# Round 5 Neg vs MO

## 1nC DA – Electricity Prices

**Electricity prices low now---that's key to the economy**

Here's the tie-breaker---predictive ev---prices will remain low---this also solves for the economy---"reshoring" of jobs and foreign capital influx

**von Schirach, 2/16** - International Economic Development Consultant and International Affairs Commentator and Writer for Avanz International (Paolo, 2/16/13, "America Has Close To The Lowest Electricity Prices In The Developed World – This Is A Huge Comparative Advantage – Energy Intensive Industries Will Relocate Where Electricity Is Most Affordable", http://schirachreport.com/index.php/2013/02/16/america-has-close-to-the-lowest-electricity-prices-in-the-developed-world-this-is-a-huge-comparative-advantage-energy-intensive-industries-will-relocate-where-electricity-is-most-affordable/, KONTOPOULOS)

WASHINGTON – With all its problems, due to the discovery and exploitation of new carbon based energy reserves, and to public policy that strongly favors consumers, America has a major comparative advantage vis-a-vis global competition: rock bottom electricity prices. Some of America’s competitors like Australia are energy rich. But they tax electricity more ands so cosumers pay more.¶ Low price policy¶ Traditionally American policy-makers have favored lower prices, hence lower taxes. But now, with the shale gas revolution fully underway, the US added to its historic advantage the lowest natural gas prices in the developed world, (less than half of what it costs in Europe). And this low cost advantage is going to last a long time. Natural gas powered plants will produce cheap electricity for many decades.¶ Some rich countries like Denmark (most expensive electricity) or the Netherlands may afford to pay a lot for electricity. Others like Italy, Brazil or Turkey that tax electricity rather heavily are likely to be penalized by the high cost of powering factories.¶ Electricity just one factor, but significant¶ All in all, energy is just one factor contributing to the overall cost of doing business. The relative conditions of other critical infrastructure, corporate taxes, man power quality, the legal system and more also influence decisions related to location of new facilities and the actual global competitiveness of whatever is made in any given country or region.¶ Attracting investors¶ Still, right now the US is undergoing a small but significant industrial renaissance driven in part by the allure of low electricity costs. Many energy intensive industries such as steel or smelters are considering relocating or expanding in the US and especially in the energy producing states like Texas or Pennsylvania. ¶ Everything else being equal, rock bottom electricity cost may be the deciding factor in luring new investors.

**New nuclear reactors drive up electricity prices**

Cooper 2009 (Mark, SENIOR FELLOW FOR ECONOMIC ANALYSIS INSTITUTE FOR ENERGY AND THE ENVIRONMENT VERMONT LAW SCHOOL, "THE ECONOMICS OF NUCLEAR REACTORS: RENAISSANCE OR RELAPSE?," <http://www.vermontlaw.edu/Documents/Cooper%20Report%20on%20Nuclear%20Economics%20FINAL%5B1%5D.pdf>)

Within the past year, estimates of the cost of nuclear power from a new generation of reactors have ranged from a low of 8.4 cents per kilowatt hour (kWh) to a high of 30 cents. This paper tackles the debate over the cost of building new nuclear reactors, with the key findings as follows: • The initial cost projections put out early in today’s so-called “nuclear renaissance” were about one-third of what one would have expected, based on the nuclear reactors completed in the 1990s. • The most recent cost projections for new nuclear reactors are, on average, over four times as high as the initial “nuclear renaissance” projections. • There are numerous options available to meet the need for electricity in a carbon-constrained environment that are superior to building nuclear reactors. Indeed, nuclear reactors are the worst option from the point of view of the consumer and society. • The low carbon sources that are less costly than nuclear include efficiency, cogeneration, biomass, geothermal, wind, solar thermal and natural gas. Solar photovoltaics that are presently more costly than nuclear reactors are projected to decline dramatically in price in the next decade. Fossil fuels with carbon capture and storage, which are not presently available, are projected to be somewhat more costly than nuclear reactors. • Numerous studies by Wall Street and independent energy analysts estimate efficiency and renewable costs at an average of 6 cents per kilowatt hour, while the cost of electricity from nuclear reactors is estimated in the range of 12 to 20 cents per kWh. • The additional cost of building 100 new nuclear reactors, instead of pursuing a least cost efficiency-renewable strategy, would be in the range of $1.9-$4.4 trillion over the life the reactors. Whether the burden falls on ratepayers (in electricity bills) or taxpayers (in large subsidies), incurring excess costs of that magnitude would be a substantial burden on the national economy and add immensely to the cost of electricity and the cost of reducing carbon emissions.

**The impact is global war**

Harris and Burrows, 9 – \*counselor in the National Intelligence Council, the principal drafter of Global Trends 2025, \*\*member of the NIC’s Long Range Analysis Unit “Revisiting the Future: Geopolitical Effects of the Financial Crisis”, Washington Quarterly, http://www.twq.com/09april/docs/09apr\_burrows.pdf)

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

## 1nC Politics - Immigration

**CIR will pass —Momentum, Obama’s pushing and the Senate and House are close to a deal**

Mali, 3-25-13, The Hill, Obama to host new citizens, push for action on immigration reform, [Meghashyam], p. http://thehill.com/blogs/blog-briefing-room/news/290053-obama-to-host-new-citizens-press-congress-on-immigration-reform

President Obama will host a naturalization ceremony on Monday for 28 new citizens, including 13 service members, at the White House. The move comes as the president continues to press lawmakers to pass comprehensive immigration reform, one of his second-term priorities. Obama will be joined by Homeland Security Secretary Janet Napolitano and U.S. Citizenship and Immigration Services Director Alejandro Mayorkas in the East Room. The president will deliver remarks at the ceremony, the White House announced. “The event underscores the contributions made to the United States by immigrants from all walks of life, including the foreign-born members of the U.S. Armed Forces, as well as our shared history as a nation of immigrants,” said a White House official. “While the President remains pleased that Congress continues to make progress towards commonsense immigration reform, he believes Congress needs to act quickly, and he expects a bill to be introduced as soon as possible.” Bipartisan groups in both the House and Senate are moving closer to unveiling separate immigration reform proposals. The Senate’s “Gang of Eight” introduced their framework in January, calling for a pathway to citizenship, heightened border security, increased high-skilled immigration and a guest worker program. But since then, senators have been tied down in negotiations over the details of the plan, with many key issues still unresolved. Reports last week, though, said that sources close to the talks said they hoped to have a bill by the end of April. The bipartisan House group has yet to share details of their proposals, but their work has already received general support from leaders in both parties. Speaker John Boehner (R-Ohio) last week praised their work as a “pretty responsible solution.” House Minority Whip Steny Hoyer (D-Md.) said the group was “very close to an agreement,” and that lawmakers had made “real progress.” Advocates for immigration reform see a real chance that a bill could pass Congress this year, with growing momentum on both sides. But any immigration deal would need to pass muster with House GOP lawmakers, many of whom have said they will oppose measures that grant “amnesty” to illegal immigrants and have questioned proposed protections for gay or lesbian couples. But after the strong showing President Obama made among Hispanic voters in the 2012 election, a growing number of conservative lawmakers have signaled they would back immigration reform, including measures to provide a pathway to citizenship. Sen. Rand Paul (R-Ky.) unveiled his own proposal last week, which would first require strengthened border security before allowing illegal immigrants to apply for legal status. Paul’s support for eventual citizenship could help rally other conservative lawmakers to back reform. Obama has held similar naturalization ceremonies at the White House in prior years. In 2012, he marked the Fourth of July by helping to naturalize 25 active-duty service members. That ceremony came weeks after Obama had issued an executive order allowing many illegal immigrants who were brought over to the United States as children to remain in the country and avoid deportation.

**Political capital is key---Obama’s leading negotiations with the GOP**

AFP 2-19-13, “Obama courts key Republicans on immigration reform,” 2013, Factiva

US President Barack Obama on Tuesday called key Senate Republicans, with whom he is at odds on other many top issues, to discuss the prospects for bipartisan immigration reform.¶ Obama placed the calls following complaints he had not done enough to reach across the political aisle on the key issue, and after the leak of partial White House immigration plans angered Republican players in the debate.¶ The White House said that Obama had spoken to Republican Senators Lindsey Graham, John McCain and Marco Rubio, to discuss a "shared commitment to bipartisan, commonsense immigration reform."¶ "The President reiterated that he remains supportive of the effort underway in Congress, and that he hopes that they can produce a bill as soon as possible that reflects shared core principles on reform."¶ "He thanked the senators for their leadership, and made clear that he and his staff look forward to continuing to work together with their teams to achieve needed reform."¶ Obama's aides said he also wanted to speak to Republican Senator Jeff Flake, of Arizona, but was unable to reach him because he was traveling.¶ Cuban-American Rubio, a rising star of the Republican Party, is emerging as a key player in the immigration debate, and he warned that leaked versions of White House plans obtained by USA Today would be "dead on arrival."¶ Eight senators -- four of Obama's Democratic allies and four Republicans -- unveiled a joint plan last month aiming to provide a route to legal status for illegal immigrants living on US soil.¶ Under the White House fallback plan, illegal immigrants would have to wait eight years until applying for legal permanent residency, and, in practice, at least 13 years before they could apply for US citizenship.¶ Advocates of immigration reform say that time period is too long -- while conservative opponents still rail against "amnesty" for illegal immigrants, reflecting the toxicity of much of the immigration reform debate.¶ Obama had been sharply at odds with Graham and McCain for their role in delaying the confirmation of his pick for defense secretary Chuck Hagel.¶ His call to Rubio, who is traveling in the Middle East, came after the Florida senator's office had said that no one in his office had met White House officials to discuss immigration.¶ The White House had maintained that its staffers had met congressional officials working on immigration reform.¶ Obama's move may be seen as an effort to prevent partisan wrangling from derailing hopes of immigration reform, as it did under the presidency of his predecessor George W. Bush.¶ Immigration reform may be Obama's best chance for a genuine legacy-boosting success in his second term.¶ Senior Republicans, meanwhile, are wary of entering another election hampered by the mistrust of Hispanic voters, a growing slice of the electorate for whom immigration reform is a key issue.¶ A key sticking point in the debate is the Republican demand that the process of offering legal status to illegals should only start once the US southern border with Mexico has been certified as secure.¶ Obama has so far declined to make that linkage.

**Plan drains Obama’s PC**

**US Congress opposes funding for developing IFRs**

**Squassoni, 2012, Emerging Nuclear Technologies, Federation of American Scientists, February, [Director and Senior Fellow of the Proliferation Prevention Program**

**at CSIS; Sharon], p. http://www.fas.org/pubs/\_docs/Nuclear\_Energy\_Report-lowres.pdf**

As noted above, the Bush administration sought to close the nuclear fuel cycle in the United States by promoting the development of fast reactors to burn up plutonium and “recycling” waste for that purpose. The basic idea was to reduce the volume of nuclear waste by reusing the fuel in fast reactors, which can burn more of the material. The Global Nuclear Energy Partnership (GNEP), the Advanced Fuel Cycle Initiative, and other related programs have all sought to implement that goal. Thus far, the U.S. Congress has taken a “go slow” approach, delaying demonstrations of advanced recycling technologies until more research can be completed.

**CIR is key to US hegemony**

Nye, 2012, “Immigration and American Power,” December 10, Project Syndicate, [a former US assistant secretary of defense and chairman of the US National Intelligence Council, is University Professor at Harvard University; Joseph], p.http://www.project-syndicate.org/commentary/obama-needs-immigration-reform-to-maintain-america-s-strength-by-joseph-s--nye

CAMBRIDGE – The United States is a nation of immigrants. Except for a small number of Native Americans, everyone is originally from somewhere else, and even recent immigrants can rise to top economic and political roles. President Franklin Roosevelt once famously addressed the Daughters of the American Revolution – a group that prided itself on the early arrival of its ancestors – as “fellow immigrants.”¶ In recent years, however, US politics has had a strong anti-immigration slant, and the issue played an important role in the Republican Party’s presidential nomination battle in 2012. But Barack Obama’s re-election demonstrated the electoral power of Latino voters, who rejected Republican presidential candidate Mitt Romney by a 3-1 majority, as did Asian-Americans.¶ As a result, several prominent Republican politicians are now urging their party to reconsider its anti-immigration policies, and plans for immigration reform will be on the agenda at the beginning of Obama’s second term. Successful reform will be an important step in preventing the decline of American power.¶ Fears about the impact of immigration on national values and on a coherent sense of American identity are not new. The nineteenth-century “Know Nothing” movement was built on opposition to immigrants, particularly the Irish. Chinese were singled out for exclusion from 1882 onward, and, with the more restrictive Immigration Act of 1924, immigration in general slowed for the next four decades.¶ During the twentieth century, the US recorded its highest percentage of foreign-born residents, 14.7%, in 1910. A century later, according to the 2010 census, 13% of the American population is foreign born. But, despite being a nation of immigrants, more Americans are skeptical about immigration than are sympathetic to it. Various opinion polls show either a plurality or a majority favoring less immigration. The recession exacerbated such views: in 2009, one-half of the US public favored allowing fewer immigrants, up from 39% in 2008.¶ Both the number of immigrants and their origin have caused concerns about immigration’s effects on American culture. Demographers portray a country in 2050 in which non-Hispanic whites will be only a slim majority. Hispanics will comprise 25% of the population, with African- and Asian-Americans making up 14% and 8%, respectively.¶ But mass communications and market forces produce powerful incentives to master the English language and accept a degree of assimilation. Modern media help new immigrants to learn more about their new country beforehand than immigrants did a century ago. Indeed, most of the evidence suggests that the latest immigrants are assimilating at least as quickly as their predecessors.¶ While too rapid a rate of immigration can cause social problems, over the long term, immigration strengthens US power. It is estimated that at least 83 countries and territories currently have fertility rates that are below the level needed to keep their population constant. Whereas most developed countries will experience a shortage of people as the century progresses, America is one of the few that may avoid demographic decline and maintain its share of world population.¶ For example, to maintain its current population size, Japan would have to accept 350,000 newcomers annually for the next 50 years, which is difficult for a culture that has historically been hostile to immigration. In contrast, the Census Bureau projects that the US population will grow by 49% over the next four decades.¶ Today, the US is the world’s third most populous country; 50 years from now it is still likely to be third (after only China and India). This is highly relevant to economic power: whereas nearly all other developed countries will face a growing burden of providing for the older generation, immigration could help to attenuate the policy problem for the US.¶ In addition, though studies suggest that the short-term economic benefits of immigration are relatively small, and that unskilled workers may suffer from competition**,** skilled immigrants can be important to particular sectors – and to long-term growth. There is a strong correlation between the number of visas for skilled applicants and patents filed in the US. At the beginning of this century, Chinese- and Indian-born engineers were running one-quarter of Silicon Valley’s technology businesses, which accounted for $17.8 billion in sales; and, in 2005, immigrants had helped to start one-quarter of all US technology start-ups during the previous decade. Immigrants or children of immigrants founded roughly 40% of the 2010 Fortune 500 companies.¶ Equally important are immigration’s benefits for America’s soft power. The fact that people want to come to the US enhances its appeal, and immigrants’ upward mobility is attractive to people in other countries. The US is a magnet, and many people can envisage themselves as Americans, in part because so many successful Americans look like them. Moreover, connections between immigrants and their families and friends back home help to convey accurate and positive information about the US.¶ Likewise, because the presence of many cultures creates avenues of connection with other countries, it helps to broaden Americans’ attitudes and views of the world in an era of globalization. Rather than diluting hard and soft power, immigration enhances both.¶ Singapore’s former leader, Lee Kwan Yew, an astute observer of both the US and China, argues that China will not surpass the US as the leading power of the twenty-first century, precisely because the US attracts the best and brightestfrom the rest of the world and melds them into a diverse culture of creativity. China has a larger population to recruit from domestically, but, in Lee’s view, its Sino-centric culture will make it less creative than the US.¶ That is a view that Americans should take to heart. If Obama succeeds in enacting immigration reform in his second term, he will have gone a long way toward fulfilling his promise to maintain the strength of the US.

