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#### **They should specify a type of financial incentive, they don’t –**

#### **Voting issue –**

#### Ground – each type of incentive and the ground against those incentives – they can spike our links which makes the aff a moving target.

#### **Key to solvency and meaningful research**

Vaughn 8 (John R., Chairperson – National Council on Disability, “The State of 21st Century Financial Incentives for Americans with Disabilities,” National Council on Disability, 8-11, http://www.ncd.gov/publications/2008/Aug2008#\_Toc204703675)

1. Financial incentives are complex and need explanations pertaining to definition and type.

There is no simple definition of financial incentives. While some operational definitions might involve disability-based, case, in-kind, or other funding streams as categories of financial incentives, this report uses three overarching categories—direct, indirect, and community based—according to the topology developed for this research. **Efforts to gain an understanding of these variations and to account for as many of them as possible will contribute to making this research meaningful**.

#### “financial incentives” are distinct and exclude tax credits

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

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

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#### Will pass, PC key – Obama Pushing

Merica 3/8

[Dan ,CNN, Obama pushes expedited timetable on immigration reform in meeting with faith leaders, 3/8/13, <http://religion.blogs.cnn.com/2013/03/08/obama-pushes-expedited-timetable-on-immigration-reform-in-meeting-with-faith-leaders/>]

President Barack Obama emphasized the need to get immigration reform accomplished this year in a meeting with a diverse group of faith leaders at the White House on Friday. Religious leaders that attended the meeting said the president spent more than an hour with them, and after making a few remarks at the top of the meeting he let each group discuss their priorities and problems with comprehensive immigration reform. During the discussion, these faith leaders said, Obama made it clear that he wanted to see a bill on immigration reform in the next 60 days. “I really sensed that this is a high priority for him,” Jim Wallis, president of Sojourners, a Christian social justice group, told CNN. “We are all looking at something being introduced this month and then the bill passing in May or June. We are all hoping that kind of time frame could work.” Since winning reelection in 2012, the Obama administration has made it clear that immigration reform is a top priority for the president’s second term – and something they want to see quick action on. According to people who attended the meeting, in attendance, the president reiterated that support and laid out a timetable for the religious leaders. Wallis, who has spearheaded a group of evangelical leaders on immigration reform, said that Obama particularly mentioned the importance of faith leaders in the immigration debate. “He said that while every issue has politics, but on this question, it really was am moral issue to him and he sees the faith community as lifting that up,” Wallis said. “He was really fervent about the role of faith in this debate.” “This was the broadest, most well-rounded group of folks that I have ever met with on this issue,” said Stephan Bauman, the president of World Relief. “And pretty much everyone in the room had a chance to share their opinion on the issue.” In addition to Wallis and Bauman, both evangelical leaders, representatives from the Jewish, Muslim, Mormon and Catholic faiths were in attendance. Bauman and Wallis said this was not only a religiously diverse group, but also politically diverse. The Christian leaders said that politically, the group represented both liberal and conservative political traditions. “This was not a bunch of left-leaning religious groups,” Wallis said. A source who attended the meeting provided the full list of attendees to CNN: Leith Anderson, National Association of Evangelicals Stephan Bauman, President and CEO, World Relief Bishop Minerva Carcaño, United Methodist Church Rev. Luis Cortés, President, Esperanza Barrett Duke, Southern Baptist Convention Bishop Orlando Findlayter, Senior Pastor, New Hope Christian Fellowship Archbishop José Horacio Gomez, Archdiocese of Los Angeles Mark Hetfield, President and CEO, Hebrew Immigrant Aid Society Rev. Kathryn Lohre, National Council of Churches Imam Mohamed Magid, President, Islamic Society of North America Rev. Samuel Rodriguez, President, National Hispanic Christian Leadership Conference Rev. Gabriel Salguero, President, National Latino Evangelical Coalition Dieter Uchtdorf, Second Counselor, Church of Jesus Christ of Latter Day Saints Jim Wallis, President and CEO, Sojourners Cecilia Muñoz, Assistant to the President and Director of the Domestic Policy Council In a statement about the meeting, the White House thanked the religious leaders for their attendance and said the group talked about how they could work to "swiftly pass... a commonsense immigration reform bill." "The President and the leaders discussed the pillars the President has put forward for reform, including that any bill must include a pathway to earned citizenship, as well as measures to crack down on employers who game the system and exploit both American and immigrant workers, continuing to strengthen our border security, and strengthening the legal immigration system for families, employers, and workers," the statement said. At the end of the meeting, the group offered a prayer, according to the White House. Some faith leaders have long called for comprehensive immigration reform, but demand for reform has increased in the last few months. “I think we have a window of opportunity in these first months of 2013,” Richard Land, president of the Ethics and Religious Liberty Commission, told CNN in January. “I think there is a real, new conversation on immigration reform.”

#### Solar costs massive capital

Cardwell, 12 (Diane, “Energy Tax Breaks Proposed, Despite Waning Support for Subsidies”, New York Times, January 26, http://www.nytimes.com/2012/01/27/business/energy-environment/clean-energy-projects-face-waning-subsidies.html?pagewanted=all)

But the lobbying by the wind and solar industries comes at a time when there is little enthusiasm for alternative-energy subsidies in Washington. **Overall concerns about the deficit** are making lawmakers more skeptical about any new tax breaks for business in general. And taxpayer losses of more than half a billion dollars on Solyndra, a bankrupt maker of solar modules that defaulted on a federal loan, has tarnished the image of renewable power in particular. “Most of the folks I think recognize that this is not a Solyndra effort here,” said Representative David G. Reichert, Republican of Washington, who introduced a bill to extend a renewable tax credit last year. Solyndra was financed under a now-expired program, part of the 2009 stimulus package, that provided government loan guarantees for clean-energy projects, some of which administration officials expected to be risky. The wind and solar companies argue that the tax breaks they are seeking are different. The tax credits can be taken only by businesses that are already up and running, so taxpayers are less likely to be stuck subsidizing a failing company, proponents say. “This is a program that doesn’t pick winners or losers,” said Rhone Resch, president and chief executive of the Solar Energy Industries Association. “It’s hard to argue against a program like this that is creating jobs.” Without the new breaks, industry executives warn, they will be forced to scale back production and eliminate jobs in a still-weak economy. The American division of Iberdrola, a big Spanish producer of wind turbines, is already feeling the impending loss of one tax break that expires this year. “We’ve seen the prospects for new wind farms really fall off,” said Donald Furman, a senior vice president at Iberdrola Renewables, which announced this week that it was laying off 50 employees. “We’re not getting out of the business and we’re not in any financial trouble, but we are doing the prudent thing so that we don’t have issues.” The tax break that Iberdrola and other wind companies rely on, called the production tax credit, has been in place since 1992 but after repeated extensions is now scheduled to expire at the end of 2012. It allows for a credit of 2.2 cents per kilowatt-hour of electricity generated for the first 10 years of a project’s operation, which the industry says is sometimes enough to eliminate the price difference between wind power and fossil fuels. The Congressional Joint Committee on Taxation recently estimated that the production tax credit would cost the government $6.8 billion from 2011 to 2015 for projects in place before the end of this year. The other tax break, which expired at the end of last year and was especially popular with solar companies, allows renewable energy companies to get 30 percent of the cost of a new project back as a cash grant once construction is complete. Without the cash grant program, a company can still take the 30 percent credit, but must spread the benefit over a period of years. The industry says the grant program is more effective because it encourages a broader range of private investors to help finance its projects. As of early this year, the cash-grant program, known as the 1603 program, had awarded $1.76 billion for more than 22,000 solar projects, according to the Treasury Department. Mr. Obama, who has been a steadfast supporter of clean-energy programs, has already begun making a case for new government investment in clean energy projects as a way to foster both energy independence and employment at a time when Capitol Hill evaluates new laws in terms of job creation as well as budget cost or savings. “Because of federal investments, renewable energy use — sources like wind and solar — has nearly doubled,” Mr. Obama said at a stop at Buckley Air Force Base in Aurora, Colo., where he promoted the increasing use of renewable power by the military and repeated a call for Congress to approve the tax credits. “Thousands of Americans have jobs because of those efforts.” Mr. Obama used his trip to press for increased use of liquid natural gas in transportation, appearing at a United Parcel Service center in Las Vegas that received a stimulus grant to support natural gas-fueled trucks. He also said that the Interior Department would open up about 38 million acres in the Gulf of Mexico to gas and oil exploration and development, selling leases in June. The Bureau of Ocean Energy Management estimates drilling there could yield one billion barrels of oil and four trillion cubic feet of natural gas. According to the American Wind Energy Association, wind projects account for more than a third of all the new electric generation installed in recent years, while over the last six years, domestic wind turbine production has grown twelvefold, to more than 400 facilities in 43 states. A recent study by Navigant Consulting found that this year the industry would support 78,000 jobs, but that the number would fall to 41,000 in 2013 without an extension of the production tax credit. Solar, too, is growing quickly in the United States. According to the Solar Energy Industries Association, more solar was installed in the third quarter of 2011 than in all of 2009 combined. A one-year extension of the 1603 tax-grant program would create an additional 37,000 solar industry jobs in 2012, according to a report by EuPD Research. Lobbyists for both industries say the new tax breaks need to be passed quickly and are trying to get Congress to include them in a bill to extend the payroll tax cut. That bill, like all tax cuts these days, has **Congress at loggerheads**. “But true performance-based incentives, where incentives are only provided when actual production occurs, seem to be maintaining their support,” said Robert Gramlich, senior vice president for public policy for the American Wind Energy Association. How this will play out in Congress is anybody’s guess, lawmakers say. Mr. Reichert said the credits were not yet part of the negotiations over the payroll tax cut, which is due to expire at the end of February. Republican leaders may look to revive the Keystone XL oil pipeline — as proposed, the pipeline would run 1,700 miles from oil sands in Canada to refineries on the Gulf Coast — as part of a compromise to approve the renewable energy credits, according to lobbyists and lawmakers involved in the discussions. But there is a lot of ideological opposition to more tax credits, said Senator Jeff Bingaman, Democrat of New Mexico and the chairman of the Energy and Natural Resources Committee, who supports the extension.

#### Immigration reform is key to competitiveness --- a decline results without it.

**Marber**, 12/27/**2012** (Peter, 4 Ways to Increase Immigration, Cultivate Highly Skilled U.S. Workforce, National Journal, p. http://www.nationaljournal.com/thenextamerica/immigration/4-ways-to-increase-immigration-cultivate-highly-skilled-u-s-workforce-20121227)

Immigration, long the backbone of American innovation, entrepreneurism, and human talent, has become a dirty word in recent years. This is unfortunate, because strategically conceived and well-targeted immigration should be seen as a precision tool for America to insure the best, optimal human capital needed to compete in the 21st century. While official unemployment stands at 7.7%, the US is critically short in many STEM (science, technology, engineering, math) and healthcare areas. While the global economy has evolved, our immigration laws haven’t changed much since 1990. This is why we occasionally see tech titans like Bill Gates testify before Congress urging more visas for foreign students and scientists to help us remain competitive. According to Manpower Inc., the US ranked 5th globally in talent shortages, with 49% of employers surveyed experiencing critical problems versus the 34% average. There’s plenty of room in America for more people. The US has one of the lowest population densities in the world at 85 people per square mile versus 360 in China, 650 in the UK, and more than 900 in India. Many American cities have depopulated over the last generation or two; they have ample infrastructure that would welcome new families and skilled workers. New Orleans, Detroit, Cleveland, Rochester, and Buffalo, among others, have lost thousands of people yet still offer big city infrastructure, education and opportunities. And since the financial crisis, there is excess housing ready to be absorbed. Targeted immigration policies could be meshed with special economic zones and other incentives to revive cities, fill skills gaps, and restore greater long-term stability and competitiveness to our labor markets. Here are four new policies endorsed by non-partisan groups that are worth considering: Raising H-1B Caps. The H-1B temporary high-skilled visa is often the only option for foreign-born STEM graduates who want to stay in the US and work on cutting-edge research at American firms. But arbitrary caps on H-1Bs, currently 65,000 per year, fill quickly. Just a few years ago the cap was 195,000 but the US could ramp this up to 250,000 with the recently passed STEM Jobs Act. The act will add 50,000 new visas but in reality, the legislation merely hijacked the 55,000 “diversity” visa quota; no new visas were added. We need immigration increases, not shell games. Automatic residency for targeted graduates. One of the great American success stories has been our unrivaled research universities. For decades, the US has trained some of the world’s top innovators who have subsequently been sent back home to compete in the global marketplace. To keep this talent, we should grant green cards to foreign students who earn STEM (pdf) and other masters and doctorate degrees at our schools. Residency for healthcare professionals. According to the Association of American Medical Colleges, a shortage of doctors in the US was expected even before the 2010 Affordable Care Act added millions of people eligible for health care coverage. Currently, there will be a shortage of 90,000 doctors by 2020 but may grow to nearly 150,000 by the end of the following decade. Doctors require years of training and cannot be made quickly. Nurses, too, are in shortage. Entrepreneur visas. There is no US visa for foreign-born entrepreneurs who want to start companies that employ American workers. There has been new legislation, the Startup Visa Act of 2012, tying visas to job creation and revenue targets within a period of time. This is a great idea that shouldn’t be bogged down in politics. Immigration reform is simply acknowledging the competition for labor globally, and that America is no longer the only economic game in town. Besides home country opportunities, Australia, Canada, Ireland, the UK and Singapore, among others, have eased their visa processes to lure foreign students, innovators, and entrepreneurs. America’s success has always been hinged on cultivating productive human capital, and immigration is an important part of keeping our global edge.

