent for blurring the separation between civilian and military nuclear facilities; such separation is often an element of U.S. nonproliferation policy in other countries. If U.S. commercial power plants involved in tritium production became perceived as part of the weapons program, some foreign suppliers might be less willing to provide them with components and equipment.

### 1NC Fuel Bank CP

#### Text: the United States should propose a package deal that:

 -**develops a nuclear fuel bank in Kazakhstan**

**-offers increased economic cooperation, investment in Iran’s gas sector and no longer pursues regime change in Iran on the condition that Iran accepts to be a part of the international fuel bank**

 **-creates a pilot enrichment facility in Iran that is monitored by the IAEA every 60 days**

#### Just the offer solves proliferation – specific conditions of the CP gets Iran on board, guarantees compliance, and avoids the election DA

CSIS 9 (Center for Strategic and International Studies, “Time for a More Creative Negotiating Strategy with Iran,” 9-4, http://csis.org/blog/time-more-creative-negotiating-strategy-iran)

The Way Forward: Staged Negotiations The main problem with the U.S. negotiating strategy is that we are not showing any flexibility. Both Bush and Obama insisted that Iran suspend enrichment as a precondition for negotiations. This rigid approach prevents either side from work out a compromise. A better approach would be a more staged negotiation strategy. Iran has prepared a new offer (which admittedly won’t be very different) and has shown a willingness to negotiate. The United States could use this as an opportunity to show flexibility and test whether Iran is serious about negotiating. Iran’s proposal will likely focus on increased IAEA access and inspections. The United States should build on this offer by again bringing up the fuel bank proposal. We could make clear that we support their right to nuclear energy and support a proposal to place a fuel bank in a country like Russia or Kazakhstan, where Iran would have more confidence that they would be able to have a stable access to nuclear fuel. In exchange for giving the full fuel cycle, the United States could offer increased economic cooperation and a promise to no longer pursue or threaten regime change. Iran’s initial positive comments suggest they might be willing to accept this offer. However, they would likely say no. Bruno Pellaud, the IAEA’s former deputy director-general for safeguards, has said that current fuel bank proposals wouldn’t be accepted by Iran because they would not be on Iran’s soil, But Pellaud says a fuel bank is not likely to be a short-term solution for the Iran crisis. He says there is a deep feeling in Iran, currently projected by its hard-line government, that it should have the whole fuel cycle and not depend on foreign resources. Tehran so far only appears interested in international partnerships involving uranium-enrichment programs on Iranian soil. However, if we want to find a negotiated solution, we should not stop there. As a fallback, the United States should propose a single pilot facility on Iran’s soil that would contribute to the international fuel bank, along with even more economic cooperation, such as investment in Iran’s gasoline refinery sector. The reactor could provide fuel to Iran, and excess fuel to be sold to other developing countries. According to Gareth Evans, a former foreign minister of Australia, who is president of the International Crisis Group, this is the only solution that could be politically acceptable for all sides, The red line that matters is the one at the heart of the Non-Proliferation Treaty, between civilian and military capability. If Iran’s neighbors, including Israel, and the wider world could be confident that that line would hold, it would not matter whether Iran was capable of producing its own nuclear fuel. That line will hold if we can get Iran to accept a highly intrusive monitoring, verification and inspection regime that goes well beyond basic Non-Proliferation Treaty safeguards…and to have any industrial-scale activity conducted not by Iran alone but by an international consortium. Although Iran will hold out for as much as it can get and for as long as it can, it is capable of being persuaded…But negotiations won’t go anywhere if the United States and European Union continue to insist on zero enrichment. In Iran two weeks ago, I heard nothing from anyone, in or out of government, to suggest that any member of the current power elite thought the benefits of a nuclear weapons program — including for deterrence or asserting regional authority — could possibly outweigh the costs…Unconditional negotiations aimed at achieving “delayed limited enrichment with maximum safeguards” rather than the failed policy of “zero enrichment” can produce a win-win outcome. Such negotiations won’t be easy to start or conclude, given the parties’ long-held public positions. But if the objective is to ensure that Iran won’t backslide and be newly tempted to go down the nuclear weapons road, this is the only way to go. Flint Leverett, a Senior Research Fellow at the New America Foundation, agrees that a solution like this is the most restrictive that Iran would accept, But, as Iran has developed its enrichment infrastructure over the past several years, a strong consensus seems to have taken hold in Tehran that the Islamic Republic must be allowed to operate at least a pilot enrichment facility as part of an overall settlement.. senior Iranian officials have suggested both publicly and privately that Tehran would be open to constant, “embedded” monitoring of a pilot enrichment plant by the International Atomic Energy Agency…it seems increasingly that this is a genuine Iranian “red line” and that Tehran will not agree to negotiated limits on its nuclear activities without being allowed to operate such a facility. And, while Tehran might be willing to accept terms restricting the development of Iran’s fuel cycle infrastructure beyond a pilot enrichment facility, it will almost certainly not accept such limits without an American security guarantee as part of the agreement. As we discussed previously, U.S. intelligence sources believe Iran has not yet made a decision on whether to acquire nuclear weapons, but with intensive monitoring would be unlikely to try it. Therefore, from an Iranian perspective, this proposal would be extremely tempting. Iranian leaders could go to their people and say that they have “won” because the United States is willing to let them have access to the fuel cycle on their soil. This would fulfill the vision of Iran’s leaders of Iran being an important and proud country in the Middle East. Furthermore, acceptance of a internationally monitored facility would be linked directly with increased economic investment in Iran, including investment in their oil and gas sector. In the same article quoted above, Cirincioni argues that this would create a powerful domestic constituency in Iran that would push to make sure Iran remained in compliance with the strings attached. It’s Good for Iran…But Why Should the US Do It? The main benefit of this proposal is that it provides a real opportunity to find a negotiated solution. Iran has demonstrated that they are not willing to back down on the enrichment issue. A new round of sanctions is unlikely to change that. Unless we find a middle ground, the United States will be forced to accept an Iranian nuclear capability or start another military conflict in the Middle East. However, an internationally monitored facility is not just a way to avoid war, it also solves current concerns with Iran’s nuclear program. First, it could be sold as a political victory -- Obama could say that he has found a way to ensure that Iran has no nuclear weapons program. An international consortium is the one solution that allows both Iranian and American leaders to declare victory, and is therefore the most likely to be accepted by both sides. Second, this proposal would ease proliferation concerns. The facility, while on Iranian soil, would be run in cooperation with the international community. Current IAEA challenge inspections are seen as ineffective because they give Iran too much of an opportunity to divert nuclear fuel to a weapons program, but a permanent IAEA presence would alleviate those concerns. Dr. Geoffrey Forden and Sir John Thomson, who advocate this proposal and have written about it a few times, believe verification would be extremely effective, The IAEA would be consulted on the design of the plant and would operate three forms of safeguards: full-scope, Additional Protocol, and specially agreed transparency measures. Each shift of workers would have a majority of non-Iranians and non-Iranians would hold key positions in the management company. Together, these measures would protect both against diversion of material and against the establishment of a clandestine facility. Other security measures, especially “black boxing” and disabling mechanisms are considered. The risks of an Iranian “breakout” by expropriating the multilaterally owned facility are minor and the risks that the Iranians would and could establish a clandestine facility are, in comparison with other schemes, negligible. If Iran tried to kick the IAEA out or build another nuclear facility somewhere else, it would be a clear indication that Iran was seeking to acquire nuclear weapons, allowing the United States to respond in-kind. Also, just the offer would be a test of Iranian intentions. If Iran said no to a pilot enrichment facility on its soil that would guarantee access to nuclear fuel, the US and the international community could be fairly certain that Iran intended to acquire nuclear weapons.

### Solves Proliferation – 2NC

#### Fuel bank is a litmus test for proliferation – it removes the ability to produce weapons under the guise of nuclear energy – that solves an arms race and Iran says yes

CSIS 9 (Center for Strategic and International Studies, “Time for a More Creative Negotiating Strategy with Iran,” 9-4, http://csis.org/blog/time-more-creative-negotiating-strategy-iran)