**Decline of US hegemony risks great power wars and trade wars**

Zhang & Shi, 2011, East Asia Forum, America’s decline: A harbinger of conflict and rivalry, January 22, [Carnegie Endowment for International Peace,Yuhan; Columbia University, Lin], p. http://www.eastasiaforum.org/2011/01/22/americas-decline-a-harbinger-of-conflict-and-rivalry/ (accessed: 9-6-2011)

Over the past two decades, no other state has had the ability to seriously challenge the US military. Under these circumstances, motivated by both opportunity and fear, many actors have bandwagoned with US hegemony and accepted a subordinate role. Canada, most of Western Europe, India, Japan, South Korea, Australia, Singapore and the Philippines have all joined the US, creating a status quo that has tended to mute great power conflicts. However, as the hegemony that drew these powers together withers, so will the pulling power behind the US alliance. The result will be an international order where power is more diffuse, American interests and influence can be more readily challenged, and conflicts or wars may be harder to avoid. As history attests, power decline and redistribution result in military confrontation. For example, in the late 19th century America’s emergence as a regional power saw it launch its first overseas war of conquest towards Spain. By the turn of the 20th century, accompanying the increase in US power and waning of British power, the American Navy had begun to challenge the notion that Britain ‘rules the waves.’ Such a notion would eventually see the US attain the status of sole guardians of the Western Hemisphere’s security to become the order-creating Leviathan shaping the international system with democracy and rule of law. Defining this US-centred system are three key characteristics: enforcement of property rights, constraints on the actions of powerful individuals and groups and some degree of equal opportunities for broad segments of society. As a result of such political stability, free markets, liberal trade and flexible financial mechanisms have appeared. And, with this, many countries have sought opportunities to enter this system, proliferating stable and cooperative relations. However, what will happen to these advances as America’s influence declines? Given that America’s authority, although sullied at times, has benefited people across much of Latin America, Central and Eastern Europe, the Balkans, as well as parts of Africa and, quite extensively, Asia, the answer to this question could affect global society in a profoundly detrimental way. Public imagination and academia have anticipated that a post-hegemonic world would return to the problems of the 1930s: regional blocs, trade conflicts and strategic rivalry. Furthermore, multilateral institutions such as the IMF, the World Bank or the WTO might give way to regional organisations. For example, Europe and East Asia would each step forward to fill the vacuum left by Washington’s withering leadership to pursue their own visions of regional political and economic orders. Free markets would become more politicised — and, well, less free — and major powers would compete for supremacy. Additionally, such power plays have historically possessed a zero-sum element. In the late 1960s and 1970s, US economic power declined relative to the rise of the Japanese and Western European economies, with the US dollar also becoming less attractive. And, as American power eroded, so did international regimes (such as the Bretton Woods System in 1973). A world without American hegemony is one where great power wars re-emerge, the liberal international system is supplanted by an authoritarian one, and trade protectionism devolves into restrictive, anti-globalisation barriers. This, at least, is one possibility we can forecast in a future that will inevitably be devoid of unrivalled US primacy.

## 1nC DA - Niger

**Uranium mining is key to Niger’s economy**

Reuters, 5-12-12, p. http://www.reuters.com/article/2012/06/12/britain-niger-growth-idUSL5E8HCGC120120612

Niger expects its resource-rich economy to grow 15 percent in 2012, boosted by increased production from its uranium mines and growing output from its newly-started oil industry, President Mahamadou Issoufou said on Tuesday. Issoufou, making the first visit to London by a Niger president, cited IMF and World Bank forecasts to support his presentation of the Sahel country as one of the fastest growing states in Sub-Saharan Africa. He spoke at Chatham House. The projected soaring 2012 growth for Niger, which compares with an estimated 3.8 percent GDP advance in 2011, is three times the average growth of 5.4 percent forecast for the Sub-Saharan region by the IMF. In the region, only Sierra Leone is expected to grow faster this year, by a forecast 35.9 percent. Perched on the edge of the Sahara, Niger is one of the world's top producers and exporters of uranium, and late last year also joined the ranks of Africa's oil producers.

Plan reduces uranium demand

**PRISM reactor eliminates uranium mining**

**Archambeau, et al., 2011, The Integral Fast Reactor (IFR): An Optimized Source for Global Energy Needs, February, [Science Council for Global Initiatives; Charles], p. 4**

The G.E. estimated building cost of the S-Prism reactor (Fletcher, 2006) is $1300/kw, where this cost assumes some cost savings due to mass production and modular construction. For a commercial level gigawatt reactor (using 3 modular S-Prism reactors with 380 MW of power from each) the cost would total $1.3 billion dollars per one gigawatt plant. These nuclear plants are essentially carbon dioxide emissions free, and in general produce no atmospheric pollution. Further, all the Uranium fuel can be provided from processing the stock piles of spent and depleted Uranium fuel. Therefore, no Uranium mining and associated pollution will occur.

**Decline in Uranium prices will collapse Niger’s economy**

Campbell & Sheerin, Niger, [University of Pennsylvania - The Wharton School; Jennifer; Alannah], p. http://fic.wharton.upenn.edu/fic/africa/Niger%20Final.pdf

Niger’s longest, sustained economic boom dates back to the 1970’s and was largely attributable to a furtive uranium market and rises in foreign aid. In 1978, GDP growth reached 14 percent. However, declines in global uranium prices coupled with severe drought, poor public finance and economic instability in Nigeria, Niger’s main trading partner, resulted in severe economic conditions throughout the 80’s and 90’s.

**Economic instability from Niger will spillover and destabilize the entire Sahel**

International Institute for Strategic Studies, 2012, Extremism Spreads Throughout West Africa, November 2, p. http://www.realclearworld.com/articles/2012/11/02/extremism\_spreads\_throughout\_west\_africa\_100320.html

In Mali, Mauritania, Niger and Nigeria, Islamist militants have filled power vacuums created by ineffectual national governments, and have tapped into religious and socio-economic grievances. Militants' activities that begin in one country spill over into neighbouring states, destabilising the entire Sahel.

**Instability in West African and Nigeria increases risk of al Qaeda and nuclear terrorism**

Raghavan, 2012, Washington Post, Niger struggles against Islamist militants, August 16, [Sudarsan], p. http://articles.washingtonpost.com/2012-08-16/world/35490742\_1\_boko-haram-nigeria-islamists-in-northern-mali

DIFFA, Niger This West African desert town hardly seems like the front line of an emerging struggle against terrorism. The market is bustling. Young men listen to French rap music blaring from boomboxes. Boys play soccer on unpaved roads. Yet the nearby border checkpoint with Nigeria, where hundreds of people once crossed back and forth daily, is now closed. Soldiers patrol the streets day and night. And a U.S. Special Forces captain and his comrades, who fought in Iraq and Afghanistan, are here, training Niger’s ragged army. “We are in the center of some big problems,” said Kolo Ligari Katiella, a U.N. regional security official and former police officer here. In recent years, Islamist radicals have staged suicide attacks and kidnapped Westerners in North and West Africa. But in the aftermath of the Arab Spring revolts, the fight against militant Islam in this moderate swath of Africa has gained fresh urgency. The swift takeover of northern Mali by al-Qaeda-linked militants, aided by weapons and fighters from Libya, has raised alarm that an explosive cocktail of rebellion, terrorism and religious extremism could spill across borders. Such concerns are increasingly visible in Diffa and other towns nestled along Niger’s long border with Mali and northern Nigeria, where Boko Haram, another Islamist militia with suspected links to al-Qaeda, has intensified attacks this year. In such places, local officials and U.N. workers say, fundamentalist Islam is slowly replacing Sufism, a more open, mystical brand of the faith that has been practiced here for centuries. Boko Haram is trying to spread its hard-line ideology and violent aspirations in these border towns, and its fighters are using Niger as a gateway to join up with the Islamists in northern Mali, U.N. security experts and local officials say. Diffa, in particular, is about 100 miles from Boko Haram’s main base in Nigeria and is known as a hideout for the militia’s leaders and other members escaping authorities in Nigeria. “We have al-Qaeda north of us and Boko Haram to the south,” Katiella said. “The population lives day by day in fear because they face plenty of threats.” In a post-Osama bin Laden world, the United States and its allies are increasingly concerned that ungoverned patches of Africa could become new havens for global jihadists. While terrorist attacks declined globally last year compared to 2010, including in Iraq and Afghanistan, they increased 11.5 percent in Africa, according to the State Department’s most recent terrorism report. The instability is affecting a region whose economic importance to the United States and other Western countries is growing. Nigeria now supplies more oil to the United States than most Middle East countries. Niger is one of the world’s biggest producers of uranium, used in weapons and to fuel nuclear plants, and its mines are located in an area where al-Qaeda militants are active. The European Union also plans to send experts to train Niger’s security forces to combat al-Qaeda. “This region’s stability is very important to all of us,” said Special Forces Capt. Danny, who did not provide his last name as required by protocol.

**Global nuclear war**

Ayson, 2010, Studies in Conflict & Terrorism, After a Terrorist Nuclear Attack: Envisaging Catalytic Effects, Volume 33, Issue 7, July, [Professor of Strategic Studies and Director of the Centre for Strategic Studies: New Zealand at the Victoria University of Wellington; Robert], p. 583-5

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

## 1nC Solvency Debate

**No solvency until 2050**

**Yurman, 1-25-12,Wasting an opportunity, [worked for 20 years at the Idaho National Laboratory & now a blogger at 'Idaho Samizdat"; Dan], p. http://djysrv.blogspot.com/2012/01/wasting-opportunity.html**

The Guardian newspaper reports Jan 24 that plans to use two 300 MW sodium cooled fast reactors to burn 82 tonnes of surplus plutonium has been rejected by the NDA. According to the newspaper, it reviewed internal emails from the government agency. An anti-nuclear activist obtained them under a Freedom of Information request and shared the messages with the newspaper. The newspaper reports that the NDA's reason for rejecting the technology is that it regards it as "immature and commercially unproven." The agency's managers also reportedly said in their electronic communications that they felt the reactor would create large amounts of plutonium contaminated waste and increase the risk that terrorists might access it to make nuclear weapons. Last November, GE submitted an unsolicited offer to the NDA to use its new technology which is based on the design of the Integral Fast Reactor first deployed at the Argonne National Laboratory - West site in Idaho. It was in continuous development for several decades until it was cancelled by the Clinton Administration in the mid-1990s. The Guardian reports that in an email sent to GE on Nov 29 NDA strategy and technology director Adrian Simper said that the NDA and GE worked at an agreement but could not come to terms. Simper reportedly wrote the government "is not prepared to take technology risk on a new reactor." In addition to technology risks, the government also reportedly demanded a price cap on the project of $3.9 billion. It isn't clear how it came up with that number. The NDA then sent an email to the U.K. Department of Environment and Climate Change (DECC). It reportedly said that while the NDA had carried out a "high level assessment" of the PRISM technology, it concluded that the technology had not yet been demonstrated in a commercial setting and that it was not developed enough for the agency to commit to using it. Perhaps most significantly, the NDA reportedly said the PRISM reactor would not be ready to run until 2050. The agency says it wants a solution sooner than that date.

**The reactor will fail**

**Wauchope, 2012, Independent Australia, July 5, “In dispraise of Integral Fast Nuclear Reactors,” [anti-nuclear campaigner, former writer for Nation Review, & spokesperson for Women’s Electoral Lobby on nuclear issues; Noel], p. http://www.independentaustralia.net/2012/environment/in-dispraise-of-integral-fast-nuclear-reactors/**

Why not have another try at turning toxic wastes into a profitable export, they say. Sell them off overseas to other countries — we will design a gadget to use these, and sell the gadget, too! Enter the Integral Fast Reactors. The Brits are considering starting with one type of these, the Power Reactor Innovative Small Module — General Electric’s PRISM fast reactor. This reactor “consumes” weapons grade plutonium, producing electricity, and turning the plutonium into other radioactive wastes that are not quite as useful for making bombs. General Electric Hitachi proposes to “burn” the UK’s stockpile of plutonium in GEH’s Prism fast reactors”. It’s a complicated process . Now, doesn’t that sound good? It would get rid of Britain’s massive amount of plutonium wastes, make it (almost) unsuitable for weapons, make money for UK, and give cheap electricity to the colonials, hmm… say, in Australia! Yep, Barry Brook and his crew think that this is a great idea for Australia. What’s wrong with this? Lots. First of all, I always think “follow the money”. Because of various factors, these reactors will be hugely expensive to build. The construction materials have to be especially tough and durable because of obvious – and non-obvious – safety concerns. The PRISM reactor is cooled by liquid sodium, which can very readily catch fire. They are kept as small reactors, to make it easier to maintain safety features. Apart from the high costs of building these reactors, because they are small, they would not be economic to sell except in large numbers; they need to be pretty well mass produced to make them viable for export. Bearing in mind that they still exist only as blueprints — it will be a very long stretch until somebody (in Australia?) places an order for them in large numbers. The Integral Fast Reactor is, after all, just another type of nuclear reactor — it runs on radioactive fuel, provides heat to make electricity and produces radioactive waste. It also uses reprocessed nuclear wastes for its fuel, therefore nuclear reprocessing plants would be needed. So far, all existing nuclear reprocessing has proved to be an expensive failure. For instance, the USA’s MOX reprocessing fuel plant is still under construction — it has cost billions of dollars, is over budget and also behind schedule. In Japan, the super expensive Monju prototype fast breeder reactor is costing 1,000 times more than conventional reactors to run.

**PRISM will never be cost competitive**

**McCutcheon, 9-1-10, Can Nuclear Waste Spark an Energy Solution?, [National Geographic News writer; Chuck], p. http://news.nationalgeographic.com/news/2010/08/100831-can-nuclear-waste-spark-an-energy-solution/**

Critics of the concept, however, have not been won over. They insist that PRISM and similar IFR ideas are merely old nuclear wine in a new bottle, and that the technology is dangerous, prohibitively expensive and unlikely to contribute much to future electricity generation. Renowned nuclear skeptic Amory Lovins of Colorado’s Rocky Mountain Institute warns that each new type of reactor throughout history has been more costly, slower, and more difficult to operate than originally envisioned. (Editor’s note: Lovins is on the [panel of advisors](http://environment.nationalgeographic.com/environment/energy/great-energy-challenge/advisory-council/) to National Geographic’s Great Energy Challenge initiative.) IFRs, Lovins said in a [report](http://www.rmi.org/rmi/Library/2009-07_NuclearSameOldStory) last year, “come with countervailing disadvantages and costs that advocates assume away, contrary to all experience.”

**PRISM reactor is unproven**

**Hibbert, 7-31-12, Professional Engineering, Has Prism cracked the plutonium problem?, [Lee], p. http://profeng.com/cover-story/has-prism-cracked-the-plutonium-problem/page:2**

Some industry experts have expressed doubts that the Prism technology hasn’t been proved on the scale that is being proposed for the Sellafield installation. The sodium-cooled Experimental Breeder Reactor II (EBR II) in the US, on which Prism is based, had a thermal power rating of 62.5MW and produced 19MW of electricity through a conventional turbine generator. Prism will have to be significantly bigger, which presents engineering challenges.

## 1nC Russia Advantage

**No solvency—Russian scientists won’t cooperate on nuclear energy—fear prosecution under treason law**

Berls, 2012, The Future of U.S. Russia Relations: Beyond 2012, PANEL TWO

INTERESTS AND VALUES, November 28, [Senior Advisor, Nuclear Materials Security Program and Director, Moscow Office; Robert], p. http://carnegieendowment.org/files/112812\_REBeyond2012\_Panel\_2\_transcript.pdf

There is some – right now, an ongoing negotiation between the Department of Energy – the U.S. Department of Energy and Rosatom about developing a – or signing very soon an agreement on R & D cooperation that would allow for a resumption – a lot of the work that was done during the 1990s in lab-to-lab cooperation. So this – and there’s a lot to be done in Russia by American scientists. I mean, the Russians have some pretty advanced systems in nuclear energy that the Americans would like to be able to study, so it would be an exchange of scientists. The big caveat, I think, right now is this new law on treason. Will it so scare Russian scientists away from any cooperation that this type of – this R & D agreement will be an empty document? It’s hard to say, but – I think there are opportunities out there, but it’s going to be a tough slug forward making that happen.

**Russian MOX program will use breeder reactors causing an increase in plutonium**

Young & Fuchs, 2012, Nuclear Weapons Budget Fact Sheet, January 20, [Union of Concerned Scientists; Alliance for Nuclear Accountability; Stephen; Katherine], p. http://www.ananuclear.org/Portals/0/documents/fact%20sheets/NNSA%20nuke%20budget%202012.pdf

Russia’s program fails to meet nonproliferation goals. The MOX program was devised in the 1990s as a nonproliferation program in conjunction with Russia. NNSA has stated that MOX was chosen over other disposition paths to satisfy Russia, but Russia halted its program to use MOX in its light water reactors. Russia is currently pursuing MOX use in “breeder” reactors that can be used to make more plutonium than they burn, undermining the entire justification for the program. The U.S. should not continue to pour billions of dollars into an effort that will leave Russia with an expanded plutonium production capability.