#### US competitiveness solves hegemony and great power war

Baru 9 – Sanjaya Baru is a Professor at the Lee Kuan Yew School in Singapore Geopolitical Implications of the Current Global Financial Crisis, Strategic Analysis, Volume 33, Issue 2 March 2009 , pages 163 - 168

Hence, economic policies and performance do have strategic consequences.2 In the modern era, the idea that strong economic performance is the foundation of power was argued most persuasively by historian Paul Kennedy. 'Victory (in war)', Kennedy claimed, 'has repeatedly gone to the side with more flourishing productive base'.3 Drawing attention to the interrelationships between economic wealth, technological innovation, and the ability of states to efficiently mobilize economic and technological resources for power projection and national defence, Kennedy argued that nations that were able to better combine military and economic strength scored over others. 'The fact remains', Kennedy argued, 'that all of the major shifts in the world's military-power balance have followed alterations in the productive balances; and further, that the rising and falling of the various empires and states in the international system has been confirmed by the outcomes of the major Great Power wars, where victory has always gone to the side with the greatest material resources'.4 In Kennedy's view, the geopolitical consequences of an economic crisis, or even decline, would be transmitted through a nation's **inability to** find adequate financial resources to simultaneously **sustain** economic growth and **military power**, the classic 'guns versus butter' dilemma.

#### Heg prevents great power conflict --- that culminates in extinction.

**Barnett 11** – Thomas P.M. Barnett is Former Senior Strategic Researcher and Professor in the Warfare Analysis & Research Department, Center for Naval Warfare Studies, U.S. Naval War College American military geostrategist and Chief Analyst at Wikistrat., worked as the Assistant for Strategic Futures in the Office of Force Transformation in the Department of Defense, March 7th, 2011, “The New Rules: Leadership Fatigue Puts U.S., and Globalization, at Crossroads,” http://www.worldpoliticsreview.com/articles/8099/the-new-rules-leadership-fatigue-puts-u-s-and-globalization-at-crossroads

It is worth first examining the larger picture: We live in a time of arguably the greatest structural change in the global order yet endured, with this historical moment's most amazing feature being its relative and absolute lack of mass violence. That is something to consider when Americans contemplate military intervention in Libya, because if we do take the step to prevent larger-scale killing by engaging in some killing of our own, we will not be adding to some fantastically imagined global death count stemming from the ongoing "megalomania" and "evil" of American "empire." We'll be engaging in the same sort of system-administering activity that has marked our stunningly successful stewardship of global order since World War II. Let me be more blunt: As the guardian of globalization, the U.S. military has been the greatest force for peace the world has ever known. Had America been removed from the global dynamics that governed the 20th century, the mass murder never would have ended. Indeed, it's entirely conceivable there would now be no identifiable human civilization left, once nuclear weapons entered the killing equation. But the world did not keep sliding down that path of perpetual war. Instead, America stepped up and changed everything by ushering in our now-perpetual great-power peace. We introduced the international liberal trade order known as globalization and played loyal Leviathan over its spread. What resulted was the collapse of empires, an explosion of democracy, the persistent spread of human rights, the liberation of women, the doubling of life expectancy, a roughly 10-fold increase in adjusted global GDP and a profound and persistent reduction in battle deaths from state-based conflicts. That is what American "hubris" actually delivered. Please remember that the next time some TV pundit sells you the image of "unbridled" American military power as the cause of global disorder instead of its cure. With self-deprecation bordering on self-loathing, we now imagine a post-American world that is anything but. Just watch who scatters and who steps up as the Facebook revolutions erupt across the Arab world. While we might imagine ourselves the status quo power, we remain the world's most vigorously revisionist force. ¶ As for the sheer "evil" that is our military-industrial complex, again, let's examine what the world looked like before that establishment reared its ugly head. The last great period of global structural change was the first half of the 20th century, a period that saw a death toll of about 100 million across two world wars. That comes to an average of 2 million deaths a year in a world of approximately 2 billion souls. Today, with far more comprehensive worldwide reporting, researchers report an average of less than 100,000 battle deaths annually in a world fast approaching 7 billion people. Though admittedly crude, these calculations suggest a 90 percent absolute drop and a 99 percent relative drop in deaths due to war. We are clearly headed for a world order characterized by multipolarity, something the American-birthed system was designed to both encourage and accommodate. But given how things turned out the last time we collectively faced such a fluid structure, we would do well to keep U.S. power, in all of its forms, deeply embedded in the geometry to come.

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#### DOE will block natural gas exports – increased demand means exports hurt “public interest”

Ebinger et al 12 (Charles, Senior Fellow and Director of the Energy Security Initiative – Brookings, Kevin Massy, Assistant Director of the Energy Security Initiative – Brookings, and Govinda Avasarala, Senior Research Assistant in the Energy Security Initiative – Brookings, “Liquid Markets: Assessing the Case for U.S. Exports of Liquefied Natural Gas,” Brookings Institution, Policy Brief 12-01, http://www.brookings.edu/~/media/research/files/reports/2012/5/02%20lng%20exports%20ebinger/0502\_lng\_exports\_ebinger.pdf)

From the perspective of the U.S. federal government, the issue of implications is viewed in terms of “public interest.” Under existing legislation, exports of natural gas to countries with a free trade agreement (FTA) with the United States are, by law, deemed to be in the public interest and authorization is required to be given without modification or delay. Projects looking for authorization to export LNG to countries without an FTA, which account for roughly 96 percent of current global LNG demand, are required to be approved by the Secretary of Energy unless, after public hearing, the Department of Energy finds that such exports are not in the public interest. 80 Although the legal definition of “public interest” is not explicitly given in existing legislation, according to public statements by officials from the Department of Energy, “public interest” includes:

• Adequate domestic natural gas supply;