However, despite opposition, the fuel bank has promise because there has been preliminary support in the U.S., Russia, and some European countries, but also in Iran. In response to Obama’s proposal, Iran seemed interested in the idea, Iran welcomed on Monday a proposal to set up a global nuclear fuel repository, part of a U.S.-backed plan to put all uranium enrichment under strict international control. President Mahmoud Ahmadinejad, in Kazakhstan on a visit, said he supported a proposal to host the nuclear bank in the fellow Caspian nation, which is accessible from Iran by sea. “We think that (Kazakh President) Nursultan Nazarbayev’s idea to host a nuclear fuel bank is a very good proposal,” he told reporters after talks with the Kazakh leader. Iran’s support for the idea comes as U.S. President Barack Obama pushes for a “new beginning” in bilateral ties, and could play a role in mending bridges after decades of mistrust. Iran has said before that it would consider stopping sensitive uranium enrichment if guaranteed a supply of nuclear fuel from abroad. However, it has also frequently insisted on its right to master the complete nuclear fuel cycle, including enriching uranium, for peaceful purposes. There was also support from Larijani, The former secretary of Iran’s supreme national security council Ali Larijani announced, “we back the idea of establishing an international nuclear fuel bank.” Theoretical Benefits of a Fuel Bank While some version of a fuel bank has been proposed on numerous occasions, the details have never been worked out. In recent proposals, the fuel bank would be hosted in either Russia or Kazakhstan, be run by the IAEA, and sell nuclear fuel to any countries that wanted it. Nonproliferation advocates see a lot of promise in the fuel bank. They argue that the spread of nuclear power makes it too easy for country to convert peaceful nuclear power programs to nuclear weapons programs. A fuel bank would solve this concern because countries would not need to develop their own nuclear program to have access to nuclear energy. Therefore, the fuel bank could be a “litmus test” for proliferation. If a country wanted to develop a nuclear power program, and claimed they were doing so because of energy needs, their motivations would be suspect if a stable supply of nuclear fuel was available from a fuel bank. Joe Cirincione, an advocate of the fuel bank, who sees it as a potential solution to the deadlock with Iran, describes its benefits, First, it has the potential to address Iran’s concerns about security of fuel supply. An international fuel bank that is country-neutral, durable, and governed by objective criteria is more likely to attract Iranian support than a sui generis mechanism created specifically to deal with Iran. Second, a fuel-bank push would head off the regional proliferation consequences of Iran suddenly announcing its nuclear- or near-nuclear capability. At the very least, the existence of a credible nuclear fuel bank would make it harder for Iran’s Sunni Arab neighbors to pursue any nuclear weapons ambitions under the guise of nuclear energy development. Third, a nuclear fuel bank could serve as a first step towards more ambitious, global efforts to prevent the abuse of nuclear-fuel-cycle technology. That’s why the United States should press ahead with the fuel bank proposal with or without Iran’s support. This initiative would reduce the chances of a “virtual” arms race in the region by controlling the most sensitive component of the nuclear fuel cycle, uranium enrichment. The possibility that Iran may be left out of such an important initiative may also serve as an added inducement for Iran to forego uranium enrichment.

#### **Sets a precedent that solves prolif**

Ross 12 (Dennis, Distinguished Fellow and Counselor – Washington Institute, “What Could Diplomacy with Iran Produce?”, The Washington Institute, 4-5, Policy Watch 1920, http://www.washingtoninstitute.org/policy-analysis/view/what-could-diplomacy-with-iran-produce)

One virtue of this approach is that it would greatly strengthen the nonproliferation regime. If Iran were not enriching but getting its fuel from an international fuel bank (and also not reprocessing), it could establish a powerful precedent for all countries seeking nuclear power in the future -- a precedent that would make it difficult for any other country to break out and become a nuclear-weapons-capable state. Although there is little doubt this option offers the best outcome from a nonproliferation standpoint, there will be those, including certain P5+1 members, who may balk at an agreement that strips Iran of even the symbolic right to limited enrichment. In their eyes, such an approach would single out Iran to an unacceptable degree. They might also point out that the P5+1 offer made in July 2008 would have permitted Iran to achieve its full rights under the NPT once it restored international confidence in the purposes and capabilities of its nuclear program. From this standpoint, denying Iran enrichment of any sort would be a retreat from that offer. One could surely say that Iran, by defying the IAEA and the Security Council and engaging in terror internationally, has brought special treatment on itself and that the precedential value of the no-enrichment approach is so meaningful that it is worth pursuing. And, the fact is that Iran would still have an explanation for such an outcome: it would have civil nuclear power and it could rightfully claim that its solution would provide a future guide for all others in acquiring nuclear power. Still, the P5+1 could divide on this approach and might find common ground on an alternative. In this alternative approach, Iran would be permitted to have limited enrichment. Its ability to enrich would be limited in terms of the number of centrifuges that could operate and be installed, the amount of low-enriched uranium (LEU) that could be accumulated in country, and the level to which uranium could be enriched. For example, the P5+1 could ask Iran to accept the following restrictions: no more than 1,000 centrifuges could be installed; no more than 1,000 kilograms of LEU could remain in-country, with the remainder shipped out to ensure that Iran never possesses even a single bomb's worth of LEU; and enrichment levels could not exceed 5 percent. Given Tehran's pattern of cheating, a rigorous inspection regime would be required to ensure that Iranian facilities could not exceed these limits. Indeed, the verification system would have to be far more extensive than in the first scenario of no enrichment. Practically speaking, this would mean ongoing monitoring at several steps in the process to make sure there is no diversion of yellowcake, of uranium hexafluoride, or of LEU, as well as transparency on the production, installation, and storage of centrifuges.

### 1NC DOD Tradeoff DA

#### The nuclear arsenal will be modernized now – but risks cuts from the defense budget

Washington Post, 9/15/12 (Dana Priest, “Aging U.S. nuclear arsenal slated for costly and long-delayed modernization,” <http://www.washingtonpost.com/world/national-security/us-nuclear-arsenal-is-ready-for-overhaul/2012/09/15/428237de-f830-11e1-8253-3f495ae70650_story.html>)

The U.S. nuclear arsenal, the most powerful but indiscriminate class of weapons ever created, is set to undergo the costliest overhaul in its history, even as the military faces spending cuts to its conventional arms programs at a time of fiscal crisis.¶ For two decades, U.S. administrations have confronted the decrepit, neglected state of the aging nuclear weapons complex. Yet officials have repeatedly put off sinking huge sums into projects that receive little public recognition, driving up the costs even further.¶ Now, as the nation struggles to emerge from the worst recession of the postwar era and Congress faces an end-of-year deadline to avoid $1.2 trillion in automatic cuts to the federal budget over 10 years, the Obama administration is overseeing the gargantuan task of modernizing the nuclear arsenal to keep it safe and reliable.

#### The aff causes defense budget tradeoffs

Snider, 12 – reporter for E&E (Annie, 2/23. “Military’s alt energy programs draw Republicans’ ire,” <http://www.eenews.net/public/Greenwire/2012/02/23/2>)

The idea that the administration is using DOD as a more politically palatable vehicle for renewable energy investments is now reverberating across Capitol Hill, even as Pentagon officials flatly deny the allegations.¶ At a budget hearing last week, Navy Secretary Ray Mabus, the department's most high-profile alternative energy advocate, took volley after volley from Republicans on the House Armed Services Committee. They said that his priorities were misplaced, argued that spending on clean energy was taking money out of more important missions and hinted at a link between the Pentagon's green efforts and the prominence of former Silicon Valley clean-tech investors within the Obama administration.¶ "You're not the secretary of the energy, you're the secretary of the Navy," said Rep. Randy Forbes (R-Va.), who leads the subcommittee with jurisdiction over military energy and environment issues.¶ Prime among the lawmakers' complaints was that the military is paying a higher price for some forms of alternative energy at a time when DOD proposes cutting weapons programs and reducing forces in order to meet budget mandates.

#### Nuclear modernization will be the first to be cut – it’s on the chopping block – that destroys deterrence

Trachtenberg, 11 – president and CEO of Shortwaver Consulting, LLC, former principal deputy assistant secretary of defense (international security policy), acting deputy assistant secretary of defense (forces policy), and head of the policy staff of the House Armed Services Committee (David J, 10/1. “Nuclear Fallback.” ,” [http://www.nationalreview.com/articles/279610/nuclear-fallback-david-j-trachtenberg#](http://www.nationalreview.com/articles/279610/nuclear-fallback-david-j-trachtenberg))

Political turmoil in the Middle East, Iran’s drive for nuclear weapons, and the buildup of China’s military are only a few of the worrisome trends that point to a prolonged period of global instability. Against this backdrop, the U.S. defense budget and the military capabilities it buys are being dramatically reduced in ways that will hinder our ability to shape or respond to these developments.¶ Over the next decade, defense spending will drop by anywhere from $450 billion to more than $1 trillion. The full extent of the cuts, and the national-security implications they foreshadow, are now in the hands of a congressional “supercommittee” charged with slashing overall federal spending. But cuts of this magnitude will translate into less military capability, a likely “dumbing down” of U.S. military strategy, a more problematic margin of military advantage over potential adversaries, and greater strategic risk. They are also likely to diminish America’s ability to advance U.S. policy objectives and secure a stable world order.¶ Not surprisingly, long-overdue investments in our aging and deteriorating nuclear capabilities and infrastructure — essential to maintaining a reliable and effective nuclear deterrent — are now on the chopping block as the military services seek to protect “usable” non-nuclear systems at the expense of “unusable” nuclear ones.¶ But the world remains a dangerous place, with nations and groups seeking nuclear weapons as a counter to U.S. military preponderance, a deterrent to U.S. action in regions vital to American national-security interests, a bargaining chip for political leverage, or a counter to regional threats. Nuclear weapons remain the great equalizer in world affairs, granting those that possess them greater influence over American policies and actions. Consequently, an effective and robust U.S. nuclear deterrent remains as important as ever.

#### Deterrence is vital to prevent WMD attacks and preserve global stability

Mark **Schneider**, July **2008**. Senior Analyst with the National Institute for Public Policy, Ph.D in history at the University of Southern California and JD from George Washington University, former senior officer in the DoD in positions relating to arms control and nuclear weapons policy. “The Future of the U.S. Nuclear Deterrent,” Comparative Strategy 27.4, Ebsco.