**MOX plants will become prime targets for terrorist attacks because accidents will kill 50% more uranium fueled plants**

Horn, 2012, Comments to the August 8, 2012 NRC Meeting Concerning MOX Fuel and the Use of

MOX Fuel in TVA Brown’s Ferry Reactors, August 23, [retired aero-optical scientist; Stewart], p. http://pbadupws.nrc.gov/docs/ML1224/ML12241A212.pdf

Scientists have estimated that a reactor accident in a MOX plant could cause up to 50% more injuries and deaths than an accident in a typical uranium fuel based plant. Not only is this increased risk unacceptable to myself and local residents, it would instantly make this plant more of a prime target for terrorists than all of the regular commercial reactors in the country because of the increased potential harm to the populace and the place. This alone is reason enough to not conduct this experiment which would put all downwind residents in North Alabama and Tennessee at increased risk of losing everything including their health.

**No risk of plutonium theft from Russia—nuclear materials have been consolidated and are well protected**

Cohen & Zenko, 2012, Foreign Affairs, March-April, [Fellow at the Century Foundation; Fellow in the Center for Preventive Action at the Council on Foreign Relations; Michael; Micah], p. 79+academic onefile

Overblown fears of a nuclear Iran are part of a more generalized American anxiety about the continued potential of nuclear attacks. Obama's National Security Strategy claims that "the American people face no greater or more urgent danger than a terrorist attack with a nuclear weapon." According to the document, "international peace and security is threatened by proliferation that could lead to a nuclear exchange. Indeed, since the end of the Cold War, the risk of a nuclear attack has increased." If the context is a state-against-state nuclear conflict, the latter assertion is patently false. The demise of the Soviet Union ended the greatest potential for international nuclear conflict. China, with only 72 intercontinental nuclear missiles, is eminently deterrable and not a credible nuclear threat; it has no answer for the United States' second-strike capability and the more than 2,000 nuclear weapons with which the United States could strike China. In the past decade, Cheney and other one-percenters have frequently warned of the danger posed by loose nukes or uncontrolled fissile material. In fact, the threat of a nuclear device ending up in the hands of a terrorist group has diminished markedly since the early 1990s, when the Soviet Union's nuclear arsenal was dispersed across all of Russia's 11 time zones, all 15 former Soviet republics, and much of eastern Europe. Since then, cooperative U.S.-Russian efforts have resulted in the substantial consolidation of those weapons at far fewer sites and in comprehensive security upgrades at almost all the facilities that still possess nuclear material or warheads, making the possibility of theft or diversion unlikely. Moreover, the lessons learned from securing Russia's nuclear arsenal are now being applied in other countries, under the framework of Obama's April 2010 Nuclear Security Summit, which produced a global plan to secure all nuclear materials within four years. Since then, participants in the plan, including Chile, Mexico, Ukraine, and Vietnam, have fulfilled more than 70 percent of the commitments they made at the summit.

**PRISM reprocessing technology increases proliferation risks**

**Voss, 11-23-10, Experts Gather at AAAS to Explore Key Issues in the Future of Nuclear: Power, Security, and Verification, [Meagen], p. http://www.aaas.org/news/releases/2010/1123nuclear.shtml**

Samore acknowledged that the PRISM reactor could be useful for burning surplus plutonium from nuclear warheads. On the other hand, he was worried about the reprocessing technology that engineers would have to use to transform either plutonium or nuclear waste into usable fuel for the PRISM reactor. Most policymakers are generally not worried about nuclear power plants, he said, but they are worried that governments such as Iran or North Korea could use the reprocessing techniques at power plants to extract plutonium for weapons. “The U.S. position for a long time now has been not to encourage the spread of technology to separate plutonium from spent fuel,” Samore said. “We’d like to limit that as much as possible, because the technology has both military and civil applications.” Samore also noted that even in stable countries that are using the technology for peaceful purposes, there is always the possibility of an insider threat. Many countries have robust physical security for their nuclear materials, he said, but many don’t have provisions to protect against an inside agent who may steal their materials for ideological or financial reasons. Before countries pave the way for new nuclear power plants, Samore said, they need to seriously evaluate the possibility of an inside threat as seriously as they evaluate outside threats.

**NO IMPACT – multiple warrants**

**Acquisition – delivery – interest – mainstream literature is alarmism and wrong**

**Gavin 10,** Tom Slick Professor of International Affairs and Director of the Robert S. Strauss Center for International Security and Law, Lyndon B. Johnson School of Public Affairs, University of Texas at Austin

Francis J.. "Same As It Ever Was: Nuclear Alarmism, Proliferation, and the Cold War." International Security 34, no. 3 (Winter 2009/10): 7-37.

The possibility of a terrorist nuclear attack on the United States is widely believed to be a grave, even apocalyptic, threat and a likely possibility, a belief supported by numerous statements by public officials. Since the collapse of the Soviet Union, “the inevitability of the spread of nuclear terrorism” and of a “successful terrorist attack” have been taken for granted.48 Coherent policies to reduce the risk of a nonstate actor using nuclear weapons clearly need to be developed. In particular, the rise of the Abdul Qadeer Khan nuclear technology network should give pause.49 But again, **the news is not as grim as nuclear alarmists would suggest.** **Much has already been done to secure the supply of nuclear materials**, and relatively simple steps can produce further improvements. Moreover, **there are reasons to doubt** both **the capabilities and** even **the interest many terrorist groups have in detonating a nuclear device** on U.S. soil. As Adam Garfinkle writes, **“The threat** of nuclear terrorism **is very remote**.”50 Experts disagree on whether nonstate actors have the scientific, engineering, financial, natural resource, security, and logistical capacities to build a nuclear bomb from scratch. According to terrorism expert Robin Frost, **the danger of a “nuclear black market”** and loose nukes from Russia **may be overstated. Even if a terrorist group did acquire a nuclear weapon, delivering and detonating it** against a U.S. target **would present tremendous** technical and logistical **difficulties**.51 Finally, **the feared nexus between terrorists and rogue regimes may be exaggerated**. As nuclear proliferation expert Joseph Cirincione argues, **states such as Iran and North Korea are “not the most likely sources for terrorists since their stockpiles**, if any, **are small and** exceedingly **precious, and** hence **well-guarded**.”52 Chubin states that there “is no reason to believe that Iran today, any more than Sadaam Hussein earlier, would transfer WMD [weapons of mass destruction] technology to terrorist groups like al-Qaida or Hezbollah.”53 Even if a terrorist group were to acquire a nuclear device, expert Michael Levi demonstrates that **effective** **planning can prevent catastrophe:** for nuclear terrorists, what “can go wrong might go wrong, and when it comes to nuclear terrorism, a broader, integrated defense, just like controls at the source of weapons and materials, can multiply, intensify, and compound the possibilities of terrorist failure, possibly driving terrorist groups to reject nuclear terrorism altogether.” Warning of the danger of a terrorist acquiring a nuclear weapon, **most analyses are based on the inaccurate image of an “infallible tenfoot- tall enemy.”** This type of alarmism, writes Levi, impedes the development of thoughtful strategies that could deter, prevent, or mitigate a terrorist attack: “Worst-case estimates have their place, but the possible failure-averse, conservative, resource-limited five-foot-tall nuclear terrorist, who is subject not only to the laws of physics but also to Murphy’s law of nuclear terrorism, needs to become just as central to our evaluations of strategies.”54 A recent study contends that **al-Qaida’s interest in acquiring and using nuclear weapons may be overstated**. Anne Stenersen, a terrorism expert, claims that “looking at statements and activities at various levels within the al-Qaida network, it becomes clear that **the network’s interest** in using unconventional means **is in fact much lower than commonly thought**.”55 She further states that “CBRN [chemical, biological, radiological, and nuclear] weapons do not play a central part in al-Qaida’s strategy.”56 In the 1990s, members of al-Qaida debated whether to obtain a nuclear device. Those in favor sought the weapons primarily to deter a U.S. attack on al-Qaida’s bases in Afghanistan. This assessment reveals an organization at odds with that laid out by nuclear alarmists of terrorists obsessed with using nuclear weapons against the United States regardless of the consequences. Stenersen asserts, “Although there have been various reports stating that al-Qaida attempted to buy nuclear material in the nineties, and possibly recruited skilled scientists, it appears that **al-Qaida central have not dedicated a lot of time or effort to developing a** high-end CBRN **capability**. . . . Al-Qaida central never had a coherent strategy to obtain CBRN: instead, **its members were divided on the issue, and there was an awareness that militarily effective weapons were extremely difficult to obtain.”** 57 **Most terrorist groups** “assess nuclear terrorism through the lens of their political goals and may **judge that it does not advance their interests**.”58 As Frost has written, “**The risk of nuclear terrorism, especially true nuclear terrorism employing bombs powered by nuclear fission, is overstated, and that popular wisdom on the topic is significantly flawed.**”59

## 1nC Energy Independency Advantage

#### HIS and National Petroleum Council studies conclude 100 years supply of nat gas

Reuteman, 6-20-12, The Math Behind the 100-Year, Natural-Gas Supply Debate, [Rob], p. http://www.cnbc.com/id/47279959/page/1

A 2009 study by the IHS Global Insight energy research firm concluded, “Shale gas production has more than doubled the size of the discovered natural gas resource in North America —enough to satisfy more than 100 years of consumption at current rates.” On top of that, a just-released IHS study estimates the industry boom will wind up creating 2.4 million jobs by 2035. Pete Stark, IHS vice president of industry relations, says: “Getting all uptight about the 100-year number is ludicrous. There’s all sorts of gas being identified everywhere as potentially recoverable. Since 2009 we’ve known the ‘shale gale’ breakthrough was real. Now it looks as if there will be more than a 100-year supply. It was huge then, it’s huge now.” A 2011 report by the National Petroleum Council for the U.S. Department of Energy concluded in part, “North America has a large, economically accessible natural gas resource base that includes significant sources of unconventional gas, such as shale gas. This resource base could supply over 100 years of demand at today’s consumption rates.”

**Oil field reserve growth eliminates peak oil**

**Maugeri, 12** - Research Fellow of the Geopolitics of Energy Project at the Belfer Center for Science and International Affairs at Harvard University and Former Visiting Scholar at MIT (Leonardo, June 2012, "Oil: The Next Revolution", p. 13, KONTOPOULOS) PDF

Two **prominent geologists** from the U.S. Geological Survey **conducted a** brilliant **examination of "reserve growth" on a global scale. According to their extensive analysis, the estimated proven volume of oil in 186 well-known giant fields in the world** (holding reserves higher than 0.5 billion barrels of oil, discovered prior to 1981) **increased from 617 billion barrels to 777 billion barrels between 1981 and 1996.**7 **Because of "reserve growth," a country or a company may increase its oil reserves without tapping new areas if it can recover more oil from its known fields. One of the best examples** of the ability to squeeze more oil from the ground **comes from the Kem River Field in California. When the Kern River Oil Field was discovered in 1899, analysts thought that only 10 percent of its** unusually **viscous crude could be recovered**, hi 1942. **after more than four decades of modest production, it w;as estimated that the field still held 54 million barrels of recoverable oil**, a fraction of the 278 million barrels already recovered. As observed by Morris Adelman. "**In the next 44 years, it produced not 54 [million barrels] but 736 million barrels, and it had another 970 million barrels remaining**."8 But **even tins estimate proved incorrect**. **In** November **2007**, U.S. oil giant **Chevron**, by then the field's operator, **announced** cumulative **production had reached two billion barrels. Today Kem River still yields nearly 80,000 barrels per day**. and the state of California estimates its remaining reserves to be about 627 million barrels.9 **Chevron began to increase production markedly in the 1960s by injecting steam into the ground, a novel technology at the time. Later, new exploration and drilling tools, along with steady steam injection, turned the field into a** kind of **oil cornucopia. Kem River is not an isolated case. The oil literature is filled with cases of oilfields that gained a second or third life after years of production, thanks to new technologies that made it possible to estimate the size of an oilfield resource better, to discover new satellites of the main oilfield, to extract more oil, and to manage the drilling and production operations better.**

**No resource wars**

**Seng, 2k**

[MAJ Ronnie Lim Gek Seng, “Globalisation and Its Impact on Security in Southeast Asia,” Journal of the Singapor Armed Forces, Journal V26 N3 (Jul - Sep 2000), http://www.mindef.gov.sg/safti/pointer/back/journals/2000/Vol26\_3/3.htm]

Countries go to war for a variety of reasons. In the past, wars were often resource wars (wars to gain resources) - for land, to expand human settlement, or for food or other resources. Sovereignty issues also cause armed conflicts - perhaps as important previously, although perhaps less now for outright war. Motives for such conflicts in the regions do not for the most part concern economic issues, other than the resources i.e. oil, gas, fish that island territorial disputes involve, as in the example of the Spratlys where the main contention is the oil-rich resources that the atolls could provide.  Nevertheless, the resource motivations for conquest in the past are less significant now that education, technology and the national manpower resource skills are more substantial sources of wealth. Although natural resources in some countries have contributed to immense wealth, the highly industrialised world today thrives on economies with a leading advantage in technological skills, financial stability, and good governance to bring in foreign investments. Globalisation has enabled the opportunity for an economy to be 'networked' with the external world where technological and economic activities abound. It is precisely the dependence on these very factors that Singapore, devoid of natural resources, has remained relatively unscathed during the financial crisis.  Going to war for the purpose of gaining resources is highly improbable, as governments contemplating to do so, would weigh the costs against the benefits to be reaped from an outright war. For example, Vietnam had been secure with oil freely available on the open markets and it is less costly and more efficient to gain resources through the market than through the conquest of another country. Consequently, as the country's 'wealth' is increasingly enshrined in the quality of its technology-based economy and stable governance, an inclination to declare war to gain resource becomes even more remote.

**Scarcity doesn’t cause conflict**

**Le Billon, ‘1**

[Philippe Le Billon, (MBA Paris, PhD Oxford) is Assistant Professor at the University of British Columbia with the Department of Geography and the Liu Institute for Global Issues, “The political ecology of war: natural resources and armed conflicts,” Political Geography 20 (2001) 561–584, http://www.geog.ubc.ca/~lebillon/ecowar.pdf]

According to advocates of the scarce resource wars hypothesis, people or nations will fight each other to secure access to the resources necessary for their survival: the more scarce the resource, the more bitter the fight (Bennett, 1991; Brown, 1977; Homer-Dixon, 1999; Renner, 1996; Suliman, 1998 — for a critique, see Dalby, 1998; Gleditsch, 1998; Peluso & Watts, 2001). An example is the progressive degradation of Easter Islands’ natural resources by its Polynesian inhabitants, which ended through internecine struggle and cannibalism until the number of inhabitants was reduced from 20,000 at its ‘apogee’ to 2000 when Europeans first arrived in 1722 (Diamond, 1998). While some of the most nuanced examinations offer convincing anecdotal evidence, there are several counter-arguments to the generalisation of the scarce resource war perspective. First, resource scarcity and population pressure can result in socio-economic innovation, including a diversification of the economy, which often results in a more equitable distribution of power across society (Boserup, 1965; Tiffen et al., 1994; Leach & Mearns, 1996). Second, international trade and market mechanisms can to some extent counterbalance localised scarcities or motivate innovations and shifts in resources. Third, in resource poor countries the state is more dependent on the diversified financial inputs from society than in resourcerich countries, and so is more likely to be representative and accountable towards it, hence less violently conflictual. Finally, it is in the interest of the elite of resource poor countries to develop and harness human capital, rather than protect scarce or non-existent resource rents (Ranis, 1987). In this view, the likelihood of violent conflict decreases as human capital develops (e.g. through education, trading and manufacturing skills), the economy diversifies, and governance becomes more representative and accountable.

## 1nC Spent Fuel Advantage

#### Nuclear fuel storage is safe and poses no health risks

Cuttler & Pollycove, 2009, Dose-Response, NUCLEAR ENERGY AND HEALTH

And the Benefits of Low-Dose Radiation Hormesis, vol., 7:52–89, [Cuttler & Associates Inc., Mississauga, ON, Canada; School of Medicine, University of California San Francisco; Jerry; Myron], p. 58-9

Because of the enormous amount of energy released in fission, the amount of (solid) used fuel is relatively very small in volume. For many decades, nuclear plant owners have been storing their used fuel without harm to the environment. Initially, used fuel is placed in an underground water tank where the heat output from fission product radioactive decay is removed by the pumped cooling water flow. After several years of storage in water, the fuel is transferred to very heavy, robust, sealed containers made of steel and reinforced concrete. These containers are cooled by natural air flow and can store used fuel for centuries. Radiation levels are constantly measured around nuclear facilities and compared with levels in the surrounding environment. If there is no added dose, there can be no harm. No one is being injured by used fuel, and there is no reason to believe that anyone will be injured by it in the foreseeable future. Programs have been started in several countries to plan and construct deep (~500 m) underground geological repositories to receive radioactive materials, including used nuclear fuel, after decades of dry storage.