• Domestic demand for natural gas proposed for export; Economic impacts of exports (on GDP, consumers, and industry); • U.S. energy security; • Job creation; • U.S. balance of trade; • International considerations; • Environmental considerations; • Consistency with DoE’s policy of promoting market competition through free negotiation of trade 81 The first two of these criteria were addressed in Part I. The remainder focus on the various domestic and international implications of U.S. LNG exports. domestic implications The domestic implications of U.S. LNG exports include their impact on natural gas prices, natural gas price volatility, jobs and competitiveness, and on overall energy security. Price of domestic natural Gas The domestic price impact of natural gas exports will be a significant factor in determining whether or not the United States should export LNG. While it is generally acknowledged that a domestic price increase will result from largescale LNG exports, the size of the price increase is the subject of debate, with a number of studies suggesting a range of possible outcomes. The important considerations when analyzing the results and conclusions of the various existing studies are the assumptions and models that are used when making price forecasts. Below are the results and methodologies of five major pricing studies done by the EIA and three consultancies: Deloitte, ICF International, and Navigant Consulting, which published two studies. 2012 Energy information Administration study In January 2012, the EIA published a study entitled “Effect of Increased Natural Gas Exports on Domestic Energy Markets.” 82 The study, conducted at the request of the Office of Fossil Energy of the Department of Energy, analyzed four different export scenarios across four different resource base or economic assumptions to project price responses to LNG exports. In addition to a “baseline” scenario, where no LNG is exported, the EIA model considered four different export scenarios: • A low export/slow growth scenario, where 6 bcf/day of LNG is exported, phased in at a rate of 1 bcf/day per year; • A low export/rapid growth scenario, where 6 bcf/day of LNG is exported, phased in at a rate of 3 bcf/day per year; • A high export/slow growth scenario, where 12 bcf/day of LNG is exported, phased in at a rate of 1 bcf/day per year; • A high export/rapid growth scenario, where 12 bcf/day of LNG is exported, phased in at a rate of 3 bcf/day per year Given the uncertainty over the actual size of the shale gas resource base and the future growth of the U.S. economy, each of these scenarios (both “baseline” and export) were applied to four alternate background cases: • A reference case, based on the EIA’s 2011 Annual Energy Outlook; • A low-shale estimated ultimate recovery (EUR) case, in which shale gas production from new, undrilled wells is 50 percent below the reference case scenario; • A high-shale EUR case, in which shale gas production from new, undrilled wells is 50 percent higher than the reference case; • A high economic growth case, in which U.S. GDP grows at 3.2 percent as opposed to the 2.7 percent assumed in the reference case. Given the range of assumptions, the range of results was unsurprisingly wide. The results range from a 9.6 percent increase (from $3.56 to $3.90/ mcf) in domestic natural gas prices in 2025 due to exports (in the case of high shale gas recovery, low export volumes and a slow rate of export growth) to a 32.5 percent increase (in the case of low shale gas recovery, high export volumes and a high rate of export growth). The percentage premium for domestic natural gas prices in 2025 for each scenario relative to the baseline scenario price estimate is detailed in table 3. In addition to the price premium for exporting natural gas that exists in each case, the EIA study projected a short-term spike in natural gas prices as a result of LNG exports. As figure 7 below illustrates, in 2015, the first year that LNG exports occur, domestic natural gas prices rise rapidly until total export capacity is reached. In the “lowrapid” scenario prices peak in 2016, after the 6 bcf/day of export capacity is built over 2 years; in the “high-slow” scenario, natural gas prices peak in 2026, after the 12 bcf/day of export capacity is built over 12 years. The immediate jump in price becomes more pronounced in the scenarios where LNG export capacity increases quickly. In the “low-rapid” scenario, the price of natural gas peaks at nearly 18 percent above the baseline case; in the “high-rapid” scenario, natural gas prices peak at 36 percent above the baseline case. This price impact is exacerbated in the Low Shale EUR and High Macroeconomic Growth cases, as LNG exports further tighten domestic natural gas markets. In the most extreme example, the high-rapid scenario for exports in a Low Shale EUR case, the price for natural gas peaks at more than 50 percent than the baseline case. 83 There are two factors that should be considered when interpreting the results of this price impact study. The first is the assumption regarding the rate at which LNG could be exported. The results of EIA’s analysis represent an extreme scenario for LNG exports. In the existing LNG market, it is particularly unlikely that either the “low-rapid” or the “high-rapid” scenarios would materialize. The former assumption stipulates that the United States would export 6 bcf/day of LNG by 2016. Given that, at the time of writing, only one facility has been approved to export 2.2 bcf/day to nonFTA countries starting in 2015, it is unlikely that another three plants would be approved and built in such a short time frame. 84 The latter scenario, that the United States would be exporting 12 bcf/ day of LNG by 2018, suggests that in the next several years, the United States would grow from exporting negligible volumes of LNG to having roughly one-third of the global LNG export capacity. Not only would this supply growth outpace growth in global LNG demand, but this capacity addition would also have to compete with roughly 11 bcf/day of Australian-origin LNG that is expected to hit the market around the same time. 85 The second issue is the model’s assumptions for incremental investment in natural gas production as a result of increased export capacity. The spike in price depicted in figure 7 occurs because investment from gas producers lags additional demand. In the model, producers respond to, rather than anticipate, additional demand. For this reason, prices peak once the export capacity is filled, before steadily decreasing. In reality, the expectation of future demand would likely induce gas producers to invest in additional production before incremental demand occurs. As a result, the increase in prices would likely begin earlier and peak at a lower level than suggested by the model. deloitte study An earlier study released in November 2011 from the Deloitte Center for Energy Solutions highlighted the producer-response in its model. In addition to finding that LNG exports would produce a smaller increase in gas prices than the EIA report suggests, the Deloitte study points out that “producers can develop more reserves in anticipation of demand growth, such as LNG exports. There will be ample notice and time in advance of the exports to make supplies available.” 86 Using a dynamic model, in which production increased in anticipation of new demand, the Deloitte study found that 6 bcf/day of exports of LNG would result in, on average, a 1.7 percent increase (from $7.09 to $7.21/MMBtu) in the price of natural gas between 2016 and 2035. Further, the Deloitte study noted that there would be regional variations to the increase in natural gas prices resulting from LNG exports. As most of the proposed liquefaction terminals are expected to be on the Gulf Coast, the price of Henry Hub gas, which is the key benchmark for natural gas from the Gulf Coast, will increase by $0.22/ MMBtu by 2035 as a result of U.S. LNG exports. This is more than double the price increase projected in regions further away from the LNG export terminals. In New York and Illinois, natural gas prices are projected to increase by less than $0.10/MMBtu. This is particularly important in the Northeast, which historically experiences some of the highest natural gas prices in the country, but will benefit from the development and consumption of natural gas from the nearby Marcellus shale play. other studies Three other studies of note have analyzed the price impacts of U.S. LNG exports. In August 2010, Navigant Consulting found that 2 bcf/day of LNG exports would cause a price increase of between 7 and 7.9 percent from 2015 to 2035 relative to a scenario with no gas exports. ICF International found in August 2011 that 6 bcf/day of exports would result in an 11 percent ($0.64/MMBtu) increase in natural gas prices over the same period. 87 More recently, Navigant released another study that analyzed the impact of two separate export scenarios. The first scenario modeled the impact of 3.6 bcf/day of LNG exports from three terminals in North America: Sabine Pass in Louisiana, Kitimat in British Columbia, and Coos Bay in Oregon. The second scenario modeled the impact of 6.6 bcf/day of LNG exports from the three aforementioned export projects and 2 bcf/day of added exports from the Gulf Coast and 1 bcf/day from Maryland. 88 This Navigant study found that 6.6 bcf/day of LNG exports would result in a 6 percent ($0.35/MMBtu) increase in natural gas prices from 2015 to 2035. As with the EIA and Deloitte studies, the results of both Navigant and ICF’s studies must be analyzed in the context of their respective methodologies and assumptions. Navigant’s first study uses a more static supply model, which, unlike dynamic supply models, does not fully take account of the effect that higher prices have on spurring additional production. As a result, it takes a conservative estimate of supply growth potential. The report acknowledges that the price outcomes modeled in its analysis “establish the upper range of impacts that exports […] might have on natural gas prices.” 89 This study also did not factor in the reemergence of the industrial sector as a major consumer of natural gas following the shale gas “revolution.” The study assumes that natural gas consumption by the industrial sector will decline by 0.3% per year to 2035. By contrast, the EIA model assumes that industrial sector demand will increase by roughly 1% per year over the same period. 90 The ICF study factors in various levels of production response from an increase in price. Under its 6 bcf/day export scenario, the price impact ranges from a $0.52/ MMBtu increase in a more responsive drilling activity scenario to a $0.75/MMBtu increase in a less responsive drilling activity scenario. which study is right? Given that these studies forecast natural gas prices two decades into the future, it is difficult to determine which study is most accurate. (table 4 shows a comparison of the price impact forecasts of the various models.) However, policymakers would benefit from having a better understanding of the results that are generated from each report. This includes choosing the most relevant results from each report. For instance, following the release of the EIA study, many commentators were quick to highlight that natural gas prices could increase by more than 50 percent as a result of LNG exports. However, this ignored the assumptions behind this number: it was based on the price of natural gas in one year under the most extreme assumptions of exports and domestic resource base. A more comprehensive analysis should include an assessment of the average price impact from 2015 to 2035. When distinguishing between the various studies, policymakers should identify which assumptions most resemble the existing natural gas market and its likely direction, and which models are most reflective of the complex nature of domestic and global natural gas trade. Assuming realistic volumes of natural gas exports as well as a reasonable supply response by natural gas producers are important considerations. It is important to note that the supply curves in the various studies reflect different interpretations of the economics of marginal production. The Power sector and industrial sector Part I indicated that the power-generation and industrial sectors would account for most of the demand for newly available natural gas resources. As shown above, LNG exports are likely to increase domestic prices of natural gas, suggesting negative consequences for these two competing sectors. In their analyses, both Deloitte and EIA found that the majority—63 percent, according to both studies—of the exported natural gas will come from new production as opposed to displaced consumption from other sectors. By contrast, between 17 and 38 percent of supply of natural gas for export would be met by reduced demand, as higher prices pushes some domestic consumers to use less gas. In the power generation and industrial sectors, the price impacts of LNG exports are likely to have modest impacts. In the power sector, natural gas has historically been used as a back up to coal and nuclear base-load generation. For such gas used at the margin, the increase in electricity prices as a result of LNG exports would be limited by its competitiveness relative to other fuels: as soon as it becomes more expensive than the alternative for back up generation, power producers will substitute away from gas. 91 According to ICF International, a $0.64/MMBtu increase in the price of natural gas would result in an electricity price increase of between $1.66 and $4.97/megawatt-hour (MWh), depending on how often gas is used as the marginal fuel for electricity. Deloitte estimates that the price increase of electricity would not be more than $1.65/MWh. 92 EIA estimates that electricity price impacts will be marginal as well (between $1.40/MWh and $2.90/MWh) except in the “highrapid” export scenario. 93 The EIA Annual Energy Outlook 2011 estimates that, without exporting LNG, the average price of electricity (across all fuels) in 2035 will be $92/MWh. 94 In the longer term, natural gas is itself likely to be used for more base-load generation. The rapid increase in shale gas production, coupled with the retirements of as much as 50 gigawatts (GW) of coal-fired electricity due to plant age or inability to adhere to possibly forthcoming EPA regulations is likely to increase the demand for natural gas in the power sector. According to some analysts, the near-term demand caused by the retirements of the oldest and least efficient coal-fired power plants could result in an additional natural gas demand of 2 bcf/day. 95 Given the lack of environmentally and economically viable alternatives, a moderate increase in gas prices is unlikely to result in a large move away from natural gas, although increased costs will be transferred to customers. Natural gas consumption in the power sector has been considered economic at prices much higher than those resulting from LNG exports in even the highest price-impact projections. Even prior to the shale gas “revolution,” when natural gas prices were high, natural gas demand was increasing in the power sector. The EIA Annual Energy Outlook 2005— published in a year when average well head prices were over $7/MMBTU—projected that natural gas demand in the electricity sector would increase by 70 percent between 2003 and 2015. 96 Unlike the power sector, which continued to build natural-gas fired generation during a period of increasing gas prices, the industrial sector was negatively affected by growing natural gas import dependence, high gas prices, and gas price volatility. Between 2000 and 2005, the price of natural gas increased by 99 percent and LNG imports more than doubled. 97 By 2005, the ratio of the price of oil to the price of natural gas was approximately 6:1, just below the 7:1 oil-to-gas price ratio at which U.S. petrochemical and plastics producers are globally competitive. 98 That same year Alan Greenspan, then-Chairman of the Federal Reserve, noted that because of natural gas price increases “the North American gas-using industry [was] in a weakened competitive position.” 99 Since then the price of natural gas has collapsed. In 2011, the oil-to-natural gas price ratio was more than 24:1. In 2012 it has been even higher. The decline in natural gas prices has galvanized the industrial sector. A joint study by PwC and the National Association for Manufacturers, an industry trade group, found that the development of shale gas could save manufacturers as much as $11.6 billion per year in feedstock costs through 2025. 100 New investments in petrochemical and plastics producing facilities are occurring throughout the East and Southeast, largely predicated on the availability of inexpensive natural gas. Opponents of LNG exports contend that such investments would be deterred in the future as a result of increases in the price of natural gas. However, the evidence suggests that the competitive advantage of U.S. industrial producers relative to its competitors in Western Europe and Asia is not likely to be affected significantly by the projected increase in natural gas prices resulting from LNG exports. As European and many Asian petrochemical producers use oil-based products such as naphtha and fuel oil as feedstock, U.S. companies are more likely to enjoy a significant cost advantage over their overseas competitors. Even a one-third decline in the estimated price of crude oil in 2035 would result in an oil-to-gas ratio of 14:1. 101 There is also the potential for increased exports to help industrial consumers. Ethane, a liquid byproduct of natural gas production at several U.S. gas plays, is the primary feedstock of ethylene, a petrochemical product used to create a wide variety of products. According to a study by the American Chemistry Council, an industry trade body, a 25 percent increase in ethane production would yield a $32.8 billion increase in U.S. chemical production. By providing another market for cheap dry gas, LNG exports will encourage additional production of natural gas liquids (NGL) that are produced in association with dry gas. According to the EIA, ethane production increased by nearly 30 percent between 2009 and 2011 as natural gas production from shale started to grow substantially. Ethane production is now at an alltime high, with more than one million barrels per day of ethane being produced. 102 Increased gas production for exports results in increased production of such natural gas liquids, in which case exports can be seen as providing a benefit to the petrochemical industry. natural gas price volatility A major concern among domestic end users of natural gas is the possibility of an increase in natural gas price volatility resulting from an increase in U.S. LNG exports. As figure 8 demonstrates, the price volatility experienced during the 2000s was the highest the domestic gas market has experienced in the past three decades. The volatility of the natural gas market in the 2000s was largely caused by a tight supply-demand balance. Natural gas demand increased substantially as the U.S. economy grew and natural gas was viewed as environmentally preferable to coal for power generation. This increase in demand coincided with a reduction in domestic supply and an increased reliance on imports. The recent surge in U.S. natural gas production has resulted in less market volatility since 2010. According to EIA, the standard deviation of the price of natural gas (a general statistical indicator of volatility) between 2010 and 2011 was one-third what it was during the 2000s. 103 Potential exports of U.S. LNG concerns some domestic consumers for two principal reasons: greater volatility in domestic natural gas prices; and exposure of domestic natural gas prices to higher international prices resulting in a convergence between low U.S. prices and high international prices. There is an insufficient amount of data and quantitative research on the relationship between do mestic natural gas price volatility and LNG exports. However, certain characteristics of the LNG market are likely to limit volatility. LNG is bound by technical constraints: it must be liquefied and then transported on dedicated tankers before arriving at terminals where a regasification facility must be installed. Liquefaction facilities have capacity limits to how much gas they can turn into LNG. If they are operating at or close-to full capacity, such facilities will have a relatively constant demand for natural gas, therefore an international price or supply shock would have little impact on domestic gas prices. Moreover, unlike oil trading, in which an exporter—theoretically—sells each marginal barrel of production to the highest bidder in the global market, the capacity limit on LNG production and export means that LNG exporters have an infrastructure-limited demand for natural gas leaving the rest of the natural gas for domestic consumption. As most LNG infrastructure facilities are built on a project finance basis and underpinned by long-term contracts, this demand can be anticipated by the market years in advance, reducing the likelihood of volatility. The macroeconomy and jobs The macroeconomic and job implications of LNG exports depend on two principal factors: the gains from trade from exploiting pricing differentials and inefficiencies of the global market; and the employment implications of those gains, higher domestic natural gas prices, and greater domestic natural gas production. The Department of Energy has commissioned a study on both the macroeconomic and employment implications of U.S. LNG exports, which will be released later this year. This study will provide a qualitative assessment of the implications of LNG exports to the U.S. economy and employment. LNG exports are likely to be a net benefit to the U.S. economy, although probably not a significant contributor in terms of total U.S. GDP. Exports of U.S. natural gas will take advantage of the benefits of the existing producer’s surplus resulting from the pricing differentials between the natural gas markets in the United States, Europe, and Asia. Contractual terms will determine how this surplus is shared between U.S. sellers and foreign buyers. 104 The benefit of this trade will likely outweigh the cost to domestic consumers of the increase in the price of natural gas as most of the natural gas demanded by exports will come from new natural gas production as opposed to displacing existing production from domestic consumers. On the other hand, LNG exports from the United States are likely to put marginal upward pressure on the relative value of the U.S. dollar. In March 2012, Citigroup released a report on North American hydrocarbon production that included a model of the macroeconomic impact of U.S. oil and gas exports. The Citi analysis found that oil and gas exports would cause a nearly two percent decline in the current account deficit by 2020, but that the exchange rate implications would be modest. By 2020, the U.S. dollar would appreciate by between 1.6 and 5.4 percent. 