Today, the United States, the world's only superpower with global responsibilities, is the only nuclear weapons state that is seriously debating (admittedly largely inside the beltway) about whether the United States should retain a nuclear deterrent. By contrast, the British Labour Government has decided to retain and modernize its nuclear deterrent. In every other nuclear weapons state—Russia, China, France, India, Pakistan, and allegedly Israel—there is general acceptance of the need for a nuclear deterrent and its modernization. Amazingly, the United States is the only nuclear-armed nation that is not modernizing its nuclear deterrent. Distinguished former leaders such a George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, despite the manifest failure of arms control to constrain the weapons of mass destruction (WMD) threat, call for “A world free of Nuclear Weapons” because “… the United States can address almost all of its military objectives by non-nuclear means.”1 This view ignores the monumental verification problems involved and the military implication of different types of WMD—chemical and biological (CBW) attack, including the advanced agents now available to potential enemies of the United States and our allies. A U.S. nuclear deterrent is necessary to address existing threats to the very survival of the U.S., its allies, and its armed forces if they are subject to an attack using WMD. As former Secretary of Defense Harold Brown and former Deputy Secretary of Defense John Deutch wrote in The Wall Street Journal, “However, the goal, even the aspirational goal, of eliminating all nuclear weapons is counterproductive. It will not advance substantive progress on nonproliferation; and it risks compromising the value that nuclear weapons continue to contribute, through deterrence, to U.S. security and international stability.”2 Why can't the United States deter WMD (nuclear, chemical, biological) attack with conventional weapons? The short answer is that conventional weapons can't deter a WMD attack because of their minuscule destructiveness compared with WMD, which are thousands to millions of times as lethal as conventional weapons. Existing WMD can kill millions to hundreds of millions of people in an hour, and there are national leaders who would use them against us if all they had to fear was a conventional response. The threat of nuclear electromagnetic pulse (EMP) attack, as assessed by a Congressional Commission in 2004, is so severe that one or at most a handful of EMP attacks could demolish industrial civilization in the United States.3 The view that conventional weapons can replace nuclear weapons in deterrence or warfighting against a state using WMD is not technically supportable. Precision-guided conventional weapons are fine substitutes for non-precision weapons, but they do not remotely possess the lethality of WMD warheads. Moreover, their effectiveness in some cases can be seriously degraded by counter-measures and they clearly are not effective against most hard and deeply buried facilities that are associated with WMD threats and national leadership protection. If deterrence of WMD attack fails, conventional weapons are unlikely to terminate adversary WMD attacks upon us and our allies or to deter escalation. Are there actual existing threats to the survival of the United States? The answer is unquestionably “yes.” Both Russia and China have the nuclear potential to destroy the United States (and our allies) and are modernizing their forces with the objective of targeting the United States.4 China is also increasing the number of its nuclear weapons.5 Russia is moving away from democracy, and China remains a Communist dictatorship. A number of hostile dictatorships—North Korea, Iran, and possibly Syria—have or are developing longer-range missiles, as well as chemical, biological, and nuclear weapons.6 They already have the ability to launch devastating WMD attacks against our allies and our forward deployed forces, and in time may acquire capabilities against the United States. Iran will probably have nuclear weapons within approximately 2 to 5 years.7 The United States already faces a chemical and biological weapons threat despite arms control prohibitions. Due to arms control, we do not have an in-kind deterrent. Both Iranian and Syria acquisition of nuclear weapons could be affected by sales from North Korea, which have been reported in the press.8

### 2NC Impact

#### Probability and turns the case – deterrence is the only explanation for why conflict doesn’t occur – military leaders make decisions based off retaliation.

Robinson, 1 – President and Director, Sandia National Laboratories, PhD Physics @ FSU, Chair of the Policy Committee of the Strategic Advisory Group for the Commander, US Strategic Command (C. Paul, 3/22. “Pursuing a New Nuclear Weapons Policy for the 21st Century.” http://www.sandia.gov/media/whitepaper/2001-04-Robinson.htm)

Let me then state my most important conclusion directly: I believe nuclear weapons must have an abiding place in the international scene for the foreseeable future. I believe that the world, in fact, would become more dangerous, not less dangerous, were U.S. nuclear weapons to be absent. The most important role for our nuclear weapons is to serve as a “sobering force,” one that can cap the level of destruction of military conflicts and thus force all sides to come to their senses. This is the enduring purpose of U.S. nuclear weapons in the post-Cold War world. I regret that we have not yet captured such thinking in our public statements as to why the U.S. will retain nuclear deterrence as a cornerstone of our defense policy, and urge that we do so in the upcoming Nuclear Posture Review. Nuclear deterrence becomes in my view a “countervailing” force and, in fact, a potent antidote to military aggression on the part of nations. But to succeed in harnessing this power, effective nuclear weapons strategies and policies are necessary ingredients to help shape and maintain a stable and peaceful world.

#### 1NC says bioweapons get deterred – outweighs nuclear war

Singer, 1 – Director of the Program in Arms Control, Disarmament, and International Security at the University of Illinois at Urbana—Champaign (Clifford, Spring. Will Mankind Survive the Millennium?” The Bulletin of the Program in Arms Control, Disarmament, and International Security, University of Illinois at Urbana-Champaign, 13.1, http://www.acdis.uiuc.edu/research/S&Ps/2001-Sp/S&P\_XIII/Singer.htm.)

In recent years the fear of the apocalypse (or religious hope for it) has been in part a child of the Cold War, but its seeds in Western culture go back to the Black Death and earlier. Recent polls suggest that the majority in the United States that believe man would survive into the future for substantially less than a millennium was about 10 percent higher in the Cold War than afterward. However fear of annihilation of the human species through nuclear warfare was confused with the admittedly terrifying, but much different matter of destruction of a dominant civilization. The destruction of a third or more of much of the globe’s population through the disruption from the direct consequences of nuclear blast and fire damage was certainly possible. There was, and still is, what is now known to be a rather small chance that dust raised by an all-out nuclear war would cause a so-called nuclear winter, substantially reducing agricultural yields especially in temperate regions for a year or more. As noted above mankind as a whole has weathered a number of mind-boggling disasters in the past fifty thousand years even if older cultures or civilizations have sometimes eventually given way to new ones in the process. Moreover the fear that radioactive fallout would make the globe uninhabitable, publicized by widely seen works such as "On the Beach," was a metaphor for the horror of nuclear war rather than reality. The epidemiological lethal results of well over a hundred atmospheric nuclear tests are barely statistically detectable except in immediate fallout plumes. The increase in radiation exposure far from the combatants in even a full scale nuclear exchange at the height of the Cold War would have been modest compared to the variations in natural background radiation doses that have readily been adapted to by a number of human populations. Nor is there any reason to believe that global warming or other insults to our physical environment resulting from currently used technologies will challenge the survival of mankind as a whole beyond what it has already handily survived through the past fifty thousand years. There are, however, two technologies currently under development that may pose a more serious threat to human survival. The first and most immediate is biological warfare combined with genetic engineering. Smallpox is the most fearsome of natural biological warfare agents in existence. By the end of the next decade, global immunity to smallpox will likely be at a low unprecedented since the emergence of this disease in the distant past, while the opportunity for it to spread rapidly across the globe will be at an all time high. In the absence of other complications such as nuclear war near the peak of an epidemic, developed countries may respond with quarantine and vaccination to limit the damage. Otherwise mortality there may match the rate of 30 percent or more expected in unprepared developing countries. With respect to genetic engineering using currently available knowledge and technology, the simple expedient of spreading an ample mixture of coat protein variants could render a vaccination response largely ineffective, but this would otherwise not be expected to substantially increase overall mortality rates. With development of new biological technology, however, there is a possibility that a variety of infectious agents may be engineered for combinations of greater than natural virulence and mortality, rather than just to overwhelm currently available antibiotics or vaccines. There is no a priori known upper limit to the power of this type of technology base, and thus the survival of a globally connected human family may be in question when and if this is achieved.

### 2NC Modernization Key to Deterrence

#### Modernization is essential to deterrence – other countries are modernizing – failure to keep up causes widespread prolif

Trachtenberg, 11 – president and CEO of Shortwaver Consulting, LLC, former principal deputy assistant secretary of defense (international security policy), acting deputy assistant secretary of defense (forces policy), and head of the policy staff of the House Armed Services Committee (David J, 10/1. “Nuclear Fallback.” ,” [http://www.nationalreview.com/articles/279610/nuclear-fallback-david-j-trachtenberg#](http://www.nationalreview.com/articles/279610/nuclear-fallback-david-j-trachtenberg))

Nuclear weapons have kept the peace for more than 65 years. They remain necessary in a world where nuclear know-how is increasingly widespread and countries like Iran and North Korea pose serious threats to American security interests. Unfortunately, these countries do not share the American belief in the declining utility of nuclear weapons. Moreover, Russia and China are both continuing to invest in modern, more sophisticated nuclear delivery systems, with Russia placing greater emphasis on nuclear capabilities in its own military doctrine.¶ Because of this, ensuring a viable, robust, flexible, resilient, and credible U.S. nuclear arsenal is essential. Without such efforts, the continued drive to cut the U.S. nuclear-weapons stockpile may undermine the credibility of the U.S. extended-deterrence commitment and lead U.S. allies to consider developing their own nuclear capabilities. This would be a major setback to U.S. nonproliferation policy.¶ Despite the end of the Cold War, there is no substitute for effective nuclear deterrence. One can only hope that the decision makers who must wrestle with the consequences of the congressional supercommittee’s actions will also recognize this.