#### No impact to nuclear accidents—radiation release may even improve health

Cuttler & Pollycove, 2009, Dose-Response, NUCLEAR ENERGY AND HEALTH

And the Benefits of Low-Dose Radiation Hormesis, vol., 7:52–89, [Cuttler & Associates Inc., Mississauga, ON, Canada; School of Medicine, University of California San Francisco; Jerry; Myron], p. 62-3

What if an accident occurs? In spite of the extraordinary care taken to avoid such events, an accident could happen and a release of radioactivity is possible. As with any industrial accident, people living near the plant would be informed promptly and emergency measures would be taken to prevent anyone from receiving a significant dose of radiation. No immediate deaths in the surrounding population would be expected. The question is whether there might be adverse health effects that might shorten life expectancy. Research has shown that a low dose or a low dose rate of ionizing radiation in living organisms is generally stimulatory rather than inhibitory (UNSCEAR 1994, Kondo 1993, Académie des Sciences 1997, Pollycove and Feinendegen 2001, Mitchel 2007a). This means that the radiation exposure would not be harmful and might even be beneficial.

#### Even major nuclear accidents will not release dangerous levels of radiation

Cuttler & Pollycove, 2009, Dose-Response, NUCLEAR ENERGY AND HEALTH

And the Benefits of Low-Dose Radiation Hormesis, vol., 7:52–89, [Cuttler & Associates Inc., Mississauga, ON, Canada; School of Medicine, University of California San Francisco; Jerry; Myron], p. 64

Communicating the real health effects of radiation would remove many of the objections to the construction of nuclear power plants. Although the design, construction and operation of such plants are superior to those of the past, some people are worried about potential exposure to radiation. A few serious accidents have occurred during more than sixty years experience of operating hundreds of reactors and managing their used nuclear fuel. These incidents have demonstrated that the public would receive a low dose or low dose rate exposure in the very unlikely event of a mishap. The expected exposure would be in the range of naturally occurring radiation (Figure 3), to which living organisms have become accustomed. The doses or dose rates that residents receive from a nearby operating nuclear reactor does not add detectably to their exposures from natural radiation. Nuclear plant accidents, even major ones, would not be expected to expose nearby populations to radiation doses above the threshold for adverse health effects, especially if reasonable actions were taken to avoid potentially large doses. This would also apply also to individuals who are genetically more cancer prone or more sensitive to radiation (Mitchel 2007a). Therefore, raising undue public concerns about radiation risks when discussing nuclear power is inappropriate.

#### Meltdowns don’t cause extinction—empirically true

World Nuclear Association, 2012, “Safety of Nuclear Power Reactors”, March 2012, WNA, [http://www.world-nuclear.org/info/inf06.html](http://www.world-nuclear.org/info/inf06.html" \t "_blank)

In the 1950s attention turned to harnessing the power of the atom in a controlled way, as demonstrated at Chicago in 1942 and subsequently for military research, and applying the steady heat yield to generate electricity. This naturally gave rise to concerns about accidents and their possible effects. However, with nuclear power safety depends on much the same factors as in any comparable industry: intelligent planning, proper design with conservative margins and back-up systems, high-quality components and a well-developed safety culture in operations. A particular nuclear scenario was loss of cooling which resulted in melting of the nuclear reactor core, and this motivated studies on both the physical and chemical possibilities as well as the biological effects of any dispersed radioactivity. Those responsible for nuclear power technology in the West devoted extraordinary effort to ensuring that a meltdown of the reactor core would not take place, since it was assumed that a meltdown of the core would create a major public hazard, and if uncontained, a tragic accident with likely multiple fatalities. In avoiding such accidents the industry has been very successful. In over 14,500 cumulative reactor-years of commercial operation in 32 countries, there have been only three major accidents to nuclear power plants - Three Mile Island, Chernobyl, and Fukushima - the second being of little relevance to reactor design outside the old Soviet bloc. It was not until the late 1970s that detailed analyses and large-scale testing, followed by the 1979 meltdown of the Three Mile Island reactor, began to make clear that even the worst possible accident in a conventional western nuclear power plant or its fuel would not be likely to cause dramatic public harm. The industry still works hard to minimize the probability of a meltdown accident, but it is now clear that no-one need fear a potential public health catastrophe simply because a fuel meltdown happens. Fukushima has made that clear, with a triple meltdown causing no fatalities or serious radiation doses to anyone, while over two hundred people continued working on the site to mitigate the accident's effects. The decades-long test and analysis program showed that less radioactivity escapes from molten fuel than initially assumed, and that most of this radioactive material is not readily mobilized beyond the immediate internal structure. Thus, even if the containment structure that surrounds all modern nuclear plants were ruptured, as it has been with at least one of the Fukushima reactors, it is still very effective in preventing escape of most radioactivity. It is the laws of physics and the properties of materials that mitigate disaster, more than the required actions by safety equipment or personnel. In fact, licensing approval for new plants now requires that the effects of any core-melt accident must be confined to the plant itself, without the need to evacuate nearby residents. The three significant accidents in the 50-year history of civil nuclear power generation are: Three Mile Island (USA 1979) where the reactor was severely damaged but radiation was contained and there were no adverse health or environmental consequences Chernobyl (Ukraine 1986) where the destruction of the reactor by steam explosion and fire killed 31 people and had significant health and environmental consequences. The death toll has since increased to about 5 Fukushima (Japan 2011) where three old reactors (together with a fourth) were written off and the effects of loss of cooling due to a huge tsunami were inadequately contained. A table showing all reactor accidents, and a table listing some energy-related accidents with multiple fatalities are appended. These three significant accidents occurred during more than 14,000 reactor-years of civil operation. Of all the accidents and incidents, only the Chernobyl and Fukushima accidents resulted in radiation doses to the public greater than those resulting from the exposure to natural sources. The Fukushima accident resulted in some radiation exposure of workers at the plant, but not such as to threaten their health, unlike Chernobyl. Other incidents (and one 'accident') have been completely confined to the plant. Apart from Chernobyl, no nuclear workers or members of the public have ever died as a result of exposure to radiation due to a commercial nuclear reactor incident. Most of the serious radiological injuries and deaths that occur each year (2-4 deaths and many more exposures above regulatory limits) are the result of large uncontrolled radiation sources, such as abandoned medical or industrial equipment. (There have also been a number of accidents in experimental reactors and in one military plutonium-producing pile - at Windscale, UK, in 1957, but none of these resulted in loss of life outside the actual plant, or long-term environmental contamination.) See also Table 2 in Appendix.

**IFRs are sodium cooled**

IFRs employ sodium-cooled fast reactors to use pyroprocessing to recycle fuel—McFarlane

McFarlane, 2002, PROLIFERATION RESISTANCE ASSESSMENT OF THE INTEGRAL FAST REACTOR, [Harold], p. [www.ipd.anl.gov/anlpubs/2002/07/43534.pdf](http://www.ipd.anl.gov/anlpubs/2002/07/43534.pdf) )

The Integral Fast Reactor (IFR) concept includes a sodium-cooled fast reactor collocated with an integrated pyroprocess fuel recycling facility. The pyrochemical processes and the inert atmosphere of the heavily shielded fuel cycle facility provide inherent proliferation-resistant features for this advanced technology. The reactor can be designed to operate with a number of different conversion factors, so that it could be used for excess plutonium consumption or as a breeder if needed for rapid expansion of energy supply. The system contains a large quantity of plutonium and minor actinides, which at all times remain in extremely hostile environments and in chemical and physical forms that would require additional processing to extract weapons-suitable material. The aqueous processing equipment and facilities to accomplish such separation would not be available on site. Transportation would not be required in the reference deployment scenario. Nevertheless, the proliferation-resistance of some parts of the system could be considerably strengthened by advanced safeguards technologies. In spite of its inherent features, international deployment of the system would probably be limited to stable countries with a strong existing nuclear infrastructure. INTRODUCTION Assessing the proliferation resistance of Argonne National Laboratory’s Integral Fast Reactor (IFR) concept has been a relatively popular pastime activity for the past 16 years. [1,2,3,4,5] This particular assessment is based on the unpublished work that went into preparing a presentation for vthe Nuclear Energy Research Advisory Committee’s (NERAC) Special Committee on Technical Opportunities for Proliferation-resistant Systems (TOPS) [6]. Speculation on the proliferation resistance of the concept endures because the technology continues to develop and mature, the assessment tools improve, and the possibility of applying elements of IFR technology to national problems continues to be raised. As originally conceived [7], the Integral Fast Reactor comprised a fast-spectrum, sodium-cooled, metal-fuelled reactor and a collocated fuel recycling facility that employed pyroprocessing and fully remotized metal fuel casting and assembly. No transportation of nuclear materials would be required other than the initial shipment of fuel for startup. The system would be self-sustaining, i.e., producing as much plutonium as was consumed and lost to incidental waste streams. Because of the unique fuel cycle, plutonium would remain in a highly radioactive matrix at all times in facilities that were literally inaccessible to humans at all times. In designing the system during the post- International Nuclear Fuel Cycle Evaluation (INFCE) [8] era, robust proliferation resistance was a requirement. The fundamental assumption was that nuclear fuel recycle would be required and therefore the best approach to plutonium management was to avoid producing, storing or using it in any form that could be easily stolen or concealed, or that could be used without further refinement to fabricate a nuclear explosive. Furthermore, it was important that the process equipment and facilities could not be easily modified to produce a weapons-suitable product.

**Sodium cooled reactors cause explosions and accident**

Sodium reacts chemically with air and water, increasing the risk of accidents—history proves, the Monju reactor in Japan was shut down because the liquid sodium released could’ve caused violent explosions—Barton—department of physics at University of York

Barton, 2008, Liquid Sodium Reactors, March 27, [Department of Physics: University of York; Charles], p. <http://thoriumenergy.blogspot.com/2008/03/liquid-sodium-reactors.html>

Weinberg did not comment on the safety of sodium cooled reactors on that occasion, but in a lecture delivered at Argonne National Laboratory ten years later, Weinberg observed: "We have no real estimates of accident probabilities for liquid metal fast breeder reactors (LMFBR’s). The Rasmussen estimate (one in 20,000 per reactor year with an uncertainty of five either way) would lead to a meltdown every 3 years. This is probably an unacceptable rate; an accident rate at least ten times lower, and possibly 100 times lower may be needed if the system is to be acceptable." Later in the same lecture Weinberg added, "the acceptable accident rate will probably have to be much lower than the Rasmussen report suggests. If one uncontained core meltdown per 100 years is acceptable (and we have no way of knowing what an acceptable rate really is), then the probability of such an accident will have to be reduced to about one in 1 million per reactor per year." The basic problem with sodium cooled reactors like the Liquid Metal Fast Breeder Reactor is the safety problem inherent in the use of sodium as a coolant. Sodium reacts chemically with both air and water, and will burn strongly with either. Hence sodium leaks become a significant issue with sodium cooled reactors. The history of sodium cooled reactors give scant comfort to those who argue that they are safe. Perhaps the best known Internet video related to reactor safety is the video of Japanese reactor workers responding to a sodium leak at the Monju Sodium cooled breeder reactor. The Monju reactor has been shutdown since the 1995 accident although reportedly the Japanese plan to reopen it this year. The Japanese were fortunate that the leak occurred in a secondary sodium coolant system, and that no radiation was leaked, however the danger of working with sodium are best illustrated by a 1996 attempt by Japanese researchers to recreate the conditions that lead to the Monju accident. Researchers concluded that the liquid sodium released during the accident, could have melted steel doors, and come into contact with a cement floor. A reaction between the liquid sodium and water in the cement would have caused a violent explosion. What would have happen next is not reported but the leaked sodium was not the only sodium that could have potentially been involved in the accident. Not only does primary coolant sodium burn easily in contact with air, it is also highly radioactive.

# 2NC

## Politics

### 2NC---Overview

**Immigration is a prerequisite---worker shortage now means ZERO solvency---immigration high skilled visas are key to nuclear expansion**

Johnsson 11 Julie is a writer for Bloomberg Businessweek. “A Labor Shortage for U.S. Nuclear Plants,” July 7, <http://www.businessweek.com/magazine/a-labor-shortage-for-us-nuclear-plants-07072011.html>

Whether Fukushima, where the world watched three nuclear reactors begin to melt down following an earthquake and tsunami in March, marked the end of America’s nuclear renaissance remains to be seen. There is little doubt, though, that it has cast a pall over the industry’s efforts to recruit a new generation of engineers, technicians, and decontamination specialists just as nuclear plant operators face an unprecedented labor crunch.¶ Nuclear utilities in the U.S. will need to hire nearly 25,000 people to replace the 39 percent of its workforce that will be eligible for retirement by 2016, says Carol L. Berrigan, senior director for industry infrastructure for the Nuclear Energy Institute, a Washington-based trade group. Meanwhile, U.S. universities awarded a total of 715 graduate and undergraduate degrees in nuclear engineering in 2009, the most recent year for which data is available.¶ After nuclear plant disasters at Three Mile Island in Pennsylvania and Chernobyl in Ukraine, nuclear power lost political support in the U.S. Hiring slowed through the 1990s and nuclear workers under the age of 40 became a rarity as talk turned from expansion to shutting down existing plants. “That’s not an exciting prospect for a young person thinking about their career,” says K.L. “Lee” Peddicord, a professor of nuclear engineering and director of the Nuclear Power Institute at Texas A&M University.

**Lack of visas will drive away STEM workers and undermine US dominance in biotechnology**

McQuaid, et al., 2010, American Behavioral Scientist, Expanding Entrepreneurship:

Female and Foreign-Born Founders of New England Biotechnology Firms, March, [University of Massachusetts, Boston lecturer; Jim], p. 1059

Our research implies that highly educated immigrants should be welcomed as long term and probably permanent residents of the United States. The results presented in this article indicate that immigrants not only do important work as employees of existing research organizations but also start new businesses that employ highly skilled workers in the United States. We know that foreign-born PhDs contribute disproportionately to the development of scientific knowledge (Levin & Stephan, 1999). Our research shows that they also contribute heavily to the development of companies that create the most innovative life science therapies. These biotech companies we have studied create thousands of good jobs for U.S. citizens and immigrants alike. If these highly skilled immigrant entrepreneurs and their families and supporting communities are kept out of the United States by stricter immigration policies, we may see a decline in the U.S. dominance in the biotech industry. Some research suggests that in recent years, Canada has admitted the same number of highly educated immigrants as the United States has, even though Canada has only about 11% of the total U.S. population (National Foundation for American Policy, 2008).