105 The implications of LNG exports on job creation are similarly difficult to quantify. Other than temporary construction jobs created by the need to build liquefaction capacity, pipelines, and other ancillary infrastructure, the operation of the liquefaction facility will likely provide little permanent employment benefit. As outlined in the section on price impacts above, as much of the gas for export will come from new production, rather than the displacement of consumption in other sectors, the negative economic, and therefore jobrelated, effects on those sectors is likely to be limited. Beyond the labor required for additional gas production to satisfy LNG exports, the net impact of LNG exports is likely to be minimal. Further upstream, the job potential may be greater. By increasing domestic natural gas production, employment from additional oil and gas producers will increase, as will the demand for manufacturers of equipment for oil and gas production, gathering, and transportation. domestic energy security Aside from the price impact of potential U.S. LNG exports, a major concern among opponents is that such exports would diminish U.S. “energy security”; that exports would deny the United States of a strategically important resource. The extent to which such concerns are **valid** depends on several factors, including the size of the domestic resource base, and the liquidity and functionality of global trade. As Part I of this report notes, geological evidence suggests that the volumes of LNG export under consideration would not materially affect the availability of natural gas for the domestic market. Twenty years of LNG exports at the rate of 6 bcf/day, phased in over the course of 6 years, would increase demand by approximately 38 tcf. As presented in Part I, four existing estimates of total technically recoverable shale gas resources range from 687 tcf to 1,842 tcf; therefore, exporting 6 bcf/day of LNG over the course of twenty years would consume between 2 and 5.5 percent of total shale gas resources. While the estimates for **shale gas reserves are uncertain**, in a scenario where reserves are perceived to be lower than expected, domestic natural gas prices would increase and exports would almost immediately become uneconomic. In the long-term, it is possible that U.S. prices and international prices will converge to the point at which they settle at similar levels. In that case, the United States would have more than adequate import capacity (through bi-directional import/export facilities) to import gas when economic. A further gas-related consideration with regard to energy security is the effects of increased production of associated natural gas with the increasing volumes of U.S. unconventional oil. As the primary energy-security concern for the United States related to oil, the application of fracking and horizontal drilling in oil production is reducing U.S. oil import dependence, while simultaneously producing substantial volumes of natural gas, which, given the relative economics of oil and gas, is effectively delivered at zero (or, in the case of producers who have to invest in equipment to manage flaring and venting, negative) cost. To the extent that associated gas from unconventional oil production is used for LNG export, it can be seen as a consequence of—rather than a threat to—increased U.S. energy security. international implications The international implications of LNG exports from the United States can be divided into pricing, geopolitics, and environment. international Pricing As discussed in Part I, the global LNG market is informally separated into three markets: North America, the Atlantic Basin (mostly Europe), and the Pacific Basin (including Japan, South Korea, Taiwan, China, and India). These markets are separated because of important technical differences that impact the pricing structure for LNG in each market. The North American natural gas market is competitive and prices are traded in a transparent and open market. The Atlantic Basin is dominated by European LNG consumers such as the United Kingdom, Spain, France, and Italy, and is a hybrid of a competitive U.K. market that was liberalized in the mid-1990s and a Continental European market that is dominated by oil-linked, take-or-pay contracts. In recent years, the U.K. hub, the National Balancing Point (NBP), has traded at a premium to the U.S. hub, the Henry Hub. The Pacific Basin is a more rigid market that depends heavily on oilindexed contracts that are more expensive than those used in the Atlantic Basin. While they have no central trading hub, the Pacific Basin consumers such as Japan and South Korea (which is implementing its recently-signed free-trade agreement with the United States) currently import LNG based on a pricing formula known informally as the Japan Crude Cocktail, the average price of custom-cleared oil imports into Tokyo. Many Pacific Basin contracts have a built-in price floor and price ceiling depending on the price of oil. 106 Without exporting any natural gas, the U.S. shale gas “revolution” has already had a positive impact on the liquidity of global LNG markets. Many LNG cargoes that were previously destined for gas-thirsty U.S. markets were diverted and served spot demand in both the Atlantic and Pacific Basins. The increased availability of LNG cargoes has helped create a looser LNG market for other consumers (see figure 9). This in turn has helped apply downward pressure to the terms of oillinked contracts resulting in the renegotiation of some contracts, particularly in Europe. Increased availability of LNG cargoes also accelerated a recent trend of increasing reliance of consumers on spot LNG markets. In 2010 short-term and spot contracts represented 19 percent of the total LNG market, up from only a fraction one decade earlier. 107 In this case, increasing demand for spot cargoes indicates that consumers are taking advantage of spot prices that are lower than oilindexed rates. LNG exports will help to sustain market liquidity in what looks to be an increasingly tight LNG market beyond 2015 (see figure 10). Should LNG exports from the United States continue to be permitted, they will add to roughly 10 bcf/day of LNG that is expected to emerge from Australia between 2015 and 2020. Nevertheless, given the projected growth in demand for natural gas in China and India and assuming that some of Japan’s nuclear capacity remains offline, demand for natural gas will outpace the incremental supply. This makes U.S. LNG even more valuable on the international market. Although it will be important to global LNG markets, it is unlikely that the emergence of the United States as an exporter of LNG will change the existing pricing structure overnight. Not only is the market still largely dependent on long-term contracts, the overwhelming majority of new liquefaction capacity emerging in the next decade (largely from Australia) has already been contracted for at oil-indexed rates. 108 The incremental LNG volumes supplied by the United States at floating Henry Hub rates will be small in comparison. But while U.S. LNG will not have a transformational impact, by establishing an alternate lower price for LNG derived through a different market mechanism, U.S. exports may be central in catalyzing future changes in LNG contract structure. As previously mentioned, this impact is already be ing felt in Europe. A number of German utilities have either renegotiated contracts or are seeking arbitration with natural gas suppliers in Norway and Russia. The Atlantic Basin will be a more immediate beneficiary of U.S. LNG exports than the Pacific Basin as many European contracts allow for periodic revisions to the oil-price linkage. 109 In the Pacific Basin this contractual arrangement is not as common and most consumers are tied to their respective oil-linkage formulae for the duration of the contract. 110 Despite the increasing demand following the Fukushima nuclear accident, however, Japanese LNG consumers are actively pursuing new arrangements for LNG contracts. 111 There are other limits to the extent of the impact that U.S. LNG will have on global markets. It is unlikely that many of the LNG export facilities under consideration will reach final investment decision. Instead, it is more probable that U.S. natural gas prices will have rebounded sufficiently to the point that exports are not commercially viable beyond a certain threshold. (figure 11 illustrates the estimated costs of delivering LNG to Japan in 2020.) This threshold, expected by many experts to be roughly 6 bcf/day by 2025, is modest in comparison to the roughly 11 bcf/day of Australian LNG export projects that have reached final investment decision and are expected to be online by 2020. Also, the impact of U.S. LNG exports could be limited by a number of external factors that will have a larger bearing on the future of global LNG prices. For instance, a decision by the Japanese government to phase-out nuclear power would significantly tighten global LNG markets and probably displace any benefit provided by U.S. LNG exports. Conversely, successful and rapid development of China’s shale gas reserves would limit the demand of one of the world’s fastest-growing natural gas consumers. However, to the extent that U.S. LNG exports can help bring about a more globalized pricing structure, they will have economic and geopolitical consequences. Geopolitics A large increase in U.S. LNG exports would have the potential to increase U.S. foreign policy interests in both the Atlantic and Pacific basins. Unlike oil, natural gas has traditionally been an infrastructure-constrained business, giving geographical proximity and political relations between producers and consumers a high level of importance. Issues of “pipeline politics” have been most directly visible in Europe, which relies on Russia for around a third of its gas. Previous disputes between Moscow and Ukraine over pricing have led to major gas shortages in several E.U. countries in the winters (when demand is highest) of both 2006 and 2009. Further disagreements between Moscow and Kiev over the terms of the existing bilateral gas deal have the potential to escalate again, with negative consequences for E.U. consumers. The risk of high reliance on Russian gas has been a principal driver of European energy policy in recent decades. Among central and eastern European states, particularly those formerly aligned with the Soviet Union such as Poland, Hungary, and the Czech Republic, the issue of reliance on imports of Russian gas is a primary energy security concern and has inspired energy policies aimed at diversification of fuel sources for power generation. From the U.S. perspective such Russian influence in the affairs of these democratic nations is an impediment to efforts at political and economic reform. The market power of Gazprom, Russia’s state-owned gas monopoly, is evident in these countries. Although they are closer to Russia than other consumers of Russian gas in Western Europe, many countries in Eastern and Central Europe pay higher contract prices for their imports, as they are more reliant on Russian gas as a proportion of their energy mixes. In the larger economies of Western Europe, which consume most of Russia’s exports, there are efforts to diversify their supply of natural gas. The E.U. has formally acknowledged the need to put in place mechanisms to increase supply diversity. These include market liberalization approaches such as rules mandating third-party access to pipeline infrastructure (from which Gazprom is demanding exemption), and commitments to complete a single market for electricity and gas by 2014, and to ensure that no member country is isolated from electricity and gas grids by 2015. 112 Despite these formal efforts, there are several factors retarding the E.U.’s push for a unified effort to reduce dependence on Russian gas. National interest has been given a higher priority than collective, coordinated E.U. energy policy: the gas cutoffs in 2006 and 2009 probably contributed to the acceptance of the Nord Stream project, which carries gas from Russia into Germany. Germany’s decision to phase out its fleet of nuclear reactors by 2022 will result in far higher reliance on natural gas for the E.U.’s biggest economy. The environmental imperative to reduce carbon emissions—codified in the E.U.’s goal of essentially decarbonizing its power sector by the middle of century—mean that natural gas is being viewed by many as the short-to medium fuel of choice in power generation. Finally, the prospects for European countries to replicate the unconventional gas “revolution” that has resulted in a glut of natural gas in the United States look uncertain. Several countries, including France and the U.K., have encountered stiff public opposition to the techniques used in unconventional gas production, while those countries, such as Poland and Hungary, that have moved ahead with unconventional-gas exploration have generally seen disappointing early results. Collectively, these factors suggest that the prospects for reduced European reliance on Russian gas appear dim. The one factor that has been working to the advantage of advocates of greater European gas diversity has been the increased liquidity of the global LNG market, discussed above. Russia’s dominant position in the European gas market is being eroded by the increased availability of LNG. Qatar’s massive expansion in LNG production in 2008, coupled with the rise in unconventional gas production in the United States as well as a drop in global energy demand due to the global recession, produced a global LNG glut that saw many cargoes intended for the U.S. market diverted into Europe. As mentioned previously, with an abundant source of alternative supply, some European consumers, mainly Gazprom’s closest partners, were able to renegotiate their oil-linked, takeor-pay contracts with Gazprom. As figure 10 illustrates, however, in the wake of the Fukushima natural disaster and nuclear accident in Japan and a return to growth in most industrialized economies, the LNG market is projected to tighten considerably in the short-term, potentially returning market power to Russia. However, there is a second, structural change to the global gas market that may have more lasting effects to Russia’s market power in the European gas market. LNG is one of the fastest growing segments of the energy sector. The growth of the LNG market, both through long-term contract and spot-market sales, is likely to put increasing pressure on incumbent pipeline gas suppliers. A significant addition of U.S. LNG exports will accelerate this trend. In addition to adding to the size of the market, U.S. LNG contracts are likely to be determined on a “floating” basis, with sales terms tied to the price of a U.S. benchmark such as Henry Hub, eroding the power of providers of long-term oil linked contract suppliers such as Russia. While U.S. LNG will not be a direct tool of U.S. foreign policy—the destination of U.S. LNG will be determined according to the terms of individual contracts, the spot-price-determined demand, and the LNG traders that purchase such contracts—the addition of a large, market-based producer will indirectly serve to increase gas supply diversity in Europe, thereby providing European consumers with increased flexibility and market power. Increased LNG exports will provide similar assistance to strategic U.S. allies in the Pacific Basin. By adding supply volumes to the global LNG market, the U.S. will help Japan, Korea, India, and other import-dependent countries in South and East Asia to meet their energy needs. The desire on the part of Pacific Basin countries for the U.S. to become a gas supplier to the region has been underlined by the efforts of the Japanese government, which has attempted to secure a free-trade agreement waiver from the United States to allow exports. As with oil price-linked Russian gas contracts in Eu- rope, U.S. LNG exports linked to a floating Henry Hub benchmark, have the potential to weaken the market power of incumbent LNG providers to Asia, increasing the negotiating power of consumers and decreasing the price. As U.S. foreign policy undergoes a “pivot to Asia,” the ability of the U.S. to provide a degree of increased energy security and pricing relief to LNG importers in the region will be an important economic and strategic asset. Beyond the basin-specific considerations of U.S. LNG exports, they would provide a source of predictable natural gas supply that is relatively free from unexpected production or shipping disruption. With Qatar representing roughly one-third of the global LNG market, a blockade or military intervention in the Strait of Hormuz or a direct attack on Qatar’s liquefaction facilities by Iran would inflict chaos on world energy markets. While the United States government will be unable to physically divert LNG cargoes to specific markets or strategic allies that are most affected (gas allocation will be made by the market players), additional volumes of LNG on the world market will benefit all consumers. international Environmental implications Proposed LNG exports from the United States have encountered domestic opposition on environmental grounds. As outlined in Part I, natural gas production causes greenhouse gas emissions in the upstream production process through leakages, venting, and flaring. The greenhouse gas footprint of shale gas production has been the subject of vigorous debate, with some studies suggesting that methane from the production process leads to shale gas having a higher global warming impact than that of other hydrocarbons including coal. While the methodology underlying such studies has been widely criticized, there is no doubt that leakage and venting of natural gas is a serious negative environmental consequence of natural gas production and transportation: EPA has estimated that worldwide leakages and venting volumes were 3,353.5 bcf in 2010. 113 By contrast, some advocates of U.S. exports of LNG maintain that they have the potential to bring global environmental benefits if they are used to displace more carbon-intensive fuels. According to the IEA, natural gas in general has the potential to reduce carbon dioxide emissions by 740 million tonnes in 2035, nearly half of which could be achieved by the displacement of coal in China’s power-generation portfolio. Natural gas—in the form of LNG—also has the potential to displace more carbon-intensive fuels in other major energy users, including across the EU and in Japan, which is being forced to burn more coal and oil-based fuels to make up for the nuclear generation capacity lost in the wake of the Fukushima disaster. In addition to its relatively lower carbon-dioxide footprint, natural gas produces lower emissions of pollutants such as sulfur dioxide nitrogen oxide and other particulates than coal and oil. Natural gas—both in the form of LNG and compressed natural gas—is also being viewed as a potential replacement for oil in the vehicle transportation fleet, with large carbon dioxide abatement potential. 114 However, as discussed in Part I, even the United States with its low gas prices is unlikely to see any significant move toward natural gas vehicles in the absence of government policies; the prospects for such vehicles entering the European or Asian markets, where gas is several times as expensive, are remote. On the other hand, additional volumes of natural gas in the global power generation fleet may also have longer-term detrimental consequences for carbon emissions. According to the IEA, by backing out nuclear and renewable energy generation, natural gas could add 320Mt of carbon dioxide by 2035. 115 Whether U.S. LNG exports contribute to reduced carbon dioxide emissions through the displacement of coal fired power generation or to the crowding out of renewable and nuclear energy in the global energy mix is something of a moot point. According to the IEA, global power generation is projected to exceed 27,000 terawatt hours per year by 2020. 116 Even assuming U.S. exports of 6 bcf/day (on the upper end of the range of expectations), zero losses due to transportation, regasification, and transmission, and a high natural gas power plant efficiency level of 60 percent, such volumes would account for just over one percent of total global power generation. 117 Therefore, although the domestic environmental impacts associated with shale gas extraction may, pending the outcome of further study, prove to be a cause for concern with respect to greenhouse gas emissions, the potential for U.S. LNG exports to make a meaningful impact on global emissions through changes to the global power generation mix is negligible. T his paper has attempted to answer two questions: Are U.S. LNG exports feasible? If so, what are the implications of U.S. LNG exports? **For exports to be feasible, several demand and supply-related conditions need to be met**. On the supply side, adequate resources must be available and their production must be sustainable over the long-term. The regulatory and policy environment will need to accommodate natural gas production to ensure that the resources are developed. The capacity and infrastructure required to enable exports must also be in place. This includes the adequacy of the pipeline and storage network, the availability of shipping capacity, and the availability of equipment for production and qualified engineers. On the demand side, LNG exports will compete with two main other domestic end uses for natural gas: the power-generation sector, and the industrial and petrochemical sector. According to most projections, the U.S. electricity sector will see an increased demand for natural gas as it seeks to comply with policies and regulations aimed at reducing carbon-dioxide emissions and pollutants from the power-generation fleet. Cheaper natural gas in the industrial sector has the potential to lower the cost of petrochemical production and to improve the competitiveness of a range of refining and manufacturing operations. Advocates of natural gas usage in the transportation fleet – particularly in heavy-duty vehicles (HDVs) – see it as a way to decrease the country’s dependence on oil, although absent major policy support, this sector is unlikely to represent a significant source of gas demand. For increased U.S. LNG exports to be feasible, they will also need to be competitive with supplies from other sources. The major demand centers that would import U.S. LNG would be Pacific Basin consumers (Japan, South Korea, and Taiwan, and increasingly China and India), and Atlantic Basin consumers, mostly in Europe. The supply and demand balance in the Atlantic and Pacific Basins and, therefore the feasibility for natural gas exports from the United States, depend heavily on the uncertain outlook for international unconventional natural gas production. Recent assessments in countries such as China, India, Ukraine, and Poland indicate that each country has significant domestic shale gas reserves. If these reserves are developed effectively—which is likely to be difficult in the short-term due to a lack of infrastructure, physical capacity, and human capacity—many of these countries would dramatically decrease their import dependence, with negative implications for existing and newcomer LNG exporters. Detailed analysis of the foregoing factors suggests that the exportation of liquefied natural gas from the United States is logistically feasible. Based on current knowledge, the domestic U.S. natural gas resource base is large enough to accommodate the potential increased demand for natural gas from the electricity sector, the industrial sector, the residential and commercial sectors, the transportation sector, and exporters of LNG. Other obstacles to production, including infrastructure, investment, environmental concerns, and human capacity, are likely to be surmountable. Moreover, the current and projected supply and demand fundamentals of the international LNG market are conducive to competitive U.S.-sourced LNG. While LNG exports may be practically feasible, they will be subject to approval by policy makers if they are to happen. In making a determination on the advisability of exports, the federal government will focus on the likely implications of LNG exports: i.e. whether LNG exports are in the “public interest.” The extent of the domestic implications is largely dependent upon the price impact of exports on domestic natural gas prices. While it is clear that domestic natural gas prices will increase if natural gas is exported, most existing analyses indicate that the implications of this price increase are likely to be modest.