### 2NC Chopping Block

Nuclear modernization is on the chopping block

AP, 11 (Donna Casata and Lolita Baldor, 8/4. “Military money on chopping block.” <http://www.heraldsun.com/view/full_story/14954354/article-Military-money-on-chopping-block>)

Defense spending, which has nearly doubled in the last decade, is no longer untouchable in Washington.¶ Tea partyers and fierce fiscal conservatives in Congress are more willing to include Pentagon dollars in their mix of budget cuts despite opposition from veteran defense hawks. The death of Osama bin Laden, the diminished role of al-Qaida and the winding down of wars in Iraq and Afghanistan have prompted some lawmakers to question the need for such robust military spending.¶ Among the things that could be on the block: A troubled new jet fighter, expensive plans to modernize the nation's nuclear arsenal and perhaps some of the gold-plated benefits now guaranteed to military retirees.¶ "I think programs that can't meet schedule, that can't meet cost ... requirements are very much in jeopardy and will be very much under scrutiny," Mullen said.¶

#### The BCA makes defense tradeoffs likely – and there’s support for cutting nuclear modernization

Kaszynski, 12 – American Security Project (Mary, 8/1. “Nuclear Budget Cuts: an Easy Choice.” <http://americansecurityproject.org/blog/2012/nuclear-budget-cuts-an-easy-choice/>)

The Budget Control Act shows that Congress understands that the U.S needs to get its fiscal house in order. What they can’t agree on is the right way to do that. Some insist that increasing revenues is the answer to closing the deficit. Others say reining in government spending is the only way. The final deal may incorporate both revenues and spending cuts.¶ The budget negotiations will require compromise, concessions, and many tough choices. But when it comes to trimming the budget, one choice is easy. Cutting excess nuclear capabilities will save billions and relieve the pressure on other defense programs.¶ The U.S. spends more than $30 billion per year on nuclear weapons, according to a recent study by the Stimson Center. There is plenty of waste in that $30 billion.¶ Former STRATCOM General James Cartwright and Ambassador Thomas Pickering recently proposed a revised U.S. nuclear strategy that could save $120 billion over the next fifteen years by reducing the number of warheads and making other changes to our nuclear posture.¶ Reducing oversized nuclear stockpile is just one of many smart choices for congressional budget cutters. Nuclear modernization efforts also deserve scrutiny. For example, the Congressional Budget Office estimates that the current plan to build 12 new nuclear submarines could cost $110 billion. Cutting the buy down to 8 would save billions while maintaining a credible nuclear deterrent.¶ The Life Extension Program for the B-61 nuclear bomb should also be on the table. The Pentagon now pegs the program cost at $10 billion, two-and-a-half times the original estimate. This means each of the bombs will cost more than its weight in solid gold. ¶ Waste is rife at the National Nuclear Security Administration too. The costs of building just one new nuclear facility – a facility that experts agree is unnecessary – has skyrocketed from $400 million to $6 billion. A recent Government Accountability Office report highlights this program as an example of NNSA’s poor budgeting practices.¶ These are just a few of the easy cuts Congress could make to reduce excess nuclear spending and create space for necessary defense programs.¶ A growing consensus of former U.S. officials supports making these strategic reductions. But it doesn’t take an expert to see that cutting wasteful nuclear spending is the smart move. The American public is strongly in favor of trimming the defense budget, and the nuclear budget in particular.¶ In a recent poll conducted by the Center for Public Integrity, the Program for Public Consultation, and the Stimson Center, respondents favored cutting the nuclear weapons budget by an average of 27 percent. A cut of this size could easily be achieved by eliminating excess nuclear capabilities. This would mean billions of dollars in savings – billions of dollars that could be redirected to more important defense programs.¶ Congress is facing some tough budget choices. Cutting excess nuclear spending is not one of them. Respected military leaders, policymakers on both sides of the aisle, and the American public supports trimming the nuclear budget. It’s an easy choice and a smart choice. Whether Congress will recognize it remains to be seen.

### 2NC DOD Budget Zero Sum

#### Sequestration means the aff forces tradeoffs – the budget is zero sum

Garamone, 12 – American Forces Press Service (Jim, 4/16. “Panetta, Dempsey Say Pentagon Feels Sequestration’s Shadow.” <http://www.defense.gov/news/newsarticle.aspx?id=67950>)

Panetta and Army Gen. Martin E. Dempsey, chairman of the Joint Chiefs of Staff, spoke about sequestration and the defense budget during a news conference at the Pentagon.¶ “Sequestration” refers to a mechanism based into the Budget Control Act that would trigger an additional $500 billion cut across the board for defense spending over the next decade if Congress doesn’t find an alternative by January.¶ “I think … the shadow of sequestration is there,” Panetta said. While the Defense Department has received no guidance from the Office of Management and Budget to begin planning for sequestration, the threat of it is having an impact on the department and on the industries the department depends on, the secretary said.¶ “In the end, it’s up to Congress,” Panetta said. “In the coming weeks, they will begin considering the defense authorization and appropriations bills. Our hope is that Congress will carefully consider the new defense strategy and the budget decisions that resulted from that strategy.”¶ Any changes the Congress contemplates will affect other sections of the budget, because it is a zero-sum game, the secretary noted. Because of the Budget Control Act, he added, any change in any one area of the budget and force structure will inevitably require offsetting changes elsewhere.¶ “That carries the real risk that … if this is not done right, the result could be a hollow, unbalanced or weaker force,” he said. “Our hope is that our strategy will not be picked apart piece by piece.”

### 2NC Uniqueness – Modernization Funding Now

#### Nuclear modernization will be funded now

UPI, 9/11/12 (United Press International, “House to act on spending resolution,” <http://www.upi.com/Top_News/US/2012/09/11/House-to-act-on-spending-resolution/UPI-97771347386184/#ixzz26xJmMD1l>)

WASHINGTON, Sept. 11 (UPI) -- The U.S. House ended its recess Tuesday and turned its attention to fiscal matters amid warnings from a credit-rating service.¶ A continuing resolution to increase spending 0.6 percent for all agencies, conforming to a deal reached in August 2011 that set the debt ceiling at $1.047 trillion, could come up as early as Thursday, The Hill reported.¶ The continuing resolution comes up as action remained stalled on the so-called "fiscal cliff" that looms at the end of the year -- the end of Bush-era tax cuts and automatic across the board spending cuts. Moody's Investors Service Tuesday warned it would strip the United States of its AAA credit rating if the issues are not resolved. Standard & Poor's did just that during last year's political infighting.¶ The bill does not include of the 1996 welfare reform law, which expires this month. It also continues a pay freeze for federal workers.¶ The Obama administration had requested a 0.5 percent increase.¶ Some budget areas got special treatment. Money to fight wildfires, to modernize nuclear weapons and to increase border patrols got emergency funding.¶However, there were losers too, Politico reported.

#### Nuclear modernization is set to be funded now, but could still be cut

**RT, 9/16**/12 (“Aging US nuclear arsenal set for multibillion-dollar revamp,” <http://rt.com/usa/news/us-nuclear-arsenal-modernization-272/>)

Washington is set to shell out hundreds of billions of dollars over the next decade to overhaul its aging nuclear arsenal. The daunting task comes as Capitol Hill is faced with $1.2 trillion in federal budget cuts over the same period.¶ Despite nearly two decades of avoiding costly and politically unpopular modernizations of the American nuclear weapons complex, the Washington Post reports that plans for a full-scale overhaul of the country’s arsenal are underway.¶ The modernization of the US nuclear weapons complex – which includes an inventory of some 5,113 warheads, their strategic delivery systems and production facilities – has been conservatively estimated at $352 billion over the coming decade by nonpartisan think tank the Stimson Center the Post reports. However, that figure could rise, especially if the hugely vital but publicly undervalued task is put off any longer.¶ But in an age of asymmetrical warfare, where the Pentagon is facing massive cuts to its conventional force, spending hundreds of billions to refurbish the country’s nuclear arsenal is a tough sell as the United States remains embroiled in the worst economic crisis since the Great Depression.¶ Further complicating matters, Congress is facing an astounding $1.2 trillion in automatic, across-the-board cuts to the federal budget over the next ten years under the highly contentious 2011 Budget Control Act (BCA).¶ Apart from slashing 9.4 per cent from defense discretionary funding – $54.7 billion from the Pentagon for fiscal year 2013 alone – a further 8.2 per cent cut in non-defense funding is also slated, bringing the 2013 total to $109 billion.¶ That Washington will be forced to cut 11.1 billion from Medicare as billions more are allocated to the nuclear arsenal could be a bitter pill for many Americans to swallow.¶ In fact, for fiscal year 2013, the Obama administration has already requested nearly $7.6 billion in funding – a five per cent increase from last year – for weapons activities in the Department of Energy’s National Nuclear Security Administration (NNSA), which oversees the US nuclear stockpile and production complex, the Arms Control Association reported in August. Ironically, bad management, poor planning and waste on the part of the NNSA have been blamed for the exorbitant projected costs of modernization.

#### Nuclear modernization is on track now, but there’s budgetary constraints

GSN, 9/17/12 (Global Security Newswire staff, [“U.S. Nuclear Arms Due for High-Cost Revamp.” <http://www.nationaljournal.com/nationalsecurity/u-s-nuclear-arms-due-for-high-cost-revamp-20120917>)

The United States is on track to undertake the priciest revamp to date of its nuclear weapons and associated infrastructure, despite anticipated funding reductions to other weapon initiatives by the country's armed forces during a period of budgetary constraints, The Washington Post reported on Saturday.