**US biotech is key to the expansion of GM crops**

Juma, 2011, Des Moines Register, February 19, Technological Intolerance Threatens Global Food Security, [Harvard professor of international development; Calestous], p.http://belfercenter.ksg.harvard.edu/publication/20753/technological\_intolerance\_threatens\_global\_food\_security.html

Modern biotechnology is an important force in global agriculture. But it continues to be challenged by those wanting to limit its spread under the pretext of preserving the purity of organic farming. This is being done despite worrying evidence of rising food prices and the associated political unrest. In a historic decision, the U.S. secretary of Agriculture, Tom Vilsack, recently ruled that genetically modified (GM) alfalfa is as safe as traditionally bred alfalfa. USDA has since then allowed farmers to resume cultivation of GM sugar beets. The government is also reviewing other cases that include GM trees and salmon. The alfalfa decision reverses his earlier proposal to ban the planting of Roundup Ready alfalfa within five miles of any organic seed breeder. Technology is widely used. Since their introduction in 1995, U.S. farmers have made GM crops the most rapidly adopted agricultural technology in history. GM varieties are grown on more than 150 million acres in this country alone and account for nearly all U.S. corn, soybeans and cotton. But organic farmers, whose fields make up just one-half of 1 percent of U.S. cropland, have long complained that GM crops jeopardize their own production through cross-pollination. Such cross-pollination could destroy their biotech-free status. It is recognized that seed breeders should be responsible for protecting the genetic composition of seed. For example, breeders must protect sweet corn from cross-pollination by the unpalatable field corn varieties fed to livestock. Similarly, they must prevent canola from being cross-pollinated by rapeseed, which contains a potent natural toxin. But there are a number of simple and flexible agronomic techniques, such as isolation distances and buffer zones, which breeders can use to preserve the identity of their seeds. For alfalfa, the Association of Official Seed Certifying Agencies requires buffer zones of just 165 feet to maintain the genetic integrity of certified seed and 900 feet for so-called foundation seed. That's sufficient to prevent most cross-pollination. Conventional farmers further volunteered to extend buffer zones up to one or two miles from non-biotech seed breeders. The organic industry rejected that offer. Ronnie Cummins, director of the Organic Consumers Association, said "there can be no such thing as coexistence" with biotechnology. Such zero-tolerance runs counter to the organic industry's own rules concerning unwanted inputs, which are based on process not outcomes. As long as organic growers do not intentionally plant biotech seeds or apply synthetic pesticides, the unintentional cross-pollination by GM plants or the drift of a neighbor's pesticide onto their fields does not cause the crops to lose their organic certification. World is following lead of U.S. The USDA decision has come at a time when much of the world is warming to biotech. Farming giants like China, Brazil and India have embraced biotech crops. And even the European Commission (EC) is acknowledging that existing GM crops do not carry any unique risks. In a recent study, the EC has found that GM crops are at least as safe for consumers and the environment as conventionally bred plant varieties, and sometimes safer. It also concluded that GM crops could help developing countries meet their food needs while addressing the challenges of climate change in a sustainable way. African countries such as South Africa, Burkina Faso and Egypt have adopted GM crops. Other countries such as Kenya and Tanzania are preparing to start field trials. The United States has been a world leader in biotech because it uses a science-driven regulatory system. The rest of the world needs this demonstrated leadership now more than ever. Caving in to the forces of technological intolerance would erode U.S. leadership in agricultural innovation and undermine global food security.

**GM crop expansion saves biodiversity**

Trewavas, 2000, GM is the Best Option We Have? AgBioWorld, June 5, [Institute of Cell and Molecular Biology; Anthony], p. <http://www.agbioworld.org/biotech-info/articles/biotech-art/best_option.html>

Our current numbers of some six billion have already placed dangerous burdens on the ecosystems of spaceship earth and threaten our bio-diversity on which we are all interdependent. Global warming may indeed be global warning. So ploughing up wilderness to feed these extra people is no option. We can also eliminate organic farming as a meaningful solution. Organic farmers rely ultimately and only on soil nitrogen fixation to provide the essential nitrate and ammonia for crop growth and yield. Rainwater provides the other minerals. Since the maximum yields of fixed nitrogen have been measured numerous times we can estimate that by taking another 750 million ha of wilderness under the plough we could feed just three billion. When Greenpeace tell us to 'go organic' I ask myself which three billion will live and which three billion will die; perhaps they can enlighten us when they have finished tangling with the courts. Clever plant breeding in the early 60's produced rice and wheat plants with well over double their previous yield; such progress enabled a parallel doubling of mankind, without massive starvation. But this option is now exhausted. Ignoring the problem, leaving billions to starve in misery, the worst of all tortures according to Amnesty International, is not an option either. "Every man's death diminishes me because I am part of mankind; ask not for whom the bell tolls..." is a philosophy I know many here will share with John Donne. So where one grain grew before we now again have to ensure that two will grow in the future. Currently GM is our best option to achieve this difficult task.

**The impact is linear---triggers a domino effect---extinction**

Diner, 1994, Military Law Review, [US Army Major; David], Winter, Lexis

4. Biological Diversity. -- The main premise of species preservation is better than simplicity. As the current mass extinction has progressed, the world's biological diversity generally has decreased. This trend occurs within ecosystems by reducing the number of species, and within species by reducing the number of individuals. Both trends carry serious future implications. Biologically diverse ecosystems are characterized by a large number of specialist species, filling narrow ecological niches. These ecosystems inherently are more stable than less diverse systems. "The more complex the ecosystem, the more successfully it can resist stress... [l]ike a net, in which each knot is connected to others by several strands, such a fabric can resist collapse better than a simple, unbranched circle of threads -- which is cut anywhere breaks down as a whole." By causing widespread extinctions, humans have artificially simplified many ecosystems. As biologic simplicity increases, so does the risk of ecosystem failure. The spreading Sahara Desert in Africa, and the dustbowl conditions of the 1930s in the United States are relatively mild examples of what might be expected if this trend continues. Theoretically, each new animal or plant extinction, with all its dimly perceived and intertwined affects, could cause total ecosystem collapse and human extinction. Each new extinction increases the risk of disaster. Like a mechanic removing, one by one, the rivets from an aircraft's wing, mankind may be edging closer to the abyss.

### 2NC---UQ

**Experts predict CIR passage before August**

Sheets, 3-22-13, International Business Times, Immigration Reform Bill Suddenly Close: What Made Republicans Change Their Minds?, [Connor Adams], p. http://www.ibtimes.com/immigration-reform-bill-suddenly-close-what-made-republicans-change-their-minds-1145763#

When President Barack Obama called on Congress to send him an immigration bill “in the next few months” during his 2013 State of the Union address in January, many were skeptical that it would actually happen. By now it’s a tired trope that the obstructionist tactics of Republican legislators have left Washington sclerotic, all but unable to address many of the issues facing America as Obama begins his second term in the White House . But immigration reform is turning out to be one area of policy where action is happening, and experts on the issue say that a landmark law will likely be on the books by the end of this summer. “People want to get this done well before the August recess, and people are talking about before July 4,” David Koelsch, an attorney and law professor who runs the Immigration Law Clinic at the University of Detroit Mercy, said. “A signing ceremony on the Fourth of July looks really good, there’s nice optics around that.” It’s almost shocking at this point to see members of Congress from both sides of the aisle coming together to support a groundbreaking piece of important legislation. But that’s what’s happening as even Tea Party-backed Republicans like Senator Rand Paul of Kentucky are coming into the fold and endorsing a path to citizenship and other pillars of what is shaping up to be the framework for comprehensive immigration reform. There are still some differences between even the most centrist members of Congress that must be ironed out, but in most cases they are disagreements of scale and specifics, and a consensus about what to include in the bill is taking shape.

**Immigration reform will pass—GOP are coming around**

Martin, 3-22-13, San Antonio Express, GOP developments on immigration reform give hope of eventual legislative action, [Gary], p. http://www.mysanantonio.com/opinion/columnists/gary\_martin/article/GOP-developments-on-immigration-reform-give-hope-4377241.php

Several developments on Capitol Hill this week led many to believe Congress will pass a comprehensive immigration reform bill this year. Those developments involved traditional Republican opposition to citizenship for undocumented immigrants. First, the Republican National Committee issued a report that recommended the GOP embrace comprehensive reform — which commonly denotes citizenship. Second was the support for eventual citizenship by GOP presidential hopeful Rand Paul, although tortured in his explanation. Paul's nuanced speech to the U.S. Hispanic Chamber of Commerce was careful to avoid the actual word “citizenship,” which conservatives often claim to be “amnesty.” All this was watched intently by Democrats, who voiced disbelief at how fast the GOP position on immigration reform has shifted since the November election. Republican opposition has given Democrats cover to the fact that the party, and particularly its constituency of organized labor, has often been slow to embrace reform measures — such as guest-worker plans. And Rep. Luis Gutierrez, D-Ill., shared an observation with reporters for English- and Spanish-language publications about the media's role in the debate. “In Spanish, this is a human-rights issue, a civil-rights issue and family-preservation issue,” Gutierrez told reporters. “In English, by and large, this is a political issue,” he said. “A horse-race issue: Who is ahead and who is behind?” Gutierrez conceded that hurdles remain for legislation expected to be introduced in the House and Senate next month. He is part of a bipartisan group of lawmakers writing an immigration bill in the House. Democrats, like Gutierrez, insist that any comprehensive reform package contains a path for citizenship for the estimated 11 million undocumented immigrants in this country illegally. “My name will not be on any bill that prevents citizenship for those who are legalizing,” Gutierrez said. Republicans, meanwhile, are grappling with the citizenship. Many seem to be seeking some kind of compromise that would allow legal status without citizenship. Some Republicans want to halt the quick legislative pace. Several Republican senators, including Texans John Coryn and Ted Cruz, asked leaders to slow the process to better consider all legislative proposals. Those GOP lawmakers remain opposed to citizenship proposals. Paul, a Kentucky senator who once espoused similar views, saw firsthand the political realities of tweaking his position. In his support of eventual citizenship, Paul reasoned that deporting 11 million people would be too costly and impractical. But he was immediately attacked on the right for proposing “Randmesty.” Still, he joined other Republicans, such as Sen. Marco Rubio, R-Fla., Rep. Paul Ryan, R-Wis., and Rep. Raul Labrador, R-Utah, who also appear to have softened their stance on eventual citizenship status for those who want it. The evolution in the GOP approach to immigration reform could provide a political breakthrough. Congress last passed a sweeping immigration bill in 1986. A significant shift in the GOP would provide the votes needed to pass sweeping legislation. A legislative breakthrough would provide relief in American cities and communities, where 1,400 people are being deported daily, often to the detriment of families, Gutierrez said. Hundreds of U.S. children, Gutierrez said, will be “orphaned, turned over to family protective services or uprooted to live with relatives today and every day we wait to fix our immigration system.” That sounds like incentive enough for both parties to reach agreement.

### AT: Hesson

**Concedes in un-underlined part that as long as the bill is proposed in April that solves---also, Nakamura doesn’t say how long delay happens**

Ted Hesson, 3-28-2013, Reasons Why an Immigration Reform Timeline Matters” (ABC News), http://abcnews.go.com/ABC\_Univision/Politics/reasons-immigration-reform-timeline-matters/story?id=18822563#.UVPrYleVjIs

A group of Democrats and Republicans working on an immigration reform bill in the Senate will almost certainly miss a self-imposed March deadline to produce draft legislation. And yesterday, one of the groups foremost members, Sen. John McCain (R-Ariz.), cautioned that a bill might not come in early April, either. Why does the deadline matter? Here are three reasons. 1. Momentum The November presidential election -- where Obama housed Romney among Latinos, taking 71 percent of the vote -- got people in Washington talking about immigration reform as a way for the Republican party to win Latino voters. But that was five months ago, and political memory can be short. "Once the sting of the election starts to wear off a little bit, I think there's less of an impetus to act on this issue," said Marshall Fitz, immigration policy director at the liberal Center for American Progress. "You've got to act when the issue is fresh and everyone is very cognizant of the political implications...The political implications aren't going to change as we go further into this, but the calculus of the members may start to get obscured." 2. Deportations Lots of interests groups would like to see an immigration deal inked sooner than later, but no one group feels the pressure more than immigrants who are living in the country without authorization. Even while President Obama stumps for a path to citizenship for undocumented immigrants, his administration continues to deport record numbers of people, many of them for immigration-related offenses. A recent report in The New York Times found that on any given day, about 300 people in immigration detention are kept in solitary confinement, treatment that could have lasting psychological effects. "There is a sense that every day of delay is a day in which people continue to be deported who would otherwise be eligible for relief," Fitz said. "It's not like delay is the status quo. The delay is continued active harm on the community and on immigrant families." 3. Primaries If the so-called Senate "Gang of Eight" working on immigration reform is able to produce a bill in April, the Senate and House could feasibly vote and pass legislation before the August recess in Congress. But any further significant delay could jeopardize that timeline. If Congress continues to negotiate the bill in the fall, some Republican members of the House facing reelection in 2014 may be less likely to give their support, fearing a primary challenger who will use the issue as a political cudgel. "I think the House leadership feels like they've got to get this done and behind them by [the August recess] because their guys are going to be unwilling to take a tough vote after that," Fitz said.

Senate will have a bipart bill by April

Gaynor, 3-27-13, Reuters, U.S. Senators say they expect to deliver immigration bill, [Tim], pfactiva

Members of a bipartisan group of eight U.S. Senators took their quest for a deal on immigration reform to the Arizona-Mexico border on Wednesday where they said they were on track to deliver a bill when Congress resumes next month. The senators - New York Democrat Charles Schumer, Arizona Republicans John McCain and Jeff Flake and Colorado Democrat Michael Bennet - toured a stretch of the Arizona-Mexico border where many foreigners have entered the United States illegally. The senators are trying to create metrics for defining whether the border is secure as part of a comprehensive immigration bill that would give millions of illegal immigrants a path to citizenship. Speaking at a news conference after meeting with border patrol agents and flying over the international border around the frontier city of Nogales, Schumer said he was hopeful they would present a bill when Congress resumes April 8. "The bottom line is we are very close. I'd say we are 90 percent there. We have a few little problems to work on ... but we're very hopeful that we will meet our deadline," said Schumer, who was speaking at a building that was within sight of the steel border fence. "We hope to have a bill agreed to and done .. the day we come back," he said.

### 2NC---Thumpers

**Immigration is the top agenda item and Obama is lobbying Congress for passage**

Fifield, 3-20-13, Financial Times, Immigration: Pressure mounts on Obama to overhaul citizenship requirements, [Anna], p. http://www.ft.com/intl/cms/s/0/9235c2aa-8ad4-11e2-b1a4-00144feabdc0.html#axzz2OUBxAATN

With every attempt of the past decade ending in failure, is there any reason to think that this year’s effort at comprehensive immigration reform will be any more successful? High quality global journalism requires investment. Emboldened by his resounding re-election, Mr Obama has put reform at the top of his legislative agenda this year, urging Congress to pass a “common sense” bill that would create a pathway to citizenship for illegal immigrants and provide more visas for highly skilled workers. If it passes, the bill will mark the most profound immigration changes in a generation, not just for the US but for Mexico, too. About two-thirds of the estimated 11m undocumented people living in the US are Mexican and giving them the opportunity to earn US citizenship would have a significant impact on their earning power. Latin American immigrants who became citizens during the Reagan-era reforms in 1986 enjoyed wage increases in the range of 6 to 13 per cent, according to a report from the libertarian Cato Institute. If immigration reform includes a guest worker programme, that would benefit Mexico by allowing more seasonal workers to come and go as needed. But these are big ifs. Immigration reform is a tricky political issue at any time and especially so amid continuing economic malaise. Opponents of reform say that giving papers to unauthorised immigrants “rewards” them and allows them to take jobs away from Americans. Some even say it will precipitate a flood of new arrivals over the Mexican border. Some of the strongest advocates still put the prospects for reform passing this year at 50-50, citing opposition from conservative “Tea Party” members in the Republican-controlled House of Representatives. Bob Goodlatte, the Republican chairman of the House of Representatives judiciary committee, has argued against creating a pathway to citizenship for undocumented immigrants. “People have a pathway to citizenship right now: It's to abide by the immigration laws and if they have a family relationship, if they have a job skill that allows them to do that, they can obtain citizenship,” Mr Goodlatte said last month. Despite such rhetoric, there is cause for optimism. There has been new consensus between groups usually on opposite sides of the issue – the labour unions and big business lobbies – to push for reform, adding to pressure to overhaul the system. A bipartisan “gang of eight” senators has put forward a blueprint and similar efforts are under way in the House. But the biggest factor is simple demographics. Hispanic voters comprise the fastest growing part of the electorate and their share of the US population is forecast to rise from 17 per cent now to 29 per cent by 2050. The pressure group Voto Latino puts that in context, noting that there are 50,000 Hispanic Americans turning 18, the voting age, every month. The Hispanic electorate as a bloc has long tended to support Democrats. In last year’s election, 71 per cent backed Mr Obama, to Republican Mitt Romney’s 27 per cent. This was in large part because of Mr Romney’s hostile language during the Republican campaign, when he said that, if president, he would make conditions so bad for illegal immigrants that they would choose to “self-deport”. As they try to avoid further alienating the Hispanic electorate, some Republicans are eager to remove the issue of immigration from the table before the midterm elections at the end of next year. Influential conservatives have been expressing new-found support for reform and that could help its passage through Congress. Republicans have long insisted that security on the border needs to be tightened but the Obama administration’s increased enforcement – including the use of drones to monitor movement – and a record number of deportations has helped slow the flow of people entering the US illegally. The continued weakness in the US job market – and the relative health of the Mexican economy – has helped cut numbers, too. The Pew Hispanic Center last year suggested that the net flow of immigrants from Mexico to the US had actually ground to a halt. Mr Obama is keeping the pressure on Congress. “Send me a comprehensive immigration reform bill in the next few months and I will sign it right away,” he said in his State of the Union address last month. The president knows the clock is ticking. If reforms are not passed by September, the opportunity will pass. And that means immigration would be put back in the too-hard basket for a few more years.