#### Plan decreases demand for natural gas

Wiser 5 (Ryan, PhD scientist at Lawrence Berkeley National Laboratory, “Easing the Natural Gas Crisis: Reducing Natural Gas Prices Through Electricity Supply Diversification,” March 8, http://eetd.lbl.gov/ea/ems/reports/Senate-Testimony.pdf)

With the recent run-up in natural gas prices, and the expected continuation of volatile and high prices for at least the mid-term future, a growing number of voices are calling for increased diversification of electricity supplies. Such diversification holds the prospect of directly reducing our dependence on a fuel whose costs are highly uncertain, thereby hedging the risk of natural gas price volatility and escalation. In addition, as I will describe in a moment, by reducing natural gas demand, increased diversification away from gas-fired generation can indirectly suppress natural gas prices. Our report highlights the impact of increased deployment of renewable energy and energy efficiency on natural gas prices and consumer natural gas bills. A growing number of modeling studies conducted by government, non-profit, and private sector entities are showing that renewable energy and energy efficiency could significantly reduce natural gas prices and bills. Our report summarizes these recent modeling studies and reviews the reasonableness of their findings in light of economic theory and other analyses. (Though our report focuses on renewable energy and energy efficiency, other non-natural-gas resources would likely have a similar effect). We find that, by displacing natural-gas-fired electricity generation, increased levels of renewable energy and energy efficiency will reduce demand for natural gas and thus put downward pressure on gas prices. These price reductions hold the prospect of providing consumers with significant natural gas bill savings. In fact, although we did not analyze in detail the electricity price impacts reported in the studies, the studies often show that any predicted increase in the price of electricity caused by greater use of renewable energy or energy efficiency is largely or completely offset by the predicted natural gas price savings. We conclude that policies to encourage fuel diversification within the electricity sector should consider the potentially beneficial cross-sector impact of that diversification on natural gas prices and bills.

#### Natural gas demand is closely monitored – perception of the plan triggers the link

Burnes et al 12-7 (John, Lisa Epifani, Curt Moffatt, Janna Chesno, Partner – VanNess Feldman, “DOE Releases LNG Export Study and Requests Public Comment,” VanNess Feldman, 2012, http://www.vnf.com/news-alerts-778.html)

Exports of natural gas, including LNG, must be authorized by DOE’s Office of Fossil Energy. By statute, exports of LNG to FTA nations must be approved “without modification or delay”. By contrast, before approving an application to export LNG to non-FTA nations, DOE must determine that the export is and will remain in the “public interest”. DOE’s primary focus is upon the domestic need for the gas to be exported. In May 2011, DOE conditionally authorized Sabine Pass Liquefaction, LLC (Sabine Pass) to export LNG to non-FTA nations. The authorization was finalized in August 2012. This remains the only long-term DOE authorization to export LNG from the lower 48 states to non-FTA nations. In the Sabine Pass order, DOE determined that it had a continuing duty to protect the public interest, and announced that it would monitor gas supply/demand conditions in the United States and the world to ensure that the cumulative impacts of the exports authorized in the order and in future orders would not lead to a reduction in the supply of natural gas needed to meet essential domestic needs. DOE also provided notice that it would take any action in the future, including amending or even revoking export authorizations, as appropriate or necessary to protect the public interest.

#### Plan kills Russia’s economy

Mead 12

Walter Russell Mead, April 25, 2012 (Professor of Foreign Affairs and Humanities at Bard College, Henry A. Kissinger senior fellow for U.S. foreign policy at the Council on Foreign Relations (CFR), and Editor-at-Large of The American Interest magazine), , The American Interest, North American Shale Gas Gives Russia Serious Headache, <http://blogs.the-american-interest.com/wrm/2012/04/25/north-american-shale-gas-gives-russia-serious-headache/>

North America’s shale gas boom is chipping away at the market for gas producers like Russia. What’s more, if the United States becomes a gas exporter, Russia’s customers (especially in Europe) could decide to cancel expensive contracts with Gazprom in favor of cheaper American natural gas. “If the US starts exporting LNG to Europe and Asia, it gives [customers there] an argument to renegotiate their prices with Gazprom and Qatar, and they will do it,” says Jean Abiteboul, head of Cheniere supply & marketing. Gazprom supplied 27 percent of Europe’s natural gas in 2011. While American gas is trading below $2 per MMBTU (million British thermal units), Gazprom’s prices are tied to crude oil markets, and its long-term contracts charge customers roughly $13 per MMBTU, says the *FT*. European customers would love to reduce their dependence on Gazprom and start to import American gas. Already Gazprom has had to make concessions to its three biggest customers, and others are increasingly dissatisfied with their contracts. Worse, from Russia’s point of view: evidence that western and central Europe contain substantial shale gas reserves of their own. Fracking is unpopular in thickly populated, eco-friendly Europe, but so are high gas prices. All this ought to give Russia serious heartburn. Eroding Gazprom’s dominance of the European energy market would be a major check on Russian economic growth and political influence.

**Goes nuclear and turns case**

**Filger 9** (Sheldon, Columnist and Founder – Global EconomicCrisis.com, “Russian Economy Faces Disasterous Free Fall Contraction”, <http://www.huffingtonpost.com/sheldon-filger/russian-economy-faces-dis_b_201147.html>)

In Russia, historically, economic health and political stability are intertwined to a degree that is rarely encountered in other major industrialized economies. It was the economic stagnation of the former Soviet Union that led to its political downfall. Similarly, Medvedev and Putin, both intimately acquainted with their nation's history, are unquestionably alarmed at the prospect that Russia's economic crisis will endanger the nation's political stability, achieved at great cost after years of chaos following the demise of the Soviet Union. Already, strikes and protests are occurring among rank and file workers facing unemployment or non-payment of their salaries. Recent polling demonstrates that the once supreme popularity ratings of Putin and Medvedev are eroding rapidly. Beyond the political elites are the financial oligarchs, who have been forced to deleverage, even unloading their yachts and executive jets in a desperate attempt to raise cash. Should the Russian economy deteriorate to the point where economic collapse is not out of the question, the impact will go far beyond the obvious accelerant such an outcome would be for the Global Economic Crisis. There is a geopolitical dimension that is even more relevant then the economic context. Despite its economic vulnerabilities and perceived decline from superpower status, Russia remains one of only two nations on earth with a nuclear arsenal of sufficient scope and capability to destroy the world as we know it. For that reason, it is not only President Medvedev and Prime Minister Putin who will be lying awake at nights over the prospect that a national economic crisis can transform itself into a virulent and destabilizing social and political upheaval. It just may be possible that U.S. President Barack Obama's national security team has already briefed him about the consequences of a major economic meltdown in Russia for the peace of the world. After all, the most recent national intelligence estimates put out by the U.S. intelligence community have already concluded that the Global Economic Crisis represents the greatest national security threat to the United States, due to its facilitating political instability in the world. During the years Boris Yeltsin ruled Russia, security forces responsible for guarding the nation's nuclear arsenal went without pay for months at a time, leading to fears that desperate personnel would illicitly sell nuclear weapons to terrorist organizations. If the current economic crisis in Russia were to deteriorate much further, how secure would the Russian nuclear arsenal remain? It may be that the financial impact of the Global Economic Crisis is its least dangerous consequence.