### 1NC Chemical Industry

#### -- Chemical industry doesn’t solve sustainability

Elkington 12 (John, executive chairman of Volans and non-executive director at SustainAbility. “Chemical industry isn't doing enough to embrace sustainability,” 9-12-12, <http://www.guardian.co.uk/sustainable-business/sustainability-with-john-elkington/chemical-industry-embrace-sustainability-environment?newsfeed=true>)

One speaker showed a slide headed 'Sustainability is …', spotlighting Shin-Etsu, a Japanese chemical company that suffered a major explosion. Instead of clamming up, as Japanese corporate leaders are wont to do, the CEO took a voluntary pay-cut and went out to apologise to the local community. Apologising to people when you have accidentally blown them up makes sense, most of the time, but in the context of the global challenges we face I struggle to see this as a definitive (indeed, even a legitimate) case of sustainability in practice. Then another speaker, this time from ExxonMobil Chemical, asserted that – based on the latest life-cycle assessment data – shopping bags made out of high density polyethylene (HDPE) are the sustainable option. Paper bags, he insisted, should be dropped because of the energy and water consumption involved. Ah. When the discussion period came, I asked whether the data had taken into account the great swirling gyres of plastic debris that now scar large areas of the world ocean? No, he admitted. For such people, as a speaker from BASF assured us, sustainability means we "are on a journey". Like many others, this German company has talked to a considerable number of stakeholders (350, by their reckoning) and boiled it all down to a shortlist of issues (just 40 of those). The main conclusion seems to be that we must all create more shared value while, simultaneously, shrinking our environmental footprints. Good, but by how much? That's a question that the sector finds it hard to answer, except in areas where there is a legal requirement that the use of particular chemicals be driven to zero, like hexavalent chromium. And, while most participants intensely dislike the idea of further regulation, there were those – including Peter Kunze of the European Automobile Manufacturers Association – who argued for much clearer signals on which chemicals would be banned ultimately, coupled with "smart legislation" to ensure that the process of conversion didn't undermine industrial or regional competitiveness. It was intriguing to see successive speakers through the lenses of vested interests. A panel of four speakers, for example, agreed that renewable feedstocks were very unlikely to make much of an impression on the industry in the next decade or two. Then a colleague from another chemical company whispered in my ear that three of the four companies were backwards-integrated into the oil sector, effectively making them fossil fuel junkies. Hardly surprising, then, that they find it hard to imagine – or at least publicly admit the possibility of – a radically different future. Behind the scenes people spoke quietly of lobbying that is underway by parts of the industry: in the US, for example, chemical companies are fighting tooth-and-nail to ensure suspect chemicals and products like formaldehyde and styrene continue to be allowed in LEED-certified buildings. On the upside, Nicholas Denis of McKinsey & Co reported results of their recent market survey showing that green products are now seen much more positively by both consumers and industry executives, with between 82 and 93% of both categories saying they want to go greener, even though "the road to green chemicals is harder than we thought initially" and the notion of a "green premium is still a Holy Grail for most companies." Procter & Gamble promptly disagreed, to a degree, noting that their efforts to promote greener products like compact detergents had been stymied by the unwillingness of most consumers to change to seemingly smaller products at the same price-point. So the detergent industry went to government, asked for permission to avoid anti-trust rules, and moved as a group of companies to strip non-compact products from the shelves. "I would love it if consumers wanted greener products, mused P&G's Peter Kunze, "because we would then have a business model!"

#### -- Chemical industry resilient

**CNI 8** (Chemical News & Intelligence, “This Week in ICIS Chemical Business”, 8-18, Lexis)

Engineering and construction companies are expanding to specialties and photovoltaics Global engineering and construction companies report that the projects are changing, but the chemical sector continues to show a **surprising amount of resilience** Profitability analysis reveals North American petrochemical industry's demise is **exaggerated** Profits in the North American petrochemical industry are expected to decline sharply following Middle Eastern and Asian capacity additions. But contrary to the prevailing view, fears of its long-term demise will prove to be exaggerated. Shell's Omega MEG process kicks off in South Korea The big goal for a process engineer could be the development of a technology that converts all the raw materials to the desired end product with the minimum theoretical energy consumption, no emissions and the lowest capital cost.

#### -- Asian chemical companies will fill-in

**CEN 4** (Chemical and Engineering News, 1-12,

http://pubs.acs.org/cen/coverstory/8202/html/8202asia.html)

China's outstanding economic performance is having a major impact on the Asian chemical industry. The country is mentioned in nearly every financial statement released by chemical companies in the region. Based on numbers for the first 10 months of 2003, China last year increased its imports of chemicals by more than 40%. Most of this increase was due to increased imports of organic chemicals, a category that includes polymers. As it experiences high profitability in its chemical operations, China Petroleum & Chemical Corp. (Sinopec) is speeding up the renovation of an ethylene cracker at its Qilu Petrochemical unit as well as a coal gasification project at the same site. Sinopec profits surged 69% compared with a year earlier in the fiscal year's first nine months, which ended Dec. 31. Chemicals account for approximately 20% of the oil company's sales and 7% of its operating income. THE BUOYANT Chinese economy is helping to prop up Japan. A large portion of the electronic materials, components, plastics, machinery, and engineered goods that China needs to fuel its growth is supplied by Japan, Witte says. Based on numbers for the first 10 months of 2003, it appears that Japanese exports of chemicals--excluding photographic materials--grew 25% in 2003 to nearly $40 billion., the highest amount ever. Unlike in previous years when Japanese production of most chemicals was in decline, a major portion of Japanese-made chemicals has experienced growth in 2003. And as incomes rise, Japanese consumers purchase more Chinese-made goods, thus creating a "virtuous" circle of growth. Evidence of this circle was not clearly visible in the mixed bag of financial statements released by Japanese chemical companies in their first half. JSR, for example, increased its net profit by 173% over the past year's first half, but Sumitomo's net profit declined by 31% on high depreciation charges. However, chemical companies are generally optimistic about their full-year results--as of March 31. Sumitomo is expecting to boost its net profit by 6% over last year; Mitsui, by 13%; and JSR, by 50%. The Indian economy is being propelled by strong industrial and agricultural growth. ADB reports that industrial growth reached 6% in the first few months of 2003. Agricultural production received additional impetus from a "normal" monsoon--neither too long nor too short. Agriculture is more important to India than industry, so the rise in rural income had a more positive effect on the economy than the increase in industrial output. ADB expects stronger growth this year as India further benefits from the strengthening of the world economy. With rising incomes, Indian demand for petrochemicals is strong. Reliance reported a 23% increase in net profit for the half-year ended Sept. 30. This happened despite an unscheduled shutdown of its Jamnagar p-xylene facilities. Overall, Reliance says it experienced 16% growth in demand for its petrochemical products, which it was able to supply by having most of its plants producing beyond their nameplate capacities. In an upbeat forecast in October, Chairman and Managing Director Mukesh D. Ambani said, "We are seeing signs of an upturn in the petrochemical cycle and are confident of achieving even better performance in the future."

#### -- No impact to environmental destruction ---

**Easterbrook 95** (Gregg, Distinguished Fellow – Fullbright Foundation, A Moment on Earth, p. 25)

In the aftermath of events such as Love Canal or the Exxon Valdez oil spill, every reference to the environment is prefaced with the adjective "fragile." "Fragile environment" has become a welded phrase of the modern lexicon, like "aging hippie" or "fugitive financier." But the notion of a fragile environment is profoundly wrong. Individual animals, plants, and people are distressingly fragile. **The environment** that contains them **is** close to **indestructible**. The living environment of Earth has survived ice ages; bombardments of cosmic radiation more deadly than atomic fallout; solar radiation more powerful than the worst-case projection for ozone depletion; thousand-year periods of intense volcanism releasing global air pollution far worse than that made by any factory; reversals of the planet's magnetic poles; the rearrangement of continents; transformation of plains into mountain ranges and of seas into plains; fluctuations of ocean currents and the jet stream; 300-foot vacillations in sea levels; shortening and lengthening of the seasons caused by shifts in the planetary axis; collisions of asteroids and comets bearing far more force than man's nuclear arsenals; and the years without summer that followed these impacts. Yet hearts beat on, and petals unfold still. Were the environment fragile it would have expired many eons before the advent of the industrial affronts of the dreaming ape. **Human assaults** on the environment, though mischievous, **are** **pinpricks** compared to forces of the magnitude nature is **accustomed to resisting**.

#### Aff doesn’t solve manufacturing – Trade deficit

Atkinson 12 (Robert D. Atkinson, “Worse Than the Great Depression: What Experts Are Missing About American Manufacturing Decline,” http://www2.itif.org/2012-american-manufacturing-decline.pdf

In the 2000s, U.S. manufacturing suffered its worst performance in American history in terms of jobs. Not only did America lose 5.7 million manufacturing jobs, but the decline as a share of total manufacturing jobs (33 percent) exceeded the rate of loss in the Great Depression. 1 Despite this unprecedented negative performance, most economists, pundits and elected officials are remarkably blasé about what has transpired. Manufacturing, they argue, has simply become incredibly productive. While tough on workers who are laid off, job losses indicate superior performance. All that is needed, if anything, are better programs to help laid-off workers. This report argues that this dominant view on the loss of manufacturing jobs is fundamentally mistaken. Manufacturing lost jobs because manufacturing lost output, and it lost output because its ability to compete in global markets—some manipulated by egregious foreign mercantilist policies, others supported by better national competiveness policies, like lower corporate tax rates—declined significantly. In 2010, 13 of the 19 U.S. manufacturing sectors (employing 55 percent of manufacturing workers) were producing less than they there were in 2000 in terms of inflation-adjusted output. 2 Moreover, we assert that the government’s official calculation of manufacturing output growth, and by definition productivity, is significantly overstated. Overall, U.S. manufacturing output actually fell by 11 percent during a period when GDP increased by 17 percent. 3 The alarm bells are largely silent for two reasons: government statistics significantly overstate the change in U.S. manufacturing output, and most economists and pundits do not extend their analysis beyond one macro-level number (change in real manufacturing value added relative to GDP). But the conventional wisdom that U.S. manufacturing job loss is simply a result of productivity-driven restructuring (akin to how U.S. agriculture lost jobs but is still healthy) is wrong, or at least not the whole story. This report contends that the loss of U.S. manufacturing jobs is a function of slow growth in output (and, in most sectors, actual loss of output) caused by a steep increase in the manufactured goods trade deficit.