### AT: Restuccia

**No GOP opposition to Energy Trust Fund**

The Oil Daily, March 18, 2013, Obama Talks up 'Energy Trust' Proposal, pfactiva

An energy trust -- which would require congressional approval before it is enacted -- was first proposed by Securing America's Future Energy (SAFE), a nonpartisan coalition co-chaired by FedEx Chief Executive [Frederick Smith](javascript:void(0);) and former Marine Corps Commandant General P.X. Kelley. Argonne was a fitting backdrop for the president's talk. The lab is at the forefront of advanced vehicle and battery technologies and is positioned at the center of the DOE's recent formation of the Joint Center for Energy Storage Research, a $120 million initiative to develop battery technology. Obama's proposed energy trust is considered a middle-ground plan. It has drawn praise from Republican lawmakers, who said it would align the fates of both fossil and green energy sources, instead of making adversaries of the two. However, Obama is taking flak on the proposal from some fellow progressives in Washington, who argue that relying on fossil energy for clean energy funding will encourage high-carbon sources, rather than encouraging their phase-out over time. "Linking modest investments in energy alternatives to oil and gas production creates a misguided incentive for more oil and gas drilling -- a bad idea made worse without reform regulations and liability caps on offshore drilling," said Tyson Slocum, director of the energy program at Washington-based [Public Citizen](javascript:void(0);).

### AT: Altman

**Altman just cites “a house republican” --- no reason this member is key and it’s talking about Obama’s proposal, not the gang of eight’s---they also left this in the un-underlined part**

Alex Altman, 3-20-2013, “Four Hurdles That Could Block Immigration Reform,” Washington correspondent for TIME, http://swampland.time.com/2013/03/20/four-hurdles-that-could-block-immigration-reform/

Little discussed but also looming is the possibility that Democrats drag their feet on reform. Liberals will balk if the path to citizenship is too long or too onerous, or if enforcement provisions are too rigid. Many conservatives also suspect that Democratic power brokers, despite their daily hammering of Republicans to get moving on immigration reform, many would privately prefer to keep the issue as a cudgel than actually pass a law. Barack Obama “wants to make a bill come out of the Senate that is so far out there that it would never pass, so that he can blame us for not being compassionate and use the issue to take back the House in 2014,” **says a House Republican**. Even some liberals see this as a plausible scenario. “There’s always a lingering doubt in my mind,” admits one House Democrat. Obama knows that putting his fingerprints on the deal is an easy way to kill it; **when a draft of his proposal leaked in the press**, he called Republican negotiators individually to apologize. But if negotiations in Congress bog down, he may not be so hands off.

### 2NC---Link---PRISM

**Independently, that’s a bigger internal to partisanship**

Blame shifting/partisanship, Capital, Leaks

**The Hill, 7-11** – “Debt-ceiling talks hit brick wall as President Obama, GOP trade jabs,” The Hill, http://thehill.com/homenews/administration/170841-debt-talks-hit-brick-wall-obama-gop-trade-jabs.

President **Obama and GOP leaders traded accusations** Monday **over who was to blame** as talks to raise the nation’s $14.3 trillion debt ceiling stalled over the size and scope of the package. **Both sides pointed to the other as inflexible** as the odds increased that Congress will not raise the nation’s borrowing limit by an Aug. 2 deadline. Obama said Republicans were refusing to allow any tax hikes in the deal, including provisions aimed at the wealthiest taxpayers, while Republicans said the White House’s insistence on tax increases and resistance to meaningful Social Security and Medicare reforms was the problem. **Obama said** during a late morning press conference that **he had “bent over backwards**” to meet the GOP halfway. “I do not see a path to a deal if they do not budge. Period,” Obama said. **Less than two hours later**, Speaker John **Boehner** (R-Ohio) **retorted: “It takes two to tango**. “I understand that **this is** going to take sacrifice, and is **going to take political capital on both sides**,” Boehner said. “I’m certainly willing to take my fair share of it, but if we’re going to take political capital, then let’s stand up and do the big thing, the right thing for the country.” Obama reiterated that he will not sign a short-term deal into law, citing election-year politics: “It’s not going to get easier. It’s going to get harder. So we might as well do it now — pull off the Band-Aid; eat our peas.” **Leaks after a Monday** afternoon **meeting** at the White House between Obama and congressional leaders **underscored the tensions**. Weeks ago, details barely emerged from closed-door talks, while on Monday all sides were frantically working to get their message out. Republicans said their meeting focused on the medium-sized deal based on the Biden talks, despite Obama’s public push for a larger deficit-reduction package. Democratic officials, for their part, said Obama echoed the call he made during a morning news conference, telling Republicans they should shoot for the biggest deal possible and lay out why a “cut-only” plan would not add up to the savings sought by Boehner. Obama said the savings identified by the Biden group would yield about $1.5 trillion, not enough to raise the debt ceiling beyond the 2012 elections and meet Boehner’s requirement that deficits be cut by a higher amount than the borrowing limit is raised.

### AT: Brooks and Blees

**This card is about popular support for nuclear power in other countries---not Congress---doesn’t access the internal to the DA**

Barry Brook & Tom Blees, 10-23-2012, a leading environmental scientist, holding the Sir Hubert Wilkins Chair of Climate Change at the School of Earth and Environmental Sciences, and is also Director of Climate Science at the University of Adelaide’s Environment Institute, published three books, over 200 refereed scientific papers, is a highly cited researcher, received a number of distinguished awards for his research excellence including the Australian Academy of Science Fenner Medal, is an International Award Committee member for the Global Energy Prize, Australian Research Council Future Fellow, ISI Researcher, Ph.D., Macquarie University in Environmental Engineering, Science Council for Global Initiatives, Edgeworth David Medal Royal Society of NSW, Cosmos Bright Sparks Award, Tom Blees is the author of Prescription for the Planet, the president of the Science Council for Global Initiatives, member of the selection committee for the Global Energy Prize, BraveNewClimate, “The Case for Near-term Commercial Demonstration of the Integral Fast Reactor,” <http://bravenewclimate.com/2012/10/23/the-case-for-near-term-commercial-demonstration-of-the-integral-fast-reactor/>

Light-water reactors (LWR) of any stripe, however, produce only a tiny fraction of the potential energy in uranium, less than 1%. Fast reactors, in contrast, unlock nearly all of it. The IFR, with its metal-fuel system and pyroprocessing, is able to utilize the actinides to such an extent as to essentially solve the waste problem by reducing the radiological toxicity of the waste products from hundreds of thousands of years to a mere few hundred years. Even if the “million-year problem” of LWR spent fuel is more a political than a technical challenge (given the small volume of the waste stream), **nevertheless the issue of public perception** of that issue is the one that guides nuclear policy in many countries [14]. As such, the transition to fast reactors and a closed nuclear fuel cycle is both a technical advancement and a political enabler for nuclear power of all kinds.

### AT: Blake

**Blake is about democrats using the plan as a bargaining chip to overcome opposition to federal loan guarantees---this proves they can’t benefit other issues and the plan can only be a loss**

Mariah Blake, January/February 2010, is an editor at the Washington Monthly; her work has also appeared in Christian Science Monitor and Foreign Policy, Mother Jones, “The Bailout Goes Nuclear,” <http://www.motherjones.com/environment/2010/01/bailout-nuclear>

Key Senate Democrats have signaled that they are willing to use nuclear subsidies as a bargaining chip to overcome Republican opposition. The Nuclear Energy Institute (NEI), the industry's main lobby, is pushing for at least $100 billion in federal loan guarantees—a dicey proposition given that the Congressional Budget Office has determined that the risk of default would be "well above 50 percent." This raises the question: Will the cost of passing a climate bill be a massive, taxpayer-funded nuclear bailout? The public has rescued the industry once before. The last batch of reactors built in the US during the 1970s and '80s was plagued by a series of boondoggles, one of the most infamous being Long Island's Shoreham Nuclear Power Plant, which took 20 years to build and cost $6 billion—more than 80 times the original estimate—but was never put into commercial operation. Similar debacles pushed utilities into bankruptcy, triggered the largest municipal bond default in US history, and helped cause a sixfold increase in wholesale electricity prices. The total cost to the public, in rate hikes and taxpayer bailouts, was more than $300 billion (in 2006 dollars), according to the Union of Concerned Scientists. Since that time, the industry says it has solved its cost problem, partly by engineering reactors that are simpler and less expensive to build. But the first two next-generation reactors, which are under construction in Finland and France, have been bogged down in multibillion-dollar cost overruns. Meanwhile, the projected cost of building new nuclear plants in the US is soaring: As recently as 2005, the NEI claimed new reactors could be constructed for roughly $2 billion. Newer estimates, including one by Moody's, the credit ratings agency, put the cost as high as $12 billion. That would make nuclear power more expensive on a watt-for-watt basis than most large-scale renewable energy sources, including wind, biomass, and hydropower. No wonder the industry has found it impossible to secure private-sector financing for the 28 reactors that are currently in the pipeline across the nation. Investors "will not accept the economic risk of building new reactors," says Peter Bradford, a former member of the Nuclear Regulatory Commission who is now a professor at Vermont Law School. "There will be no nuclear renaissance beyond what the government is willing to underwrite. "No one understands this better than the industry itself, which is lobbying for a Senate bill to create a Clean Energy Deployment Administration (CEDA) within the Department of Energy (DOE) that would have the authority to award a virtually unlimited number of loan guarantees—without congressional review. "It's a nuclear slush fund," says Michele Boyd, director of Physicians for Social Responsibility's safe energy program, "though the way the bill is written, even many Senate staffers don't know it." The legislation, which is likely to be folded into the climate bill, was sponsored by Sen. Jeff Bingaman (D-N.M.) and crafted with the help of Sen. Lisa Murkowski (R-Alaska). Both lawmakers are top recipients of the nuclear industry's campaign largesse. Under the policy, companies would have to pay an as yet unspecified subsidy fee in order to get loan guarantees, but these payments are all but certain to be dwarfed by the cost of defaults. According to the Union of Concerned Scientists, if 100 new plants are built, as key Republican lawmakers have called for, the price of bad loans could total at least $360 billion—and that's assuming zero cost overruns. The ceda provision builds on the work of Sen. Pete Domenici (R-N.M.), who until his retirement in January 2009 was the Senate's most tireless nuclear crusader. During his reign as chairman of the energy committee from 2003 to 2007, he packed the committee staff with former nuclear-power lobbyists—a clique dubbed "the glow-in-the-dark crew" by some of their Senate colleagues—who shepherded through Congress the Energy Policy Act of 2005. Among other things, the bill provided $13 billion in nuclear subsidies and federal loan guarantees to cover 80 percent of the costs of building low-carbon nuclear technologies, including new reactors. For any other industry, this would have been an enormous victory. But for nuclear, even these generous subsidies weren't enough. In July 2007, six of the nation's largest financial firms—including Citigroup, Lehman Brothers, and Goldman Sachs, companies hardly averse to risky investments—informed the DOE in a letter that nuclear projects would not find financing because they were too chancy. Unless, of course, the agency (which had interpreted the new law to mean 80 percent of project debt) would rewrite the rules so that 100 percent of the debt was covered—foisting almost all of the risk on taxpayers. By the end of 2007, the nuclear lobby had succeeded in getting the DOE to make exactly these changes. But to the industry's dismay, Congress has so far given the DOE authority to distribute $18.5 billion in loan guarantees for nuclear power facilities. That's less than half what UniStar hopes to spend on its four plants, not to mention the needs of the industry at large. So the industry began pushing to increase the funding and simultaneously exempt the program from congressional oversight. Part of NEI's strategy for getting the feds to hand out loan guarantees more freely has been to win over Democrats—who have traditionally been less friendly to nuclear power—by enlisting the help of organized labor. In mid-2008, the group added Michael Mathis and Charles Harple, previously top in-house lobbyists for the International Brotherhood of Teamsters, to its K Street bench. NEI also forged an alliance with the AFL-CIO. At NEI's annual conference in 2008, Mark Ayers, the AFL-CIO's president of Building and Construction Trades, said that in exchange for the industry's commitment to use union labor, his organization would work to "persuade the new majority in Congress about the need for extending and increasing the loan guarantee program." The industry's efforts began to pay off this fall, as nuclear subsidies emerged as the key to wooing Republican votes for a Senate climate bill—votes necessary to offset defections from coal-state Democrats. Since October, Sen. John Kerry (D-Mass.), one of the climate bill's sponsors, has been holding closed-door meetings with Republicans to craft nuclear language. "You listen to the rhetoric around this place and there is no one who will say a disparaging word about nuclear," says a senior Democractic Senate staffer close to the climate bill talks. "They have enough political muscle and enough support across the aisle that I think they will get all the loan guarantees they need."

### AT: Snyder

**Synder proves the link---the House ended loan guarantee programs because of a Republican effort---the last part doesn’t say republicans like the plan too**

Jim Snyder, 9-14-2012, Bloomberg, “Republican-Led House Passes Bill to Block Energy Loans,” <http://www.bloomberg.com/news/2012-09-14/republican-led-house-passes-bill-to-block-energy-loans.html>

The U.S. House passed legislation to end an energy loan-**guarantee program, the culmination of a Republican-led investigation** into the collapse of solar-panel maker Solyndra LLC last year. The “No More Solyndras Act,” adopted by a 245-161 vote, wouldn’t immediately halt the loan program. It would prevent the Energy Department from considering applications for government backing submitted since Dec. 31. With $34 billion in loan authority remaining, Democrats said the bill would let nuclear- power projects favored by Republicans go forward.

### AT: Hirsch

**Hirsh concedes PC is real and deals with momentum**

Hirsh, 2-7-13, National Journal, There’s No Such Thing as Political Capital, [Michael], p. www.nationaljournal.com/magazine/there-s-no-such-thing-as-political-capital-20130207

The point is not that “political capital” is a meaningless term. Often it is a synonym for “mandate” or “momentum” in the aftermath of a decisive election—and just about every politician ever elected has tried to claim more of a mandate than he actually has. Certainly, Obama can say that because he was elected and Romney wasn’t, he has a better claim on the country’s mood and direction. Many pundits still defend political capital as a useful metaphor at least. “It’s an unquantifiable but meaningful concept,” says Norman Ornstein of the American Enterprise Institute. “You can’t really look at a president and say he’s got 37 ounces of political capital. But the fact is, it’s a concept that matters, if you have popularity and some momentum on your side.”

# 1NR

**AT: Pearce**

**Prism reactor requires another 20 years of testing**

**Makhijani, 2012, Counterpoint: Slow or Fast, Nuclear Fission is Not the Answer, July 30, [president, Institute for Energy and Environmental Research; Arjun], p.** [**http://e360.yale.edu/counterpoint\_say\_no\_to\_fast\_breed\_nuclear\_reactors.msp**](http://e360.yale.edu/counterpoint_say_no_to_fast_breed_nuclear_reactors.msp)

The PRISM reactor, which Pearce describes, has a secondary cooling loop in which the fluid on one side is sodium; on the other it is water, which turns to steam to drive a turbine. Pearce goes from technological optimism to fantasy when he opines that a sodium-cooled reactor would take five years to license and five years to build. Researchers at Idaho National Laboratory, the lead U.S. laboratory for Generation IV reactors, estimate that testing of a suitable fuel form and matrix for sodium-cooled breeders would take 20 years. They should know. The Idaho site has been the principal center for reactor development in the United States.

**XT—2050**

**More ev**

**Connor, 8-20-12, The Independent, [Steve], p. http://www.independent.co.uk/news/science/untested-nuclear-reactors-may-be-used-to-burn-up-plutonium-waste-8061660.html**

Critics say that fast reactors are still at the research stage of development and are not yet ready to be deployed for such a critical task. The American company behind the proposal, GE Hitachi Nuclear Energy, still has a long way to go to convince experts that it can deliver reactors that can work as promised, as well as being delivered on time and to budget. The NDA has consistently said that its "preferred option" to deal with the plutonium waste is to first convert it to mixed oxide (Mox) fuel and then burn it in conventional, pressurised-water reactors. However, the authority is keeping other "credible options" open, including fast reactors. GE Hitachi said it had received US government approval to export its fast-reactor technology and could build the twin reactors without incurring upfront costs to the British taxpayer, which would be hugely popular with the UK Government. The company emphasised in its submission that it is based on technology that has operated successfully for 30 years in the US in an experimental facility. The feasibility study is now being reviewed by the NDA and a decision on whether to proceed to the next stage of the process will be made later this year. A spokesman for the authority said: "NDA has previously stated that fast reactors, such as Prism, have been screened out as not credible at this time. It was not considered that they would be commercially available for several decades," he said. "Though the technology was well developed at the research reactor stage, the supply chain has yet to give indication of any substantive commercial development of these systems in the short-to-medium term. At this time, NDA believe that this is still the case. However, we are considering the recent proposal from GE Hitachi to assess its credibility."