### 1NC

#### Text: The fifty state governments of the United States should reduce restrictions on and increase financial incentives for decentralized solar energy production in the United States

#### 50 State action solves better

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

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

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

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

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

### 1NC

#### Plan: The United States Federal Government should substantially reduce restrictions on decentralized solar energy production in the United States

#### Competes – doesn’t provide financial incentives

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

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

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

#### Collapses the solar industry – only the CP solves

Glover 9/13 -- European associate editor for the independent online magazine Energy Tribune (Peter, 2012, "Solar Eclipsed?" http://www.energytribune.com/articles.cfm/11672/Solar-Eclipsed)

The global solar power industry is in crisis. The industry blames widespread national subsidy cuts and over productivity; China, in particular, being widely vilified on the second count. However, the real cause of the solar industry’s malaise runs deeper, rooted, as it is, in the inescapable fact that, in terms of current technology, commercial scale solar energy remains a non-viable proposition. Wherever you look the solar power industry is mired in financial problems, all of which lead back to the (life support) of public subsidy, the impact of market-skewing regulations (creating the appearance of commercial viability) and, ultimately, protectionist trade wars (US and Europe v China). In economic good-times, three natural consequences of government-sponsored global industries that can be obfuscated by a network of feed-in tariffs, levies and other ‘green’ taxes to pay for them. But in leaner economic climes, the real cost of ‘free’ energy becomes all too clear. Germany’s solar industry has led the way in Europe. Until recently the country was the world leader in manufacturing solar cells. Half of the world’s total solar power generating capacity is installed in Germany. But, according to Klaus Dieter Maubach, Technology Chairman at the country’s power major EON, Germany’s solar industry is in a death spiral. Speaking to Focus magazine, Maubach states that “not a single company is in the black” and that the entire German solar industry “will disappear within five years”. His bleak prediction merely echoed the view of investment consultants Citigroup who warned in March that Germany’s subsidy cuts would “nearly kill Germany’s solar industry”. Widespread complaints of Chinese solar companies dumping cut price solar panels on the European market have merely added to the malaise. In early September, the European Commission announced a formal inquiry into this allegation that could well trigger a cut-throat solar trade war with China. But as Eon’s Maubach points out with regard to the international solar market, China itself is suffering from precisely the same market problems as all its competitors. While Beijing will attempt to stave off decline through government stimulus, it is only a question of time before the loss of European and US markets for cheap Chinese goods, including solar panels, causes an economic downturn there, too. In fact, the threat of a Europe v China solar ‘war’ is little more than a replay of last year’s dust up between the United States and China. In the wake of the infamous Solyndra scandal (which Solyndra execs blamed on cheap Chinese imports), the U.S. imposed savage protectionist anti-dumping tariffs. These ranged from 31 percent to as high as 250 percent on imported Chinese-made panels. No surprise then that the Chinese companies should turn their attention to key European markets to offload a product they are unable to sell domestically. The problems for U.S. solar cannot be laid at the door of Chinese competition alone. Once the massive infusion of government stimulus cash ran out and subsidies slowed in early 2011, U.S. solar companies had already begun filing for bankruptcy. And Solyndra wasn’t the only company desperate for more cash. One heavily-subsidized firm, First Solar, was even caught using the U.S. taxpayer loan guarantee to sell solar panels to itself. So are the Chinese really the chief villains of the global solar piece? Depends how you look at it. China’s over production only came about because Beijing’s economic stimulus for its solar industry led to explosive growth and, ultimately, unfettered over production. Given enormous government subsidies there was literally no incentive to slow production down. In the game of who could sustain massive public subsidy longest, cash-rich China clearly won. But the fact is that the sun looks to be setting on China’s solar industry, too. Beijing has also become aware it cannot go on subsidizing its solar and renewable industries. China is dumping its solar panels in a bid to at least redeem some of its costs. Meanwhile the dark clouds have gathered over China’s economy too with the solar sector there also now facing bankruptcy. Since 2005, Chinese solar companies saw heady growth receiving significant government support as a “strategic emerging industry”. But since 2010, the price of the key polysilicon wafers crucial to production has fallen by around 75 percent. In recent times, China’s big five firms have all reported disastrous trading losses. Worse still, according to the investment boys at Energy and Capital and others, China’s much-vaunted booming economy, already over-heating, is about to implode. Taken as a whole, government incentive schemes around the world have created a glut of suppliers that the capitalist free market would never have sanctioned. The eclipse of Europe’s solar industry is in truth down to simple economic realities hitting home as commercial scale solar power is simply too expensive a proposition to attract serious private sector investment and end massive public subsidies. In January, Spain’s economic crisis forced it to cut its renewable subsidy regime entirely. In April, a near-bankrupt Italian government estimated that its subsidy regime left it facing a $60 billion bill to photovoltaic generators over the next 20 years. In The Great British Solar Scam I wrote about how the UK’s bid to cuts its ludicrously generous solar subsidy regime saw it prevented from making subsidy cuts by a European court after the UK solar industry inevitably claimed widespread bankruptcies would result(1). What marks out both the entire renewable energy sector for economic decline above all else is the fact that it is effectively an expensive government-sponsored enterprise, not a child of the free and democratic marketplace. Consider again the elements colluding to produce the current crisis: the lifeline of public subsidy, energy levies and taxes and market-skewing regulation dove-tailing with incentivized over-capacity, protectionism and, ultimately, trade wars. All marks of an industry kept afloat by ideological fiat and not free market capitalism geared to meeting actual market need. To gain a final key perspective, a report by United Nations Environment Programme in June announced that global renewable energy investment generally reached $257 billion in 2011 rivalling the $302 billion invested in hydrocarbon power. Germany alone has committed over €100 billion in solar subsidies over the next 20 years – for a power that will produce a very small energy return. In total, renewable energy, of which solar is just a tiny fraction, makes up just 3 percent of our electricity. As the green utopian clouds obscuring the real cost of ‘free’ solar power clear, it’s easy to see why the industry is in eclipse.

### Warming

#### Warming is irreversible

ANI 10 (“IPCC has underestimated climate-change impacts, say scientists”, 3-20, One India, http://news.oneindia.in/2010/03/20/ipcchas-underestimated-climate-change-impacts-sayscientis.html)

According to Charles H. Greene, Cornell professor of Earth and atmospheric science, "Even if all man-made greenhouse gas emissions were stopped tomorrow and carbon-dioxide levels stabilized at today's concentration, by the end of this century, the global average temperature would increase by about 4.3 degrees Fahrenheit, or about 2.4 degrees centigrade above pre-industrial levels, which is significantly above the level which scientists and policy makers agree is a threshold for dangerous climate change." "Of course, greenhouse gas emissions will not stop tomorrow, so the actual temperature increase will likely be significantly larger, resulting in potentially catastrophic impacts to society unless other steps are taken to reduce the Earth's temperature," he added. "Furthermore, while the oceans have slowed the amount of warming we would otherwise have seen for the level of greenhouse gases in the atmosphere, the ocean's thermal inertia will also slow the cooling we experience once we finally reduce our greenhouse gas emissions," he said. This means that the temperature rise we see this century will be largely irreversible for the next thousand years. "Reducing greenhouse gas emissions alone is unlikely to mitigate the risks of dangerous climate change," said Green.

#### Transportation outweighs

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

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

#### 3 - Long timeframe and adaptation solves

Robert O. Mendelsohn 9, the Edwin Weyerhaeuser Davis Professor, Yale School of Forestry and Environmental Studies, Yale University, June 2009, “Climate Change and Economic Growth,” online: http://www.growthcommission.org/storage/cgdev/documents/gcwp060web.pdf

The heart of the debate about climate change comes from a number of warnings from scientists and others that give the impression that human-induced climate change is an immediate threat to society (IPCC 2007a,b; Stern 2006). Millions of people might be vulnerable to health effects (IPCC 2007b), crop production might fall in the low latitudes (IPCC 2007b), water supplies might dwindle (IPCC 2007b), precipitation might fall in arid regions (IPCC 2007b), extreme events will grow exponentially (Stern 2006), and between 20–30 percent of species will risk extinction (IPCC 2007b). Even worse, there may be catastrophic events such as the melting of Greenland or Antarctic ice sheets causing severe sea level rise, which would inundate hundreds of millions of people (Dasgupta et al. 2009). Proponents argue there is no time to waste. Unless greenhouse gases are cut dramatically today, economic growth and well‐being may be at risk (Stern 2006).

These statements are largely alarmist and misleading. Although climate change is a serious problem that deserves attention, society’s immediate behavior has an extremely low probability of leading to catastrophic consequences. The science and economics of climate change is quite clear that emissions over the next few decades will lead to only mild consequences. The severe impacts predicted by alarmists require a century (or two in the case of Stern 2006) of no mitigation. Many of the predicted impacts assume there will be no or little adaptation. The net economic impacts from climate change over the next 50 years will be small regardless. Most of the more severe impacts will take more than a century or even a millennium to unfold and many of these “potential” impacts will never occur because people will adapt. It is not at all apparent that immediate and dramatic policies need to be developed to thwart long‐range climate risks. What is needed are long‐run balanced responses.

#### Solar insufficient in solving warming

Post 12 -- BSME New Jersey Institute of Technology, MSME Rensselaer Polytechnic Institute, MBA, University of Connecticut. P.E. Connecticut. Consulting Engineer and Project Manager (Willem, 7/1/12, "Wind Energy CO2 Emissions Reductions are Overstated," http://theenergycollective.com/node/89476)

Solar energy is variable (during a day and during variable cloudiness) and intermittent; usually it is minimal in the morning, maximal at noon about 3-5 hours before the daily peak demand, minimal in the afternoon, minimal during foggy, overcast, snowy days, and zero at night. About 65-70 percent of the hours of a year solar energy is near zero, and it cannot be turned off, as in Southern Germany with about 1 million PV systems, when on sunny summer days solar energy surges to about 12,000 MW to 14,000 MW and has to be partially exported to France and the Czech Republic at fire sale prices, 5.5 euro cent/kWh or less, after having been subsidized at an average of about 50 euro cent/kWh. Example: German solar power is as little as 2% of rated capacity, or 340 MW, on cloudy days and when snow covers the panels. This means there are many hours during a year when no wind or solar energy is generated. Therefore, all conventional generator units will need to be kept in good operating condition, AND staffed 24/7/365, AND fueled to serve the daily demand when wind and solar energy is near zero. Without utility-scale energy storage, wind turbines and solar systems cannot replace any conventional units. All the units that would be needed WITHOUT the existence of wind turbines and solar systems, would also be needed WITH the existence of wind turbines and solar systems. Some of the conventional units would have less energy production with wind and solar energy on the grid, thereby adversely affecting their economics, due to increasingly inefficient start/stop, part-load and part-load-ramping operations, but without wind and solar energy on the grid, the energy production of almost all the conventional units would be needed to serve the daily demand. Building Wind Turbines Everywhere?: There are some (mostly wind turbine vendors, project developers, trade organizations, NRELs, financial types setting up LLC tax shelters for the top 1% of households, etc.) who say that building wind turbines everywhere there is wind, and connecting all of them with a national HVDC overlay grid into a super grid (similar to the US Interstate Highway System overlaying state and local roads), the variation and intermittency of wind energy in the diverse geographical areas will largely be canceling each other out so that the overall energy production will become increasingly steadier as more wind turbines are connected to the super grid, and that therefore there will be little need for balancing plants, and that there will always be wind energy somewhere no matter what the weather conditions in one or more geographical areas. Several National Renewable Energy Laboratories and other entities have made studies of this scheme, using mathematical modeling, as described in the EWITS and NEWITS reports. However, someone went one step further and combined the outputs of 5 widely dispersed geographical areas: - http://transmission.bpa.gov/Business/Operations/Wind/default.aspx Bonneville Power Administration, which serves 3.5 GW of installed capacity in the Pacific Northwest - The Australian Energy Market Operator, which serves 1.8 GW of installed capacity in New South Wales - The Independent Electricity System Operator, which serves 1.2 GW of installed capacity in Ontario - The Alberta Electric System Operator, which serves 0.8 GW of installed capacity in Alberta - http://www.eirgrid.com/operations/systemperformancedata/windgeneration/ EirGrid, which serves 1.4 GW of installed capacity in Ireland The result of the analysis is described in this article which concludes geographical dispersion of wind turbines does not reduce the variation and intermittency of wind energy. http://www.ethiopianreview.com/business/122605 A French energy systems analyst, Hubert Flocard, combined the wind energy outputs of several European nations. The results of his analysis yielded the same conclusion. http://www.dimwatt.eu/index.php/our-campaigns/keeping-the-lights-on/documents/108-ground-breaking-french-study-should-stop-further-expenses-on-the-so-called-super-grid Energy Cost Projections The US Energy Information Administration projects levelized production costs (national averages, excluding subsidies) of NEW plants coming on line in 2016 as follows (2009$) : Offshore wind $0.243/kWh, PV solar $0.211/kWh (higher in marginal solar areas, such as New England), Onshore wind $0.096/kWh (higher in marginal wind areas with greater capital and O&M costs, such as on ridge lines in New England), Conventional coal (base-loaded) $0.095/kWh, Advanced CCGT (base-loaded) $0.0631/kWh. http://www.energytransition.msu.edu/documents/ipu\_eia\_electricity\_generation\_estimates\_2011.pdf IS WIND ENERGY GOOD ENERGY POLICY? Within federal, state and local governments tens of thousands of people are busying themselves promoting renewables by with holding meetings and public hearings, preparing studies, writing reports, energy plans, laws, rules and regulations, monitoring projects for compliance, etc. Outside of government wind turbine vendors (Siemens, GE, Vestas, Iberdrola, etc,), project developers/owners, financiers managing tax shelters, trade organizations, etc., are busying themselves popularizing wind energy as saving the planet from global warming with PR campaigns that claim there would be significant reductions of fossil fuel consumption and CO2 reductions/kWh, that capital costs/MW would decrease, and that wind energy costs/kWh would be at grid parity in the near future. These claims have largely not been realized. Global Warming is a Given: A just-released report from EIA shows the actual world energy consumption data and projected consumption data for the 1990 to 2035 period. The report shows world energy consumption is estimated to increase from 505 quads in 2008 to 770 quads in 2035, a 52% increase. The biggest part of the increase is by (non-OECD nations + Asia). http://www.eia.gov/forecasts/ieo/world.cfm See spreadsheet associated with figure 12 World energy consumption by fuel (quadrillion Btu) Liquids: From 173.2 in 2010 to 225.1 in 2035; 30% more Natural gas: 116.7 to 174.7; 50% more Coal: 149.4 to 209.1; 49% more Nuclear: 27.6 to 51.2; 86% more Renewables: 55.2 to 109.5; 98% more Renewables fraction of total consumption: From 10.6% in 2010 to 15.2% in 2035 Fossil fraction of total consumption: 84.1% to 79.1% The significant increase in projected fossil fuel consumption during the next 24 years means global warming will continue unabated, because (non-OECD + ASIA) will have energy consumption growth far outpacing the energy consumption growth of the rest of the world; i.e., global warming is a given. The above indicates the enormous investments required to achieve the 2035 projected renewables energy production would have practically no benefit regarding global warming.