## EOR Neg

### AT China

#### Current cooperation solves

CCJ 11 (Carbon Capture Journal, “China's financing may give Texas carbon-capture project a boost,” 2011,

<http://www.ccstlm.com/News.aspx?id=371>)

China became a major player yesterday in a Texas carbon capture and sequestration project that is vying to become one of the world's first commercial demonstrations of the technology. At an oil and gas forum in San Antonio, Texas, Summit Power Group announced that the Export-Import Bank of China will be the sole financial lender of the $2.5 billion Texas Clean Energy Project, which envisions capture of 90 percent of the carbon dioxide from an advanced coal plant. Summit Power said that the loan amount would be sufficient to meet all of the project's debt needs and would be contingent on the Chinese bank's "due diligence" and completion of an engineering contract. The energy developer also announced it intends to award an engineering contract to a subsidiary of Sinopec, the Chinese petrochemical giant. The announcement provides more financial certainty for an initiative that has faced money hurdles. It is also likely to raise eyebrows about China's influence in the U.S. energy sector. But the United States and China face similar energy problems. They both have an abundance of coal and traditionally have relied on it to make electricity, but re-engineering their power systems to take the CO2 out of coal emissions has been a major technological and economic challenge. To date, financing has been the biggest obstacle in the United States for proposed carbon capture and sequestration projects generally, with many companies canceling planned demonstrations before they could break ground. The influx of China's money would put the Texas Clean Energy Project, along with Southern Co.'s Kemper project in Mississippi and FutureGen 2.0 in Illinois, in the running to be the first global project that would capture CO2 from a coal plant at commercial scale.

### 1NC Tertiary PIC

#### The United States federal government should provide a tax credit for enhanced oil recovery in the United States that uses industrial carbon dioxide.

#### Solves the Aff – all their evidence is about “enhanced oil recovery”

#### Competes -

#### “Tertiary recovery” includes natural gas

INGAA 12 (Interstate Natural Gas Association of America, “Tertiary Recovery,” 2012, http://www.ingaa.org/cms/2666.aspx)

Tertiary Recovery Enhanced methods for the recovery 'Of oil and natural gas that require a means for displacing the oil or natural gas from the reservoir rock, modifying the properties of the fluids in the reservoir, and/or the reservoir rock to cause movement of the oil or natural gas in an efficient manner and providing the energy and drive mechanism to force its flow to a production well.

**-- Natural gas prices rising now**

**Conti 12** (John J., Assistant Administrator of Energy Analysis, United States Energy Information Administration, “Annual Energy Outlook 2012,” June 2012, [http://www.eia.gov/forecasts/aeo/pdf/0383(2012).pdf)](http://www.eia.gov/forecasts/aeo/pdf/0383%282012%29.pdf%29)

U.S. **natural gas prices** are determined largely by supply and demand conditions in North American markets. At current (2012) price levels, natural gas prices are below average replacement cost. However, over time natural gas prices rise with the cost of developing incremental production capacity (Figure 103). After 2017, natural gas prices rise in the AEO2012 Reference case more rapidly than crude oil prices, but oil prices remain at least three times higher than natural gas prices through the end of the projection (Figure 104). As of January 1, 2010, total proved and unproved natural gas resources are estimated at 2,203 trillion cubic feet. Development costs for natural gas wells are expected to grow slowly. **Henry Hub spot prices** for natural gas rise by **2.1 percent per year** from 2010 through 2035 in the Reference case, to an annual average of $7.37 per million Btu (2010 dollars) in 2035.

#### -- Plan causes CBM development – frees up new supply

**Herzog 4** (Howard Herzog, Senior Research Engineer in the Massachusetts Institute of Technology Energy Initiative and Dan Golomb, Affiliated Professor and Professor Emeritus, University of Massachusetts School of Marine Sciences, Laboratory for Energy and the Environment, Contribution to Encyclopedia of Energy, 2004, <http://sequestration.mit.edu/pdf/enclyclopedia_of_energy_article.pdf>)

Unmineable Coal Seams. Abandoned or uneconomic coal seams are another potential storage site. CO2 diffuses through the pore structure of coal and is physically adsorbed to it. This process is similar to the way in which activated carbon removes impurities from air or water. The exposed coal surface has a preferred affinity for adsorption of CO2 than for methane with a ratio of 2:1. Thus, CO2 can be used to enhance the recovery of coal bed **methane** (CMB). In some cases, this can be very cost effective or even cost free, as the additional methane removal can offset the cost of the CO2 storage operations. CBM production has become an **increasingly important** component of **natural gas supply** in the United States during the last decade. In 2000, approximately **40 billion** standard cubic meters (scm) of CBM was produced, accounting for about 7 percent of the nation’s total natural gas production. The most significant CBM production, some 85 percent of the total, occurs in the San Juan basin of southern Colorado and northern New Mexico. Another 10 percent is produced in the Black Warrior basin of Alabama, and the remaining 5 percent comes from rapidly developing Rocky Mountain coal basins, namely the Uinta basin in Utah, the Raton basin in Colorado and New Mexico, and the Powder River basin in Wyoming. Significant potential for CBM exists worldwide. A number of coal basins in Australia, Russia, China, India, Indonesia, and other countries have also been identified as having a large CBM potential. The total worldwide potential for CBM is estimated at around two trillion scm , with about 7.1 billion tons of associated CO2 storage potential.

**-- That massively lowers prices**

**Ryan 12** (Sebastian, Property Mentor Group, “Low Natural Gas Prices Hurting The Independent Oil And Gas Industry,” 8-7-12, <http://www.propertymentorgroup.com/low-natural-gas-prices-hurting-the-independent-oil-and-gas-industry-atpg-gsx-fst-sm-kwk/121294/>)

Low natural gas prices and a weak global economy have **weigh**ed **on the** independent oil and gas **industry** and companies such as Chesapeake Energy Corporation (NYSE:CHK) and Noble Corporation (NYSE:NE). **Excessive supply** has dogged natural gas prices for much of 2012, and could keep doing so if demand does not rises. Many industry players have reported less than stellar numbers recently, which reflects the difficult times. Noble Energy in its latest quarter managed to increase its GAAP sales year-over-year while GAAP earnings per share contracted by 2.5%. Cheniere Energy, Inc. (AMEX:LNG) recently said it has received funds for a liquefied natural gas export plant in the state of Louisiana. The facility is estimated to be able to export more than 1 billion cubic feet per day before the end of 2015. Among decliners, ATP Oil & Gas Corporation (NASDAQ:ATPG) has been one of the worst performers in 2012 with a year-to-date performance of -80.03%. The stock, as of last close, traded 35.60% up from its 52 week low and was 89.85% behind its 52 week high. Its latest closing price was -77.50% down from the SMA200 while the distance from SMA 50 and SMA 20 was -60.12% and -39.52% respectively. ATPG engages in the acquisition, development, and production of oil and natural gas properties primarily in the Gulf of Mexico and the United Kingdom sector of the North Sea. Another worst performing stock Gasco Energy Inc (NYSE:GSX) operates as a natural gas and petroleum exploitation, development, and production company in the United States. Gasco Energy Inc has a performance down -47.83%. Its price, as of the latest close, was up 20.00% compared with the 52 week low and was 63.64% below the 52 week high.

**-- Kills Uranium Market**

**Cowie 12** (Dr. Alex Cowie, Editor, Money Morning, “How Low Natural Gas Prices Are Causing Energy Havoc,” 8-1-12, <http://countingpips.com/forex-news/2012/08/how-low-natural-gas-prices-are-causing-energy-havoc/>)

Uranium is now in the cross hairs. ‘Permanently **cheap’ natural gas** is giving the economics of nuclear energy a run for its money too. The uranium spot price held above $52/ lb between last September and this May. But in the last few months, the **uranium price** has been slipping, and is back down to $49 / lb, which is a worrying sign. The CEO of General Electric, Mr Immelt, also had a few words to say about uranium. His company is a major manufacturer of nuclear equipment. He recently said (my emphasis in bold): ‘It’s just hard to justify nuclear. Really hard. Gas is so cheap and at some point, really, **economics rule** … So I think some combination of gas, and either wind or solar … that’s where we see most countries around the world going.”

**-- Hurts Kazakhstan’s revenue**

**McDermott 11** (Roger, Senior Fellow, Foreign Military Studies Office, Fort Leavenworth, “Kazakhstan: Countering nuclear proliferation, Action to develop a nuclear and terrorist-free world,” in Kazakhstan 2011: Twenty Years of Peace and Creation, *First: The Forum for Global Decision Makers*, 2011, <http://www.firstmagazine.com/Publishing/SpecialReportsDetail.aspx?RegionId=4&SpecialReportId=96>)

Kazakhstan’s ambitions are likely to be realized if **uranium prices stay high** and Kazatomprom is successful in further expanding its international partnerships. Kazatomprom’s most immediate task is to secure customers for its final nuclear fuel product--fuel assemblies, an extra fuel fabrication stage which Kazatomprom plans to start carrying out domestically. Having a nearly complete nuclear fuel cycle, save for enrichment, will ensure a stable cash flow for Kazatomprom and limit its dependence on the fluctuating market price of raw uranium. In the meantime, increased **uranium sales** will help alleviate the country’s overdependence on oil exports and help modernize its nuclear sector. If Kazakhstan does become the world’s leading uranium and nuclear fuel supplier, the ramifications for the country both in terms of increased **gross domestic product** and status on the world stage will be profound.