**At best solvency is 25+ years away**

**Pearce, 8-8-12, Nuclear Fast Reactor: The Saviour of Nuclear Power?, [freelance author and journalist based in the UK.; Fred], p.** [**http://oilprice.com/Alternative-Energy/Nuclear-Power/Nuclear-Fast-Reactor-The-Saviour-of-Nuclear-Power.html**](http://oilprice.com/Alternative-Energy/Nuclear-Power/Nuclear-Fast-Reactor-The-Saviour-of-Nuclear-Power.html)

Proponents of fast reactors see them as the nuclear application of one of the totems of environmentalism: recycling. But many technologists, and most environmentalists, are more skeptical. The skeptics include Adrian Simper, the strategy director of the UK's Nuclear Decommissioning Authority, which will be among those organizations deciding whether to back the PRISM plan. Simper warned last November in Critics argue that plutonium being prepared for recycling 'would be dangerously vulnerable to theft or misuse.' an internal memorandum that fast reactors were "not credible" as a solution to Britain's plutonium problem because they had "still to be demonstrated commercially" and could not be deployed within 25 years. The technical challenges include the fact that it would require converting the plutonium powder into a metal alloy, with uranium and zirconium. This would be a large-scale industrial activity on its own that would create "a likely large amount of plutonium-contaminated salt waste," Simper said.

**XT—Fail**

**These concerns caused more PRISMs shut downs than have run**

**Biello, 3-21-12, Scientific American, Can Fast Reactors Speedily Solve Plutonium Problems? [Dan], p. http://www.scientificamerican.com/article.cfm?id=fast-reactors-to-consume-plutonium-and-nuclear-waste**

The trouble with fast reactors has largely been related to what's used to cool them—liquid sodium in the case of GE's PRISM and many others. The better half of table salt, this element cools a fast reactor nicely and also ensures there is no perpetual chain reaction. And, thanks to a more than 800-degree Celsius boiling point, it can operate at low pressures, unlike conventional reactors. But sodium also reacts explosively with either air or water, necessitating elaborate safety controls in places where it must get close to water in order to create steam to turn a turbine to make electricity, such as steam generators. As a result of numerous fires from leaking systems, operating sodium-cooled fast reactors to date have been shut down more than they have run. "You can't take the top off and look down in the reactor and correct any problems," Cochran notes. "You have heroic maintenance issues any time you need to go into the reactor."

**PRSM will be costly, unreliable and dangerous—fast reactor record proves**

**Ryan, 4-29-12, For nuclear energy supporters hope springs eternal – The Fast Reactor delusion, [Masters in Mechanical Engineering, expertise in energy, sustainability, Computer Aided Engineering, renewables technology; Ph.D. in solar energy systems; D.A.], p. http://daryanenergyblog.wordpress.com/2012/04/29/for-nuclear-energy-supporters-hope-springs-eternal-the-fast-reactor-delusion/**

But instead the UK blogs of nuclear energy supporters have largely filtered out the bad news of the collapse of the Horizon Project and are instead alive with chatter about the S-PRISM reactor which Hitachti are proposing to build at Sellafield. This reactor would be used to consume the UK’s stockpiles of Plutonium and transmute it into a form where it can’t be used for weapons manufacture. However, all the nuclear cheerleaders succeed in doing is demonstrating how little they know about the very thing they are advocating. The 10% reactor As I’ve discussed previously, Fast Reactors, such as the PRISM do not have a brilliant record. Indeed anyone who knew a little more about them would generally try to quickly change the subject whenever someone like me brought the matter up! Many (if not all!) Fast Reactors have run substantially over budget and been built late. Monju (Japan), the world’s most modern took ten years to complete, cost $5.9 Billion, despite its tiny 280 MW output. That’s about $21,000 per installed kW! 3 times the cost of PV at the time of its installation, 8 times the cost at current market prices, and 17 times the installation cost of wind energy! Fast reactors (good history of them here) are also unreliable. The UK’s Dounreary fast reactor was famously known as “the 10% reactor” (discussed in chapter 10 of this book here) as this was its average lifetime capacity factor….and nuclear supporters are forever going on about wind farms and their capacity factor, which are at least three times better than that! Other fast reactors haven’t fared much better with Superphenix managing a 7.79% capacity factor, and Monju (again) has spent most of its life offline for maintenance….maintenance brought on by a set of two leaks of its Sodium coolant which led to fires! This of course brings up the issue of safety, fast reactors have a generally poor safety record. Most notably EBR-1 reactor, which melted down in the US in the 60′s, as did the SRE, and the Fermi-1 (this last accident led to the slightly polemic piece “we almost lost Detroit”). Both Dounreay and SP Superphenix had various accidents and incidents also, which ultimately led to the closure of both plants. Russia’s BN-600 suffered 27 sodium leaks, 14 sodium fires over a 17 year period! Unsurpisingly, the plant was quickly closed after the fall of communism (once Russia got a moderately free press!). Again, this is all not really surprising as a Fast Reactor has to do several things at once that are very technically challenging. The high heat flows and operating temperatures required by fast reactors, plus the need to maintain a high neutron flux, usually means the use of liquid metal coolants like sodium. As this sodium must be kept hot (to avoid it freezing solid) it also needs to be kept away from air or moisture, as it can catch fire in the presence of either (or potentially explode!). This latter point means the heat exchangers, where the sodium transfers its heat to water to make steam, are often a major stumbling block as they tend to be quite complex and maintenance hungry. And that high neutron flux, combined with high temperatures creates problems. As I describe in this chapter, this can lead such a reactor to become vulnerable to creep as well as degradation in material properties due to neutron bombardment. This usually means many key components of fast reactors have to be made out of exotic alloys and in some cases need regular inspection and replacement. Should anyone still not except that fast reactors are uneconomics white elephants, consider the study below, which is very similar to another similar study that was widely circulated in the 70′s. This compared a Fast Reactor to a Heavy Water reactor (an obsolete reactor design I pour scorn on here). Even so, the Heavy water reactor works out as a far more economically viable choice, even given the fairly optimistic variables for a breeder reactor given below. And when I say optimistic, consider that they assume an 80% capacity factor, despite the fact that no fast reactor has ever demonstrated anything like that level of performance. Also you will note that the actually construction costs of the Monju plant are about 16 times higher than the assumed constructions costs for Fast Reactors below…and it still comes out as being more expensive!

**Fast reactors have a proven track record of failure**

**Biello, 3-21-12, Scientific American, Can Fast Reactors Speedily Solve Plutonium Problems? [Dan], p. http://www.scientificamerican.com/article.cfm?id=fast-reactors-to-consume-plutonium-and-nuclear-waste**

Nor is the U.K. alone in considering fast reactors as a solution for eliminating plutonium. Japan's has built a fast reactor known as Monju to recycle its used nuclear fuel. France had one for awhile, too, but it has since been shut down due to difficulty operating the plant as designed. In fact, most such fast reactors have proved difficult to run reliably. "At one time or another, [fast reactors] were a priority program in the U.S., Japan, France, Germany, Italy and Russia," notes physicist Thomas Cochran of the Natural Resources Defense Council, an environmental group. "They were largely failures in all those places and in two nuclear navies, so one should think twice before trying it again."

**XT—Cost**

**Fast reactors are not cost competitive with Light Water Reactors—they cost billions more**

**Cochran, 2010, Statement Before the Blue Ribbon Commission on America’s Nuclear Future, May 25, [Senior Scientist, Natural Resources Defense Council; Thomas], p. http://docs.nrdc.org/nuclear/files/nuc\_10062201a.pdf**

In 1968 the AEC was pegging the capital cost of light water reactors (LWRs) at $150/kW and predicting that it decrease to about $125/kW by 2000, or in today’s dollars from $770/kW in 1970 to $640/kW in 2000. These historical nuclear capital cost estimates were too low by roughly an order of magnitude. In 1968, the AEC also estimated that the capital cost of a liquid metal fast breeder reactor (LMFBR) would be about 20% higher than that of an LWR, but the cost differential was projected to shrink to zero by about 2015. Today, LWRs cost $4,000/kW to $9,000/kW and the estimated LMFBR-LWR cost differential is greater than 20%. Thus, the cost differential between a LWR and a fast reactor is likely to be some multiple of $1000/kW, which translates into a multiple of 1 cent/kWh. For a 50 GWe fleet of fast reactors operating at 90% capacity factor—needed to balanced 100 GWe of thermal reactors in a closed fuel cycle for actinide burning—the added cost over 150 GWe of LWR capacity would be some multiple of $4 billion/yr, or one to several times $160 billion over 40 yrs. To this one must add the higher closed fuel cycle costs—an added cost of more than $100 billion over 40 years.

**Fast reactors will never be cost competitive**

**Biello, 2012, Scientific American, “Can Fast Reactors Speedily Solve Plutonium Problems?” March 21, [Scientific American's associate editor for environment and energy; David], p. https://www.scientificamerican.com/article.cfm?id=fast-reactors-to-consume-plutonium-and-nuclear-waste**

That additional level of transmutation might prove too costly, both in terms of getting the technology licensed to operate in the U.K. and in constructing the reactor itself. Such fast reactors are **more expensive** than even traditional reactors, such as Westinghouse's new AP-1000 under construction in China and the U.S., which are estimated to cost roughly $7 billion apiece. Conventional light-water reactors can also "consume" plutonium, if need be. "If I was going to try to get rid of 100 tons of plutonium, I'd burn it in a light-water reactor," Cochran says, by making it into the mixed oxide fuels. And "the cheapest thing to do is vitrify it [convert it to glass] and mix it with other nuclear waste." Plus, the U.K. has a poor record in the past with its own experimental fast reactor designs—the Dounreay Fast Reactor and the Prototype Fast Reactor—including multiple sodium leaks. Dounreay also suffered an explosion at its dumping ground for used sodium coolant that may have contributed to radioactive particles from spent fuel turning up on nearby beaches. The Dounreay and Prototype cleanup and decommissioning continue today, despite both having been shut down for decades. Originally, such fast reactors were developed to solve a problem that never panned out: scarcity in the global supply of uranium. The idea was to create fuel within the reactors themselves once fission began, in effect making more than they consumed. But, factoring in inflation, uranium prices remain the same today as they were at the dawn of the nuclear era. "Like all minerals, improvements in the efficiency of extraction and the ability to dig for deeper ores outpaces the depletion of the resource over 100 years or more," Cochran notes. "Economically, **fast reactors are not competitive** and **they're never going to be competitive**." "We're not going to run out of uranium," Loewen admits. "Here's a solution for this stuff that's piled up." Ultimately, however, the core problem may be that such new reactors don't eliminate the nuclear waste that has piled up so much as transmute it. Even with a fleet of such fast reactors, nations would nonetheless require an ultimate home for radioactive waste, one reason that a 2010 M.I.T. report on spent nuclear fuel dismissed such fast reactors. Or, as Cochran puts it: "If you want to get rid of milk, don't feed it to cows."

**Plutonium disposal plan for PRISM is not cost effective**

**Biello, 3-21-12, Scientific American, Can Fast Reactors Speedily Solve Plutonium Problems? [Dan], p. http://www.scientificamerican.com/article.cfm?id=fast-reactors-to-consume-plutonium-and-nuclear-waste**

The PRISM proposal, however, would transmute the plutonium before burying it, as an additional level of security. "We're going to take plutonium oxide that's a powder, turn it into fuel form, put it in the reactor, make it more radioactive, and then put that into the ground," Loewen admits, which would also render it unfit for nuclear weapons. "That's what the customer is asking for."That additional level of transmutation might prove too costly, both in terms of getting the technology licensed to operate in the U.K. and in constructing the reactor itself. Such fast reactors are more expensive than even traditional reactors, such as Westinghouse's new AP-1000 under construction in China and the U.S., which are estimated to cost roughly $7 billion apiece. Conventional light-water reactors can also "consume" plutonium, if need be. "If I was going to try to get rid of 100 tons of plutonium, I'd burn it in a light-water reactor," Cochran says, by making it into the mixed oxide fuels. And "the cheapest thing to do is vitrify it [convert it to glass] and mix it with other nuclear waste."

**At best, PRISM requires years of more research before it is cost competitive**

**McCutcheon, 9-1-10, Can Nuclear Waste Spark an Energy Solution?, [National Geographic News writer; Chuck], p. http://news.nationalgeographic.com/news/2010/08/100831-can-nuclear-waste-spark-an-energy-solution/**

Which side is right? It’s difficult to say without further study, said Albert Machiels, a senior technical executive for the [Electric Power Research Institute](http://my.epri.com/portal/server.pt) in Palo Alto, California, the electric utility industry’s leading think tank. He notes that current nuclear reactors, as costly as they are, operate at more than 90 percent capacity—making them [the most efficient](http://www.eia.doe.gov/cneaf/electricity/epa/figes3.html) electricity generators in the power fleet. It would take years of investment to bring the price of PRISM or any IFR technology down to a level where it can compete in the market with the older, proven nuclear power technology. “This is a technology that is very promising on paper,” Machiels said, “but is not going to happen without significant research.”

**XT—Not Proven**

**Prism reactor is decades away from viability**

**RT, 7-10-12, Sellafield: The dangers of Britain's nuclear dustbin, p. http://rt.com/news/sellafield-uk-radioactive-plutonium-843/**

It is the task of the Nuclear Decommissioning Authority (NDA) to clean all this up. The plans are to pay the French company Areva, who have proved their technology works, to build a new mixed oxide fuel (MOX) plant. The other option is to let the US-Japanese GE-Hitachi build a new fast PRISM reactor on the site to burn the plutonium and produce electricity. This is a more elegant engineering option but the reactor is totally unproven and is decades away from completion.

**Sodium cooled-fast neutron reactors are not viable—billions in research have not produced a workable reactor**

**Makhijani, 2012, Counterpoint: Slow or Fast, Nuclear Fission is Not the Answer, July 30, [president, Institute for Energy and Environmental Research; Arjun], p. http://e360.yale.edu/counterpoint\_say\_no\_to\_fast\_breed\_nuclear\_reactors.msp**

I agree with Pearce and all those who have concluded that the more than 250 metric tons of excess commercial separated plutonium sitting around is undesirable from a security point of view. But his recommendation that sodium cooled-fast neutron reactors be built to denature the plutonium reveals a technological optimism that is disconnected from the facts. Some of them have indeed operated well. But others, including the most recent — Superphénix in France and Monju in Japan — have miserable records. Roughly $100 billion have been spent worldwide to try and commercialize these reactors — to no avail. Liquid sodium has proven to be a problem coolant. Even small leaks of a type that would cause a mere hiccup in a light-water reactor would result in shutdowns for years in sodium-cooled reactors. That is because sodium burns on contact with air and explodes on contact with water.

**PRISM is not a proven technology**

**Garwin, 2011, The Future of Nuclear Energy, December 9, [IBM Thomas J. Watson Research Center; Richard], p. http://www.fas.org/rlg/120911%20The%20Future%20of%20Nuclear%20Energy2.pdf**

Many questions remain about small modular reactors, even about LWRs, and larger ones about the commercial feasibility of sodium cooled reactors of any size, even the GE-Hitachi PRISM module of 311 MWe.

**Empirical evidence shows fast reactors increase proliferation and accidents**

**Green, 2012, PROF. BARRY BROOK − BRAVE NEW CLIMATE, March, [national nuclear campaigner with Friends of the Earth, Australia; Jim], p. http://www.foe.org.au/sites/default/files/BNC-critique-2012-final.pdf**

The interesting part of the BH/BB article (and of Prof. Brook's nuclear advocacy generally) concerns fast reactor technology. In theory fast reactor technology is attractive (potentially consuming more waste and weapons-useable material than the reactors produce) but in practice it has been highly problematic − fast reactor programs have contributed to several nuclear weapons programs; they have been leak-prone, fire-prone, and accident-prone; and there are multi-billion-dollar white elephants such as the French Superphenix fast reactor. (On fast reactor technology see this report (PDF) by the International Panel on Fissile Materials, and on the WMD proliferation risks associated with the 'integral fast reactors' championed by Prof. Brook see here.)