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

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

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

#### -- No extinction

Easterbrook 3 (Gregg, Senior Fellow – New Republic, “We’re All Gonna Die!”, Wired Magazine, July, http://www.wired.com/wired/archive/11.07/doomsday.html?pg=1&topic=&topic\_set=)

If we're talking about doomsday - the end of human civilization - many scenarios simply don't measure up. A single nuclear bomb ignited by terrorists, for example, would be awful beyond words, but life would go on. People and machines might converge in ways that you and I would find ghastly, but from the standpoint of the future, they would probably represent an adaptation. Environmental collapse might make parts of the globe unpleasant, but considering that the biosphere has survived ice ages, it **wouldn't be the final curtain**. Depression, which has become 10 times more prevalent in Western nations in the postwar era, might grow so widespread that vast numbers of people would refuse to get out of bed, a possibility that Petranek suggested in a doomsday talk at the Technology Entertainment Design conference in 2002. But Marcel Proust, as miserable as he was, wrote Remembrance of Things Past while lying in bed.

#### -- Long time-frame

Kay 1 (Jane, “Study Takes Historical Peek at Plight of Ocean Ecosystems”, San Francisco Chronicle, 7-26, Lexis)

The collapse of ecosystems often occur over a **long period**. In one example, when Aleut hunters killed the Alaskan sea otter about **2,500 years ago**, the population of their natural prey, the sea urchin, grew larger than its normal size. In turn, the urchins grazed down the kelp forests, important habitat for a whole host of ocean life. Then, when fur traders in the 1800s hunted the otters and sea cows almost to extinction, the kelp forests disappeared and didn't start to regenerate until the federal government protected the sea otters in the 20th century. In California, the diversity of spiny lobsters, sheephead fish and abalone kept down the urchin numbers. At present in Alaska, the kelp beds are declining again in areas where killer whales are preying on sea otters. Biologists think the killer whales switched to otters for food because there are fewer seals and sea lions to eat.

#### Increased solar adoption causes utilities to reject net metering – makes solar development impossible

Martin 9/12 -- reporter for Bloomberg News (Christopher, 2012, "U.S. Solar Industry Bracing for Utility Backlash Over Metering,"

Utilities are required to purchase electricity generated by solar panels installed on consumers’ homes under so-called net- metering policies, an arrangement that may become less viable as solar systems become more common, said Rhone Resch, chief executive officer of the Washington-based trade group. California, the largest solar market, capped the amount of panels utilities are required to connect to their grids and other states are considering similar policies. Some utilities see the requirement to buy solar power from every rooftop system as a threat to their profitability, Resch said. “Net metering works for us now, but we’re going to see a backlash from utilities as solar penetration increases over the next few years,” Resch said today in an interview at the Solar Power International conference in Orlando, Florida. California regulators capped the amount of rooftop solar that may be connected to the grid at 5 percent of a utility’s power needs, and is studying the long-term impact upon their profits. Other states may consider similar actions, said Tony Clifford, chief executive officer of Standard Solar Inc., a closely held developer based in Rockville, Maryland. “I’m really concerned about a utility pushback on net- metering,” Clifford said in an interview. “What we need is an honest assessment of the true costs and benefits of managing distributed generation and I don’t think we’ve seen that yet.” Utilities are considering ways to offset the cost of buying solar, including Sempra Energy (SRE)’s San Diego Gas & Electric, which proposed a fee for residential solar customers, said Aaron Hall, president of the San Diego-based developer Borrego Solar Systems Inc. Regulars blocked the proposal in January. “That would have made almost every installation lose money and prevent new projects from getting financing,” Hall said.

#### Status quo solves – emissions are declining

Levi 9-25 (Michael, David M. Rubenstein Senior Fellow for Energy and the Environment – CFR, “Why Have U.S. Carbon Dioxide Emissions Plummeted?,” Council on Foreign Relations, 2012, http://blogs.cfr.org/levi/2012/09/25/why-have-u-s-carbon-dioxide-emissions-plummeted/)

U.S. carbon dioxide emissions for January-May are down six percent from 2011 to 2012. Headlines have highlighted the fact that emissions from January-March hit a twenty year low. What explains the shift? That question has been the subject of intense debate. John Hanger argues that 77 percent of that decline can be attributed to the shift from coal to gas. The folks over at CO2Scorecard, looking at January-March data, put that number at a more modest 21 percent. These are drastically different figures. What number should we believe? Part of the discrepancy comes from looking at different time periods. January-March emissions were affected more by the warm winter than April-May ones were. That makes sense because January-March is part of the winter. April-May emissions were affected more by rock bottom natural gas prices than January-March ones were. That makes sense because it was April-May when rock bottom (i.e. sub-two-dollars wellhead) natural gas prices prevailed. Let’s focus on the full January-May span, since it’s now the longest period for which we have 2011 and 2012 data, and do the analysis for ourselves. First the basics: Carbon dioxide emissions fell from 2,303 metric tons (Mt) in 2011 to 2,158 Mt in 2012, a drop of 145 Mt. (To keep things simple, the January-May time period is implicit in all this.) The basic story is that emissions from coal consumption plummeted by 132 Mt. Falling oil emissions chipped in another 18 Mt. Natural gas emissions were nearly flat; they were actually down 5 Mt. This would seem to suggest that natural gas played little role in falling emissions. Instead, it appears to suggest, reduced demand for coal is what did the trick. This’s roughly the intuition behind the conclusion from CO2Scorecard that natural gas has played a modest role in the U.S. emissions decline. Hanger contests this by making three basic points. First, he notes, “about 85% (132 of 144 million tons) of the 2012 U.S. Carbon emission decline is a product of falling emissions from coal.” Second, he argues, the decline in emissions from coal are “almost entirely as a result of more gas displacing coal generation this year. Indeed, coal’s electricity generation market share fell from 42% for all of 2011 to 32% in April and 34% in May.” Third, he observes, “Electricity demand is down 2% in the first 5 months of 2012 compared to 2011 so that is a small reason for declining emissions and probably explains about 10% of the 132 million ton decline of coal emissions.” Hanger puts these together with a few other estimates to come to his conclusion that 77 percent of the emissions decline is due to gas.

### Economy

#### Electricity prices at historic lows now – shale gas, utility actions prove

Reuters 3/6/13 ("US utilities seen burning more coal as prices decline," http://www.miningweekly.com/article/us-utilities-seen-burning-more-coal-as-prices-decline-2013-03-06)

In 2012, the price of gas, which has historically been more expensive than coal, dropped to a more than ten-year low due primarily to record shale gas production.¶ Those weak gas prices depressed power prices to at least decade lows in most regions and in part caused generators to switch from coal to gas plants in record numbers.¶ Since 2009, generators have announced plans to shut more than 40 000 MW of coal-fired capacity over the next several years as the weak power prices make it uneconomic for them to invest in emission control equipment needed to keep the older coal plants compliant with stricter environmental rules.

#### US economy recovering now

Schlesinger 3/8/13 (Jill, Moneywatch/CBS, "February jobs report: Stronger than expected," http://www.cbsnews.com/8301-34227\_162-57573207/february-jobs-report-stronger-than-expected/)

(MoneyWatch) The Labor Department said 236,000 jobs were created in February and the unemployment rate edged lower to 7.7 percent from 7.9 percent. This level of job growth is welcome, but many are taking a wait and see approach to the job situation until the effects of sequestration are fully known.¶ The February employment report is the last one before the government's across the board spending cuts go into effect. Economists are waiting to see whether the Congressional Budget Office's projection of 750,000 fewer jobs comes to fruition or whether the U.S. economy is strong enough to weather the cuts and continue to create enough private sector jobs to compensate for the government jobs that could vanish.¶ Capital Economics framed the bullish case on the economy, noting, "Despite the continued drag from fiscal austerity, the outlook for the economy is improving." The improvement can be seen in a few ways: Business investment is accelerating, due to robust earnings growth; housing will no longer be a headwind for the economy and instead will contribute to growth; manufacturing has started to pick up after a break; and consumers appear to be absorbing the expiration of the payroll tax cut, without too large a hit to confidence or spending. Taken together, the analysis projects a slowdown in growth to about 1 percent for the first half of the year, followed by a second-half annualized rate of 2.5 percent.¶ While the analysis acknowledges big risks to the economy (U.S. government shutdown or another chapter in the eurozone crisis), the general gist is that the economy is doing just fine and as a result, job creation should continue, despite the Washington antics.¶

#### Renewable energy skyrockets electricity prices

Bryce 12 (Robert, Senior Fellow @ Center for Energy Policy and the Environment - Manhattan Institute, "The High Cost of Renewable Energy Mandates," http://www.manhattan-institute.org/html/eper\_10.htm)

Although supporters of renewable energy claim that the RPS mandates will bring benefits, their contribution to the economy is problematic because they also impose costs that must be incorporated into the utility bills paid by homeowners, commercial businesses, and industrial users. And those costs are or will be substantial. Electricity generated from renewable sources generally costs more—often much more—than that produced by conventional fuels such as coal and natural gas. In addition, large-scale renewable energy projects often require the construction of many miles of high-voltage transmission lines. The cost of those lines must also be incorporated into the bills paid by consumers.¶ These extra costs amount to a "back-end way to put a price on carbon," says Suedeen Kelly, a former member of the Federal Energy Regulatory Commission.[5] Indeed, with Congress unwilling to approve national carbon dioxide restrictions or renewable-energy quotas, the RPS mandates have become a sprawling state system of de facto carbon-reduction taxes.

#### Economic decline doesn’t cause war

Tir 10 [Jaroslav Tir - Ph.D. in Political Science, University of Illinois at Urbana-Champaign and is an Associate Professor in the Department of International Affairs at the University of Georgia, “Territorial Diversion: Diversionary Theory of War and Territorial Conflict”, The Journal of Politics, 2010, Volume 72: 413-425)]

Empirical support for the economic growth rate is much weaker. The finding that poor economic performance is associated with a higher likelihood of territorial conflict initiation is significant only in Models 3–4.14 The weak results are not altogether surprising given the findings from prior literature. In accordance with the insignificant relationships of Models 1–2 and 5–6, Ostrom and Job (1986), for example, note that the likelihood that a U.S. President will use force is uncertain, as the bad economy might create incentives both to divert the public’s attention with a foreign adventure and to focus on solving the economic problem, thus reducing the inclination to act abroad. Similarly, Fordham (1998a, 1998b), DeRouen (1995), and Gowa (1998) find no relation between a poor economy and U.S. use of force. Furthermore, Leeds and Davis (1997) conclude that the conflict-initiating behavior of 18 industrialized democracies is unrelated to economic conditions as do Pickering and Kisangani (2005) and Russett and Oneal (2001) in global studies. In contrast and more in line with my findings of a significant relationship (in Models 3–4), Hess and Orphanides (1995), for example, argue that economic recessions are linked with forceful action by an incumbent U.S. president. Furthermore, Fordham’s (2002) revision of Gowa’s (1998) analysis shows some effect of a bad economy and DeRouen and Peake (2002) report that U.S. use of force diverts the public’s attention from a poor economy. Among cross-national studies, Oneal and Russett (1997) report that slow growth increases the incidence of militarized disputes, as does Russett (1990)—but only for the United States; slow growth does not affect the behavior of other countries. Kisangani and Pickering (2007) report some significant associations, but they are sensitive to model specification, while Tir and Jasinski (2008) find a clearer link between economic underperformance and increased attacks on domestic ethnic minorities. While none of these works has focused on territorial diversions, my own inconsistent findings for economic growth fit well with the mixed results reported in the literature.15 Hypothesis 1 thus receives strong support via the unpopularity variable but only weak support via the economic growth variable. These results suggest that embattled leaders are much more likely to respond with territorial diversions to direct signs of their unpopularity (e.g., strikes, protests, riots) than to general background conditions such as economic malaise. Presumably, protesters can be distracted via territorial diversions while fixing the economy would take a more concerted and prolonged policy effort. Bad economic conditions seem to motivate only the most serious, fatal territorial confrontations. This implies that leaders may be reserving the most high-profile and risky diversions for the times when they are the most desperate, that is when their power is threatened both by signs of discontent with their rule and by more systemic problems plaguing the country (i.e., an underperforming economy).