**-- Prevents diversification of Kazakhstan’s economy**

**Pleitgen 12** (Frederick, CNN, “Kazakhstan hopes uranium, oil and gas will fuel its future,” 7-18-12,

<http://articles.cnn.com/2012-07-18/asia/world_asia_kazakhstan-natural-resources-economy_1_vladimir-shkolnik-kazakhstan-uranium>)

Kazakhstan's mineral wealth will be a **major source of income** for decades to come, but it won't last forever. The country is trying to use it wisely to transition to a broader economic base while developing the natural resources industries to the maximum. Last year Kazakhstan was the world's top producer of **uranium**, accounting for over a third of global production. The industry's rapid expansion, plus the good quality of the uranium and the comparatively cheap method of mining it have combined to give Kazakhstan an advantage over other big exporters like Australia and Canada. With continued investment, Vladimir Shkolnik, the head of Kazakhstan's national atomic energy company, Kazatomprom, is keen to maintain that position. "We are hoping to keep our leadership position in the uranium field," he says. "We have dozens of facilities and **hundreds of mines** and we think we will remain a world leader in the uranium sector." Kazakhstan's government is also trying to encourage more foreign investment. Since independence in 1991, around $150 billion of foreign investment has flowed into the country; $18 billion dollars last year alone, according to the government. Companies like GE and Eurocopter have been attracted to the country, entering partnerships with national companies that have helped bring training and new skills to the local workforce. While money is flowing from the country's natural resources industry, the government is using some of its revenue to boost other sectors, like IT and engineering. The aim is to make the economy **more resilient** when **commodities prices fall** and better prepared for the day when the gush of oil and gas reduce to a trickle. "Of course revenues from raw materials are still by far the largest share of the country's budget," says energy analyst, Murat Karymsakov. "But in recent years the president (of Kazakhstan) has announced and put into place a plan for industrial and technological development to diversify the economy."

**-- Destroys stability**

**Hamm 12** (Nathan, founder and Principal Analyst for Registan, MA in Central Asian Studies from the University of Washington, “Kazakhstan’s Stability, Central Asia’s Stability,” 1-31-12, <http://registan.net/2012/01/31/kazakhstans-stability-central-asias-stability/>)

I’m paraphrasing, but on the first two items, Dr. Roberts argues that the thoroughly Soviet education and background of Kazakhstan’s leadership leaves it out of touch and unable to adequately respond to the public. The government’s response to labor strikes, including the violence in Zhanaozen, he says, show that the government was not prepared to deal with dissatisfaction over unmet **economic expectations**. Dr. Roberts says that these challenges are not extreme nor likely to cause widespread unrest in the near term, but that the stagnancy of the political system means that the government lacks mechanisms to deal with large socio-economic changes. [Note: Alima wrote about the crisis of unmet expectations at length recently.] This is good, succinct analysis of the situation that puts risks to Kazakhstan’s stability in good context. The risks are there, the government is ill-prepared to deal with them at present, but it’s unlikely that it will be overwhelmed by them soon. These risks, however, aren’t present only in Kazakhstan. They exist in similar forms and combinations throughout Central Asia. Growing segments of society throughout the region are bringing (or attempting to…) Islam into the public square, where it is responded to with shock and terror by secular officials. National economies are failing to meet the expectations, and in many areas, even the basic needs, of the public. And though nationalism is not so clearly a problem the way it is Kazakhstan and Kyrgyzstan in the rest of Central Asia, there are small signs that society is challenging the state’s monopoly on defining what it means to be Uzbek, Tajik, Kyrgyz, etc. In talking about risks to stability, there is often a tendency to focus on presidential succession, the specter of fundamentalism and political Islam, and a more recent tendency to talk about replication of the Arab Spring. Recent history should make it abundantly clear though, that analysts, experts, and observers are taken by surprise in the region. Game-planning what happens after Karimov dies or a resurgence of the IMU activity in Tajikistan and Kyrgyzstan might be worthless because they assume state and society lack the mechanisms to respond to and manage succession or terrorist groups. The greatest risks to stability **throughout the region** are medium- to long-term risks arising from the three aforementioned factors and the oppositional relationship between state and society. Devising a list of indicators and warnings based on the three factors Dr. Roberts identifies — rising public religiosity, increasing nationalism, and under-performance in the economy — are more likely not only to lead to better anticipation of the trajectory of stability in Central Asia but also to provide a better idea of when serious risks to stability are likely to arise.

**-- Spreads throughout the region**

**Assenova 8** (Margarita Assenova, IND Director; Natalie Zajicova, Program Officer (IND); Janusz Bugajski, CSIS NEDP Director; Ilona Teleki, Deputy Director and Fellow (CSIS); Besian Bocka, Program Coordinator and Research Assistant (CSIS), “Kazakhstan’s Strategic Significance,” 2008, CSIS-IND Taskforce Policy Brief team, European Dialogue, <http://eurodialogue.org/Kazakhstan-Strategic-Significance>)

The decision by the Organization for Security and Cooperation in Europe (OSCE) to award Kazakhstan the chairmanship of the organization for 2010 underscores a growing recognition of the country’s regional and continental importance. Kazakhstan is a **strategic linchpin** in the vast Central Asian-Caspian Basin zone, a region rich in energy resources and a potential gateway for commerce and communications between Europe and Asia. However, it is also an area that faces an assortment of troubling security challenges. Ensuring a **stable and secure Central Asia** is important for the international interests of the United States and its European allies for several prescient reasons: • Asian Security: Because of its proximity to **Russia,** **China**, Iran, and the South Asian sub-continent, Kazakhstan’s security and stability is an increasingly **vital interes**t to all major powers. Kazakhstan’s tenure as chair of the OSCE will become an opportunity for greater multilateral cooperation in achieving this objective while strengthening the role and prestige of the OSCE throughout Central Asia.

**-- Nuclear war**

**Ahrari 1** (M. Ehsan, Professor of National Security and Strategy of the Joint and Combined Warfighting School at the Armed Forces Staff College, August 2001, “Jihadi Groups, Nuclear Pakistan and the New Great Game,” http://www.strategicstudiesinstitute.army.mil/pdffiles/pub112.pdf)

South and **Central Asia** constitute a part of the world where a well-designed American strategy might well help avoid crises or catastrophe. The U.S. military would provide only one component of such a strategy, and a secondary one at that, but has an important role to play through engagement activities and regional confidence building. Insecurity has led the states of the region to seek **weapons of mass destruction**, missiles and conventional arms. It has also led them toward policies which undercut the security of their neighbors. If such activities continue, the result could be increased terrorism, humanitarian disasters, continued low-level conflict and potentially even major regional war or a **thermonuclear exchange**. A shift away from this pattern could allow the states of the region to become solid economic and political partners for the United States, thus representing a gain for all concerned.

### 2NC Do CP

#### --“Tertiary Recovery” Includes Natural Gas

Crisis Energy 12 (“Tertiary Recovery,” 8-12-12, Natural Gas Terminology,

<http://cirisenergy.com/terminology/natural-gas-terminology/tertiary-recovery/>)

TERTIARY RECOVERY

August 12, 2012 / Natural Gas Terminology

The use of sophisticated techniques such as flooding the reservoir with chemicals to increase the production of oil or gas.

#### -- Applies to US law

US Code (42 U.S.C. § 300h-4 : US Code - Section 300H-4: Optional demonstration by States relating to oil or natural gas, http://codes.lp.findlaw.com/uscode/42/6A/XII/C/300h-4)

(a) Approval of State underground injection control program; alternative showing of effectiveness of program by State For purposes of the Administrator's approval or disapproval under section 300h-1 of this title of that portion of any State underground injection control program which relates to - (1) the underground injection of brine or other fluids which are brought to the surface in connection with oil or natural gas production or natural gas storage operations, or (2) any underground injection for the secondary or tertiary recovery of oil or natural gas, in lieu of the showing required under subparagraph (A) of section 300h-1(b)(1) of this title the State may demonstrate that such portion of the State program meets the requirements of subparagraphs (A) through (D) of section 300h(b)(1) of this title and represents an effective program (including adequate recordkeeping and reporting) to prevent underground injection which endangers drinking water sources.

#### -- States too

Ohio Revised Code 11 (Ohio Revised Code, “Title [15] XV Conservation of Natural Resources, Chapter 1509: Division of Oil and Gas Resources Management - Oil And Gas,” Amended by 129th General Assembly File No. 28, HB 153, § 101.01, eff. 9/29/2011, <http://codes.ohio.gov/orc/1509.21>)

No person shall, without first having obtained a permit from the chief of the division of oil and gas resources management, conduct secondary or additional recovery operations, including any underground injection of fluids or carbon dioxide for the secondary or tertiary recovery of oil or natural gas or for the storage of hydrocarbons that are liquid at standard temperature or pressure, unless a rule of the chief expressly authorizes such operations without a permit. The permit shall be in addition to any permit required by section 1509.05 of the Revised Code. Secondary or additional recovery operations shall be conducted in accordance with rules and orders of the chief and any terms or conditions of the permit authorizing such operations. In addition, the chief may authorize tests to evaluate whether fluids or carbon dioxide may be injected in a reservoir and to determine the maximum allowable injection pressure. The tests shall be conducted in accordance with methods prescribed in rules of the chief or conditions of the permit. Rules adopted under this section shall include provisions regarding applications for and the issuance of permits; the terms and conditions of permits; entry to conduct inspections and to examine records to ascertain compliance with this section and rules, orders, and terms and conditions of permits adopted or issued thereunder; the provision and maintenance of information through monitoring, recordkeeping, and reporting; and other provisions in furtherance of the goals of this section and the Safe Drinking Water Act. To implement the goals of the Safe Drinking Water Act, the chief shall not issue a permit for the underground injection of fluids for the secondary or tertiary recovery of oil or natural gas or for the storage of hydrocarbons that are liquid at standard temperature and pressure, unless the chief concludes that the applicant has demonstrated that the injection will not result in the presence of any contaminant in underground water that supplies or can be reasonably expected to supply any public water system, such that the presence of any such contaminant may result in the system’s not complying with any national primary drinking water regulation or may otherwise adversely affect the health of persons. Rules, orders, and terms or conditions of permits adopted or issued under this section shall be construed to be no more stringent than required for compliance with the Safe Drinking Water Act, unless essential to ensure that underground sources of drinking water will not be endangered.