**AT: Prevents Nuclear Terrorism**

**PRISM increases risk of nuclear terrorism**

**Pearce, 8-8-12, Nuclear Fast Reactor: The Saviour of Nuclear Power?, [freelance author and journalist based in the UK.; Fred], p. http://oilprice.com/Alternative-Energy/Nuclear-Power/Nuclear-Fast-Reactor-The-Saviour-of-Nuclear-Power.html**

Proponents of fast reactors see them as the nuclear application of one of the totems of environmentalism: recycling. But many technologists, and most environmentalists, are more skeptical. The skeptics include Adrian Simper, the strategy director of the UK's Nuclear Decommissioning Authority, which will be among those organizations deciding whether to back the PRISM plan. Simper warned last November in Critics argue that plutonium being prepared for recycling 'would be dangerously vulnerable to theft or misuse.' an internal memorandum that fast reactors were "not credible" as a solution to Britain's plutonium problem because they had "still to be demonstrated commercially" and could not be deployed within 25 years. The technical challenges include the fact that it would require converting the plutonium powder into a metal alloy, with uranium and zirconium. This would be a large-scale industrial activity on its own that would create "a likely large amount of plutonium-contaminated salt waste," Simper said. Simper is also concerned that the plutonium metal, once prepared for the reactor, would be even more vulnerable to theft for making bombs than the powdered oxide. This view is shared by the Union of Concerned Scientists in the U.S., which argues that plutonium liberated from spent fuel in preparation for recycling "would be dangerously vulnerable to theft or misuse."

**AT: Solves waste**

**No solvency—PRISM reactors don’t solve nuclear waste disposal problems**

**Biello, 3-21-12, Scientific American, Can Fast Reactors Speedily Solve Plutonium Problems? [Dan], p. http://www.scientificamerican.com/article.cfm?id=fast-reactors-to-consume-plutonium-and-nuclear-waste**

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#### HIS and National Petroleum Council studies conclude 100 years supply of nat gas

Reuteman, 6-20-12, The Math Behind the 100-Year, Natural-Gas Supply Debate, [Rob], p. http://www.cnbc.com/id/47279959/page/1

A 2009 study by the IHS Global Insight energy research firm concluded, “Shale gas production has more than doubled the size of the discovered natural gas resource in North America —enough to satisfy more than 100 years of consumption at current rates.” On top of that, a just-released IHS study estimates the industry boom will wind up creating 2.4 million jobs by 2035. Pete Stark, IHS vice president of industry relations, says: “Getting all uptight about the 100-year number is ludicrous. There’s all sorts of gas being identified everywhere as potentially recoverable. Since 2009 we’ve known the ‘shale gale’ breakthrough was real. Now it looks as if there will be more than a 100-year supply. It was huge then, it’s huge now.” A 2011 report by the National Petroleum Council for the U.S. Department of Energy concluded in part, “North America has a large, economically accessible natural gas resource base that includes significant sources of unconventional gas, such as shale gas. This resource base could supply over 100 years of demand at today’s consumption rates.”

#### Coal plant retirements are escalating due to low natural gas prices but an increase in price would save the coal plants

Celebi et al., Principal at the Brattle Group, October 2012

(Metin, “Potential Coal Plant Retirements: 2012 Update”, Executive Summary, October, p. <http://brattle.com/_documents/UploadLibrary/Upload1081.pdf>)

In this study, we have revised our previous coal plant retirement analysis to reflect the most recent market and regulatory outlook facing coal plants, which have changed substantially since we last studied the potential for coal plant retirements in December 2010. The decrease in spot and forward gas prices combined with low demand for power have caused projected energy margins and the cost of replacement power to decrease, altering the economics for coal units towards retirement versus retrofit decisions. On the regulatory front, two of the major Environmental Protection Agency (EPA) rules (CSAPR and MATS) were finalized with less restrictive requirements on the compliance deadlines and equipment than previously predicted. More recently, a federal court order vacated the CSAPR, adding an increased level of uncertainty regarding the timing and requirements under a potential future proposal by the EPA. This recent ruling may increase the role of the EPA’s existing Regional Haze Rule for coal-fired plants in the Eastern Interconnect. In addition, the EPA’s proposed 316(b) rules on cooling water intake structures were less onerous than some predictions, with no universal requirement to install cooling towers. As of July 2012, approximately 30 GW of coal plant capacity (roughly 10% of total coal capacity) had announced plans to retire by 2016.

**Oil field reserve growth eliminates peak oil**

**Maugeri, 12** - Research Fellow of the Geopolitics of Energy Project at the Belfer Center for Science and International Affairs at Harvard University and Former Visiting Scholar at MIT (Leonardo, June 2012, "Oil: The Next Revolution", p. 13, KONTOPOULOS) PDF

Two **prominent geologists** from the U.S. Geological Survey **conducted a** brilliant **examination of "reserve growth" on a global scale. According to their extensive analysis, the estimated proven volume of oil in 186 well-known giant fields in the world** (holding reserves higher than 0.5 billion barrels of oil, discovered prior to 1981) **increased from 617 billion barrels to 777 billion barrels between 1981 and 1996.**7 **Because of "reserve growth," a country or a company may increase its oil reserves without tapping new areas if it can recover more oil from its known fields. One of the best examples** of the ability to squeeze more oil from the ground **comes from the Kem River Field in California. When the Kern River Oil Field was discovered in 1899, analysts thought that only 10 percent of its** unusually **viscous crude could be recovered**, hi 1942. **after more than four decades of modest production, it w;as estimated that the field still held 54 million barrels of recoverable oil**, a fraction of the 278 million barrels already recovered. As observed by Morris Adelman. "**In the next 44 years, it produced not 54 [million barrels] but 736 million barrels, and it had another 970 million barrels remaining**."8 But **even tins estimate proved incorrect**. **In** November **2007**, U.S. oil giant **Chevron**, by then the field's operator, **announced** cumulative **production had reached two billion barrels. Today Kem River still yields nearly 80,000 barrels per day**. and the state of California estimates its remaining reserves to be about 627 million barrels.9 **Chevron began to increase production markedly in the 1960s by injecting steam into the ground, a novel technology at the time. Later, new exploration and drilling tools, along with steady steam injection, turned the field into a** kind of **oil cornucopia. Kem River is not an isolated case. The oil literature is filled with cases of oilfields that gained a second or third life after years of production, thanks to new technologies that made it possible to estimate the size of an oilfield resource better, to discover new satellites of the main oilfield, to extract more oil, and to manage the drilling and production operations better.**

# 2NR

## Food Prices

**Global food prices down---demand and supplies**

\*market dynamics, world bank

**Reuters, 3/27** (3/27/13, "Global food prices fall on lower demand, improved supplies -World Bank", http://www.trust.org/alertnet/news/global-food-prices-fall-on-lower-demand-improved-supplies-world-bank, KONTOPOULOS)

WASHINGTON, March 27 (Reuters) - Global food prices have declined in recent months as lower demand for cereals and improved supplies pushed prices down, the World Bank said on Wednesday, warning that prices were still near record peaks and volatile.¶ The World Bank's Food Price Index showed international prices of wheat fell by 11 percent, sugar by 10 percent and maize, or corn, by 6 percent during the four-month period between October 2012 and February 2013.

**Every indicator proves**

**Sofia Globe, 3/28** - Daily News from Bulgaria (3/28/13, "Global food prices decline, but remain high, World Bank says", http://sofiaglobe.com/2013/03/28/global-food-prices-decline-but-remain-high-world-bank-says/, KONTOPOULOS)

The prices of internationally traded food commodities continued to fall between October 2012 and February 2013, according to the World Bank’s Food Price Index.¶ Food prices have been falling for six consecutive months, but the World Bank’s Food Price Index in February 2013 was only nine per cent below the recent all-time peak in August 2012. This means that despite sustained declines, international food prices remain very high and still close to their historical peaks.¶ Prices of all the three main food categories declined during the months between October 2012 and February 2013. Prices of grains dropped by five per cent, fats and oils by four per cent, and other foods by three per cent. In the same period, the price of internationally traded wheat declined by 11 per cent, sugar by 10 per cent, and maize by six per cent. The price of soybean oil did not change, while Thai five per cent rice prices increased by one per cent.International fertiliser prices declined by five per cent during this period, while crude oil prices rose by four per cent.¶ The international prices of grains in February 2013 remained well above those of a year ago. Wheat prices in February 2013 were 15 per cent higher than in February 2012. Maize prices were eight per cent higher than a year ago, and rice prices five per cent higher than in February 2012. Because of declines in the prices of internationally traded sugar (24 per cent) and soybean oil (six per cent), other components of the World Bank’s Food Price Index, the year-on-year international food price change increased by only one per cent.¶ Lower demand in tight international cereal markets and improved conditions of current winter crops explain falling international food prices. Trade flows of wheat, maize, and rice declined in 2012 due to a combination of high prices, lower production, and lower imports of cereals from key importers.¶ A sharp fall in the global use of wheat feed and reduced maize use for ethanol in the United States have both prevented a large increase in world cereal use.¶ Favourable weather conditions have been recently reported in the European Union, the Black Sea countries (except for southern parts of the Russian Federation), China, and India. These conditions contrast with less favorable circumstances in the United States, with a protracted severe drought extended across the southern Plains.¶ Looking ahead, favourable conditions for large exporters of maize in South America – and South Africa – should also lead to abundant supplies for the rest of 2013, the World Bank report said.¶ As for rice, conditions are favourable for the main producers in East and South Asia, and among other southern hemisphere producers. Consequently, the world production of cereals for 2012-13 has recently been revised upward by both the Food and Agriculture Organization [FAO] and the U.S. Department of Agriculture [USDA], although production remains about three per cent below 2011-12 levels.

**Food wars don’t escalate or spillover**

**Paarlberg, 08 -** professor of political science at Wellesley College and a visiting professor of government at Harvard University (Robert, “The Real Food Crisis,” Chronicle of Higher Education, 6/27, lexis)

**Ironically, it was only when the so-called food crisis of the 1970s came to an end, during the slow-growth decade of the 1980s, that food circumstances in poor countries significantly worsened**. **In Latin America, even though world food prices were falling sharply, the number of hungry people increased from 46 million to more than 60 million**. The reason was a regional "debt crisis" triggered by higher U.S. interest rates after 1979. **The number of hungry people also increased sharply in Africa during the 1980s. The reason was faltering farm production, exacerbated in some regions by severe drought and civil conflict. The price for imported food was down, but hunger was up. Most real food crises are local rather than global.**

**Multiple alternate causes to food prices**

**Teslik, 08** – Assistant Editor at Council on Foreign Relations (Lee Hudson, “Food Prices”, 6/30/2008, http://www.cfr.org/publication/16662/food\_prices.html)

Before considering factors like supply and demand within food markets, it is important to understand the umbrella factors influencing costs of production and, even more broadly, the currencies with which and economies within which food is traded. Energy Prices. **Rising energy prices have direct causal implications for the food market. Fuel is used in several aspects of the agricultural production process, including fertilization, processing, and transportation**. The percentage of total agricultural input expenditures directed toward energy costs has risen significantly in recent years. A briefing from the U.S. Department of Agriculture notes that the U.S. agricultural industry’s total expenditures on fuel and oil are forecast to rise 12.6 percent in 2008, following a rise of 11.5 percent in 2007. ¶ **These costs are typically passed along to customers and are reflected in global spot prices** (i.e. the current price a commodity trades for at market). The input costs of electricity have also risen, furthering the burden. Though it isn’t itself an energy product, fertilizer is an energy-intensive expense, particularly when substantial transport costs are borne by local farmers—so that expense, too, is reflected in the final price of foodstuffs. (Beyond direct causation, energy prices are also correlated to food prices, in the sense that many of the same factors pushing up energy prices—population trends, for instance, or market speculation—also affect food prices.) Currencies/Inflation. When food is traded internationally—particularly on commodities exchanges or futures markets—it is often denominated in U.S. dollars. In recent years, **the valuation of the dollar has fallen with respect to many other major world currencies**. This means that even if **food prices** stayed steady with respect to a basket of currencies, their price **in dollars would have risen**. Of course, food prices have not stayed steady—they have risen across the board—but if you examine international food prices in dollar terms, it is worth noting that the decline of the dollar accentuates any apparent price increase. Demand Demand for most kinds of food has risen in the past decade. This trend can be attributed to several factors: Population trends. The world’s population has grown a little more than 12 percent in the past decade. Virtually nobody argues that this trend alone accounts for rising food prices—agricultural production has, in many cases, become more efficient, offsetting the needs of a larger population—and some analysts say population growth hasn’t had any impact whatsoever on food prices. The shortcomings of a Malthusian food-price argument are most obvious in the very recent past. Richard Posner, a professor of law and economics at the University of Chicago, argues this point on his blog. He notes that in 2007 the food price index used by the FAO rose 40 percent, as compared to 9 percent in 2006—clearly a much faster rate than global population growth for that year, which measured a little over 1 percent. Nonetheless, **experts say population trends, distinct from sheer growth rates, have had a major impact on food prices**. For instance, **the past decade has seen the rapid growth of a global middle class. This**, Posner says, **has led to changing tastes**, and increasing demand for food that is less efficient to produce. Specifically, he cites an increased demand for meats. **Livestock require farmland for grazing** (land that could be used to grow other food), **and also compete directly with humans for food resources** like maize. The production of one serving of meat, economists say, is vastly less efficient than the production of one serving of corn or rice. Biofuels. Experts say **government policies that provide incentives for farmers to use crops to produce energy**, rather than food, **have exacerbated food shortages**. Specifically, many economists fault U.S. policies diverting maize crops to the production of ethanol and other biofuels. **The effects of ramped-up U.S. ethanol production**—which President Bush called for as part of an initiative to make the United States “energy independent”—was highlighted in a 2007 Foreign Affairs article by C. Ford Runge and Benjamin Senauer. Runge and Senauer write that the push to increase ethanol production **has spawned ethanol subsidies in many countries**, not just the United States. Brazil, they note, produced 45.2 percent of the world’s ethanol in 2005 (from sugar cane), and the United States 44.5 percent (from corn). Europe also produces biodiesel, mostly from oilseeds. In all cases, the result is the diversion of food products from global food markets, accentuating demand, pinching supply, and pushing up prices. Joachim von Braun, the director general of IFPRI, writes in an April 2008 briefing (PDF) that 30 percent of all maize produced in the United States (by far the largest maize producer in the world) will be diverted to biofuel production in 2008. This raises prices not only for people buying maize directly, but also for those buying maize products (cornflakes) or meat from livestock that feed on maize (cattle). Speculation. Many analysts point to **speculative trading practices** as a factor influencing rising food prices. In May 2008 testimony (PDF) before the U.S. Senate’s Committee on Homeland Security, Michael W. Masters, the managing partner of the hedge fund Masters Capital Management, explained the dynamic. Masters says institutional investors like hedge funds and pension funds started pouring money into commodities futures markets in the early 2000s, **push**ing **up** futures contracts and, in turn, **spot prices**. Spot traders often use futures markets as a benchmark for what price they are willing to pay, so even if futures contracts are inflated by an external factor like a flood of interest from pension funds, this still tends to result in a bump for spot prices. Still, much debate remains about the extent to which speculation in futures markets in fact pushes up food prices. “In general we [economists] think futures markets are a good reflection of what’s likely to happen in the real future,” says IFPRI’s Orden. Orden acknowledges that more capital has flowed into agricultural commodities markets in recent years, but says that he “tends to think these markets are pretty efficient and that you shouldn’t look for a scapegoat in speculators.” Supply **Even as demand for agricultural products has risen, several factors have pinched global supply**. These include: Development/urbanization. During the past half decade, **global economic growth has featured expansion throughout** emerging markets, even as developed economies in the United States, Europe, and Japan have cooled. The economies of China, India, Russia, numerous countries in Southeast Asia, Latin America, and Eastern Europe, and a handful of achievers in the Middle East and Africa have experienced strong economic growth rates. This is particularly true in Asian cities, where **industrial and service sector development** has clustered. **The result has often been a boost for per capita earnings but a drag on domestic agriculture**, as discussed in this backgrounder on African agriculture. **Farmland has in many cases been repurposed for urban or industrial development projects**. Governments have not, typically, been as eager to invest in modernizing farm equipment or irrigation techniques as they have been to sink money into urban development. **All this has put an increased burden on developing-world farmers, precisely as they dwindle in number and supply capacity**. Production capacity in other parts of the world has increased by leaps and bounds as efficiency has increased, and, as previously noted, total global production exceeds global demand. But **urbanization opens markets up to other factors—transportation costs and risks**, for instance, which are particularly high in less accessible parts of the developing world—**and prevent the smooth functioning of trade**, even where there are willing buyers and sellers. Weather. Some of the factors leading to recent price increases have been **weather-related factors** that **tighten**ed **supply** in specific markets.