#### -- True for tax credits for “tertiary recovery”

US Code 12 (Title 26. Internal Revenue Code Subtitle A. Income Taxes Chapter 1. Normal Taxes and Surtaxes Subchapter A. Determination Of Tax Liability Part IV. Credits against Tax Subpart D. Business Related Credits, 26 USCS § 45Q)

§ 45Q. Credit for carbon dioxide sequestration

(a) General rule. For purposes of section 38 [26 USCS § 38], the carbon dioxide sequestration credit for any taxable year is an amount equal to the sum of--

 (1) $ 20 per metric ton of qualified carbon dioxide which is--

 (A) captured by the taxpayer at a qualified facility, and

 (B) disposed of by the taxpayer in secure geological storage and not used by the taxpayer as described in paragraph (2)(B), and

 (2) $ 10 per metric ton of qualified carbon dioxide which is--

 (A) captured by the taxpayer at a qualified facility,

 (B) used by the taxpayer as a tertiary injectant in a qualified enhanced oil or natural gas recovery project, and

 (C) disposed of by the taxpayer in secure geological storage.

### 2NC Uniqueness

#### Uranium prices going up – will get to $70

Pistilli 12 (Melissa, Managing Editor of the Resource Investing Network, “Central Asia Spotlight: Kazakhstan — Maintaining Stability Key to Untapped Natural Resources,” 2-14-12, Resource Investing News, <http://resourceinvestingnews.com/31254-central-asia-spotlight-kazakhstan-maintaining-stability-key-to-untapped-natural-resources.html>)

Unchanged from last week, TradeTech is reporting a uranium spot price of $49 per pound. However, the consulting firm says “[a]ctivity … is on the upswing, with four transactions reported for this week, signaling that prices have dipped low enough to attract buying interest.” David Talbot, senior mining analyst at Dundee Securities, believes we’re now witnessing the bottom of the market. In an interview with The Energy Report, Talbot said he expects prices to firm up later this year and into next year as Japanese reactors come back to life and the Megatons to Megawatts program expires. “The supply/demand balance in the mid-to-near-term may impact pricing,” Talbot said. “The current supply deficit should put upward pressure on prices, eventually making projects … more feasible. We’ll be lucky if annual uranium production reaches 180 Mlb by 2020. And that would require sustained spot prices of $70-80/lb. Our current forecasts for next year and 2014 are $70/lb and $67/lb, with a long-term forecast [of] $65/lb.”

#### Uranium prices are rebounding – Japan, China, Olympic Dam

Canna 12 (Xavier La Canna, “ERA boss talks up uranium prices,” 9-13-12,

<http://www.heraldsun.com.au/news/breaking-news/era-boss-talks-up-uranium-prices/story-e6frf7kf-1226473498628>)

ENERGY Resources of Australia Ltd (ERA) says the shelving of the Olympic Dam expansion and the high costs for Japan to dump nuclear power should see uranium prices rebound strongly. With uranium spot prices hovering around $US48/lb, well down from highs of around $US140/lb a few years ago, ERA made a net loss in the first half of 2012 of $59.9 million. The price of uranium has sunk partly in response to Japan's plans to reduce dependency on nuclear power in the wake of the Fukushima disaster last year. Local producers including ERA have also been hit by a relatively strong Australian dollar, which has reduced earnings. But ERA chief executive Rob Atkinson said the growing Chinese market will help support demand. "China is going to be a lot bigger than Japan ever was with nuclear power," he said. "I also think it is premature to suggest that Japan is going to be able to survive or afford moving forward without nuclear power. "There is a difference between wanting to do something and being able to afford it," he added. He said the decision by mining giant BHP Billiton Ltd to shelve its $US30 billion ($A28.8 billion) expansion plans for the Olympic Dam copper/uranium mine should also support higher prices. "With that not going ahead where is the uranium ore going to come from?" Mr Atkinson said. "Over the next three to four years we are expecting to see some substantial increase in uranium prices," he said.

### 2NC Impact

#### **Kazakhstan stability key to Afghanistan**

Assenova 8 (Margarita Assenova, IND Director; Natalie Zajicova, Program Officer (IND); Janusz Bugajski, CSIS NEDP Director; Ilona Teleki, Deputy Director and Fellow (CSIS); Besian Bocka, Program Coordinator and Research Assistant (CSIS), “Kazakhstan’s Strategic Significance,” 2008, CSIS-IND Taskforce Policy Brief team, European Dialogue, <http://eurodialogue.org/Kazakhstan-Strategic-Significance>)

NATO’s June 2004 summit affirmed the growing importance of Central Asia by designating the region as an area of “special focus” and stationing a liaison officer in the Kazakh capital of Astana in order to develop NATO assistance programs to modernize national military structures. A NATO Secretary General Special Representative for the Caucasus and Central Asia was also appointed. Astana has underscored that neither the CSTO nor the SCO should become exclusive military alliances or anti-Western blocs that would challenge NATO’s mission in the wider region. Kazakhstan supports NATO operations in Afghanistan and grants overflight rights to U.S. and other NATO warplanes transporting non-lethal cargo to Afghanistan, as well as emergency landing rights for U.S. military aircraft in the Kazakh city of Almaty. The Kazakh authorities are also developing a Peacekeeping Battalion (KAZBAT), which is slated to become fully operational by 2011 and potentially available for international peace stability missions. Kazakhstan is the only Central Asian country to have an Action Plan to assist in the reconstruction process in Afghanistan, including granting more than $3 million in the 2007-2008 fiscal year for social and infrastructure projects, humanitarian aid, and training for Afghan law enforcement and border patrol officers. For 2009-2011, Kazakhstan has committed an additional $5 million to improve the water supply and distribution infrastructure for shipments of grain and other commodities.

#### Global nuclear war

Morgan 7 (Stephen J., Political Writer and Former Member of the British Labour Party Executive Committee, “Better another Taliban Afghanistan, than a Taliban NUCLEAR Pakistan!?”, 9-23, http://www.freearticlesarchive .com/article/\_Better\_another\_Taliban\_Afghanistan\_\_than\_a\_Taliban\_NUCLEAR\_Pakistan\_\_\_/99961/0/)

However events may prove him sorely wrong. Indeed, his policy could completely backfire upon him. As the war intensifies, he has no guarantees that the current autonomy may yet burgeon into a separatist movement. Appetite comes with eating, as they say. Moreover, should the Taliban fail to re-conquer al of Afghanistan, as looks likely, but captures at least half of the country, then a Taliban Pashtun caliphate could be established which would act as a magnet to separatist Pashtuns in Pakistan. Then, the likely break up of Afghanistan along ethnic lines, could, indeed, lead the way to the break up of Pakistan, as well. Strong centrifugal forces have always bedevilled the stability and unity of Pakistan, and, in the context of the new world situation, the country could be faced with civil wars and popular fundamentalist uprisings, probably including a military-fundamentalist coup d’état. Fundamentalism is deeply rooted in Pakistan society. The fact that in the year following 9/11, the most popular name given to male children born that year was “Osama” (not a Pakistani name) is a small indication of the mood. Given the weakening base of the traditional, secular opposition parties, conditions would be ripe for a coup d’état by the fundamentalist wing of the Army and ISI, leaning on the radicalised masses to take power. Some form of radical, military Islamic regime, where legal powers would shift to Islamic courts and forms of shira law would be likely. Although, even then, this might not take place outside of a protracted crisis of upheaval and civil war conditions, mixing fundamentalist movements with nationalist uprisings and sectarian violence between the Sunni and minority Shia populations. The nightmare that is now Iraq would take on gothic proportions across the continent. The prophesy of an arc of civil war over Lebanon, Palestine and Iraq would spread to south Asia, stretching from Pakistan to Palestine, through Afghanistan into Iraq and up to the Mediterranean coast. Undoubtedly, this would also spill over into India both with regards to the Muslim community and Kashmir. Border clashes, terrorist attacks, sectarian pogroms and insurgency would break out. A new war, and possibly nuclear war, between Pakistan and India could no be ruled out. Atomic Al Qaeda Should Pakistan break down completely, a Taliban-style government with strong Al Qaeda influence is a real possibility. Such deep chaos would, of course, open a “Pandora's box” for the region and the world. With the possibility of unstable clerical and military fundamentalist elements being in control of the Pakistan nuclear arsenal, not only their use against India, but Israel becomes a possibility, as well as the acquisition of nuclear and other deadly weapons secrets by Al Qaeda. Invading Pakistan would not be an option for America. Therefore a nuclear war would now again become a real strategic possibility. This would bring a shift in the tectonic plates of global relations. It could usher in a new Cold War with China and Russia pitted against the US.

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