#### Economy’s resilient – can survive shocks

Bloomberg 12 (“Fed’s Plosser Says U.S. Economy Proving Resilient to Shocks,” 5-9, http://www.bloomberg.com/news/2012-05-09/fed-s-plosser-says-u-s-economy-proving-resilient-to-shocks.html)

Philadelphia Federal Reserve Bank President Charles Plosser said the U.S. economy has proven “remarkably resilient” to shocks that can damage growth, including surging oil prices and natural disasters. “The economy has now grown for 11 consecutive quarters,” Plosser said today according to remarks prepared for a speech at the Philadelphia Fed. “Growth is not robust. But growth in the past year has continued despite significant risks and external and internal headwinds.” Plosser, who did not discuss his economic outlook or the future for monetary policy, cited shocks to the economy last year, including the tsunami in Japan that disrupted global supply chains, Europe’s credit crisis that has damaged the continent’s banking system and political unrest in the Middle East and North Africa. “The U.S. economy has a history of being remarkably resilient,” said Plosser, who doesn’t have a vote on policy this year. “These shocks held GDP growth to less than 1 percent in the first half of 2011, and many analysts were concerned that the economy was heading toward a double dip. Yet, the economy proved resilient and growth picked up in the second half of the year.” Plosser spoke at a conference at the Philadelphia Fed titled, “Reinventing Older Communities: Building Resilient Cities.” Urban Resilience His regional bank’s research department is working on a project to measure the resilience of different cities, to learn more about the reasons that some urban areas suffer more than others in downturns, Plosser said. He mentioned one early finding of the study: Industrial diversity increases a city’s resilience. “I do want to caution you that resilient and vibrant communities are not just about government programs or directed industrial planning by community leaders,” Plosser said. “The economic strength of our country is deeply rooted in our market- based economy and the dynamism and resilience of its citizenry.”

#### US not key—global economies decoupling

Caryl**, Sr. Fellow @ MIT,** 10 [Christian Caryl is a Editor at Foreign Policy and Newsweek and a Senior Fellow of the CSIS at the Massachusetts Institute of Technology, “Crisis? What Crisis?” 4/5/10 http://www.foreignpolicy.com/articles/2010/04/05/crisis\_what\_crisis?print=yes&hidecomments=yes&page=full]

We went through a terrifying moment back in the fall of 2008. The financial system in the United States was imploding. It was impossible to predict how the effects would ripple through the rest of the world, but one outcome seemed inevitable: Developing economies were going to take a terrible hit. There was just no way they could escape the maelstrom without seeing millions of their citizens impoverished. Many emerging-market countries did experience sharp drops in GDP. Their capital markets tanked. Dominique Strauss-Kahn, managing director of the International Monetary Fund (IMF), sounded downright apocalyptic: "All this will affect dramatically unemployment, and beyond unemployment for many countries it will be at the roots of social unrest, some threat to democracy, and maybe for some cases it can also end in war." The Economist recently noted, "The Institute of International Finance (IIF), a think-tank in Washington, DC, forecast that net private capital flows into poor countries in 2009 would be 72% lower than at their peak in 2007, an unprecedented shrinkage." Virtually everyone expected to see the countries that had benefited so dramatically from growth in the years leading up to the crisis to suffer disproportionately in its wake. An entirely rational assumption -- except it hasn't turned out that way at all. To be sure, there were far too many poor people in the world before the crisis, and that still remains the case. Some 3 billion people still live on less than $2.50 a day. But the global economic crisis hasn't added appreciably to their ranks. Just take China, India, and Indonesia, Asia's three biggest emerging markets. Although growth in all three slowed, it never went into reverse. China's robust growth through the crisis has been much publicized -- but Indonesia's, much less conspicuously. Those countries, as well as Brazil and Russia, have rebounded dramatically. The Institute of International Finance -- the same people who gave that dramatically skepticism-inducing estimate earlier -- now says that net private capital flows to developing countries could reach $672 billion this year (double the 2009 amount). That's less than the high point of 2007, to be sure. But it still seems remarkable in light of the dire predictions. In short, the countries that have worked the hardest to join the global marketplace are **showing remarkable resilience**. It wasn't always this way. Recall what happened back in 1997 and 1998, when the Thai government's devaluation of its currency triggered the Asian financial crisis. Rioting across Indonesia brought down the Suharto government. The administration of Filipino President Joseph Estrada collapsed. The turbulence echoed throughout the region and into the wider world, culminating in the Russian government default and August 1998 ruble devaluation. Brazil and Argentina trembled. The IMF was everywhere, dispensing advice and dictating conditions. It was the emerging markets that bore the brunt of that crisis. So what's different this time around? The answers differ from place to place, but there are some common denominators. Many of the BRICs (Brazil, Russia, India, China) learned vital lessons from the trauma of the late 1990s, hence the IMF's relatively low-key profile this time around. (The fund has been most active in Africa, where they still need the help -- unless you count Greece, of course.) Many emerging economies entered the 2008-2009 crisis with healthy balance sheets. In most cases governments reacted quickly and flexibly, rolling out stimulus programs or even expanding poverty-reduction programs. Increasingly, the same countries that have **embraced globalization** and markets are starting to **build social safety nets**. And there's another factor: **Trade is becoming more evenly distributed** throughout the world. China is now a bigger market for Asian exporters than the United States. Some economists are talking about "emerging market decoupling." Jonathan Anderson, an emerging-markets economist at the Swiss bank UBS, showed in one recent report how car sales in emerging markets have actually been rising during this latest bout of turmoil -- powerful evidence that **emerging economies no longer have to sneeze when America catches a cold**. Aphitchaya Nguanbanchong, a consultant for the British-based aid organization Oxfam, has studied the crisis's effects on Southeast Asian economies. "The research so far shows that the result of the crisis isn't as bad as we were expecting," she says. Indonesia is a case in point: "People in this region and at the policy level learned a lot from the past crisis." Healthy domestic demand cushioned the shock when the crisis hit export-oriented industries; the government weighed in immediately with hefty stimulus measures. Nguanbanchong says that she has been surprised by the extent to which families throughout the region have kept spending money on education even as incomes have declined for some. And that, she says, reinforces a major lesson that emerging-market governments can take away from the crisis: "Governments should focus more on social policy, on health, education, and services. They shouldn't be intervening so much directly in the economy itself." This ought to be a big story. But you won't have much luck finding it in the newspapers -- perhaps because it runs so contrary to our habitual thinking about the world economy. The U.N. Development Programme and the Asian Development Bank recently published a report that attempts to assess what effect the crisis will have on the world's progress toward the U.N. Millennium Development Goals, benchmarks that are supposed to be achieved by 2015. At first glance the report's predictions are daunting: It states that 21 million people in the developing world are "at risk" of slipping into extreme poverty and warns that the goals are unlikely to be met. Many experts wonder, of course, whether the V-shaped crisis we've witnessed so far is going to turn into a W, with another sharp downturn still to come. Some argue that the Great Recession's real damage has yet to be felt. Yet the report also contains some interesting indications that this might not be the case. "The global economic crisis has been widely predicted to affect international migration and remittances adversely," it notes. "But as the crisis unfolds, it is becoming clear that the patterns of migration and remittances may be more complex than was previously imagined." In other words, these **interconnections are proving to be much more resilient** than anyone might have predicted earlier. As the report notes, receipts of remittances have so far actually increased in Bangladesh, India, Nepal, Pakistan, Philippines, and Sri Lanka. Perhaps migrant workers -- those global experts in entrepreneurship and risk-taking -- know something that a lot of the rest of us don't. So why should we care? Anirudh Krishna, a Duke University political scientist who studies poverty reduction, says that there's a moral to the story: "Certainly cutting countries and people off from markets is no longer a sensible thing to do. Expanding those connections, bringing in a larger part of a talent pool into the high-growth sector -- that is what would make most countries grow faster and more individuals climb out of poverty." Echoing Nguanbanchong, he argues that governments are well-advised to concentrate on providing their citizens with education and health care -- the great enablers in the fight for social betterment. Microfinance and income subsidy programs can fill important gaps -- as long as they aim to empower future entrepreneurs, not create cultures of entitlement. This is not to say the outlook is bright on every front, of course. As the Economist noted, the number of people facing hunger recently topped 1 billion, the highest since 1970. The reason for that has more to do with the 2007-2008 spike in food prices than with the financial crisis. (Remember how the price of rice shot up?) We are still a long way from conquering poverty. There is still a huge -- and in some cases growing -- gap between the world's rich and poor. Yet how remarkable it would be if we could one day look back on the 2008-2009 crisis as the beginning of a more equitable global economy**.**

### Grid

#### New developments sure up grid stability – solves blackouts

Kemp 12 -- Reuters market analyst (John, 4/5/12, "COLUMN-Phasors and blackouts on the U.S. power grid: John Kemp," http://www.reuters.com/article/2012/04/05/column-smart-grid-idUSL6E8F59W120120405)

The hoped-for solution to grid instability is something called the North American SynchroPhasor Initiative (NASPI), which sounds like something out of Star Trek but is in fact a collaboration between the federal government and industry to improve grid monitoring and control by using modern communications technology. More than 500 phasor monitoring units have so far been installed across the transmission network to take precise measurements of frequency, voltage and other aspects of power quality on the grid up to 30 times per second (compared with once every four seconds using conventional technology). Units are synchronised using GPS to enable users to build up a comprehensive real-time picture of how power is flowing across the grid (www.naspi.org/Home.aspx and). It is a scaled-up version of the monitoring system developed by the University of Tennessee's Power Information Technology Laboratory using inexpensive frequency monitors that plug into ordinary wall sockets. Tennessee's FNET project provides highly aggregated data to the public via its website. The systems being developed under NASPI provide a much finer level of detail that will reveal congestion and disturbances on individual transmission lines and particular zones so that grid managers can act quickly to restore balance or isolate failures ().

#### Quick solar adoption causes blackouts

Neslen 12 -- EurActiv, part of the Guardian Environment Network (Arthur, 2/10/12, "Grid blackout threat weighs on renewables take-up," http://www.guardian.co.uk/environment/2012/feb/10/grid-blackout-threat-renewables)

The policy chief of Europe's electricity industry association has told EurActiv that Europe will have to slow down its integration of renewable energies or risk power cuts and systems instability because of the slow pace of cross-border grid improvements. "Either you go very fast in the transition - which is impossible [because] smart grids are expensive and the storage is not there in the needed scope – or you diminish the speed for integrating renewables into the system," Susanne Nies of Eurelectric told EurActiv in a phone interview. Given a choice between meeting the EU's target of getting 20% of energy – and 35% of the EU's electricity mix – from renewables by 2020 or keeping the system stable, "I would rather say that system stability and avoiding blackouts is more important," she said. Nies cited a report claiming a rise of serious systems stability incidents last year from 300 to 1,000 across a swathe of northern Europe, and said that the Czech Republic came close to power black-outs in November and December 2010. "We want to meet the 2020 targets but we need to be very careful," she said, "because the worst case scenario is one in which we have a series of blackouts in Europe and there would be a loss of support first for the utilities but maybe also for the renewables. That would be a disaster." Her words reflect pessimism in the electricity transmission industry about the likelihood of balancing capacity for variable energy sources like wind and solar in time for 2020. Usually though, this is voiced off the record. Speaking to EurActiv last month, another industry insider said that renewables advocates "want to increase solar panels and we want to keep the lights on, but if the lights go out because PV [solar photovoltaic energy] has not maintained the power quality, it's not in either of our interests." "If we're connecting things that the system wasn't designed for," the source continued, "we're putting stresses on it. Some people think it is a bit conservative for network operators to say that, but maybe it's good to have a bit of conservatism when you're thinking about a constant electricity supply. There is a bit of a trade-off between security of supply and reliability" and renewables.

#### No impact to chemical explosions

Easterbrook 3 (Gregg, Senior Fellow – New Republic, “We’re All Gonna Die!”, Wired Magazine, July, http://www.wired.com/wired/archive/11.07/doomsday.html?pg=1&topic=&topic\_set=)

2. Chemical weapons! Spooky-sounding, sure. And dangerous. But bombs and bullets are dangerous, too. In actual use, chemical weapons have proven no more deadly, pound for pound, than conventional explosives. In World War I, the British and German armies expended 1 ton of chemical agents per enemy fatality. Are modern nerve agents like sarin superdeadly in a way World War I mustard gas was not? When the Aum Shinrikyo cult attacked Tokyo's subway system with that substance in 1995 - the subway being an enclosed area, ideal for chemicals - **12 people** died. That was 12 too many, but a conventional bomb the same size as the cult's canisters, detonated on a packed subway, would have killed more. During this winter's duct tape scare, I heard a Washington, DC, radio talk-show host sternly lecture listeners to flee if "a huge cloud of poison gas" were slowly floating across the city. Noxious clouds of death may float across movie screens, but no military in the real world can create them. Wind **rapidly disperses** nerve agents, and sunlight **breaks** **them down**. Outdoors, a severe chemical attack likely would be **confined to a few** city **blocks**.

#### -- Impact is small

Eland 4 (Ivan, Senior Fellow – Independent Institute, “Weapons of Mass Destruction Are Overrated as a Threat to America”, Independent Institute Report, 1-28, http://www.independent.org/newsroom/article.asp?id=1256)

Chemical weapons have a **much smaller area** of contamination than do biological and nuclear arms and historically have been **less deadly** than even conventional bombs. Chemical weapons are best employed by the defending side — if the attacking side uses them, friendly troops would likely have to advance through the gas. Although chemical weapons are probably the easiest of the three to produce, al Qaeda’s efforts to date have been **very crude**. Some infrastructure is needed to produce chemical weapons so detection of production may be possible.

## 2NC

### Impact Overview – 2NC

#### Russian econ decline outweighs – Econ decline causes political upheaval which causes loose nukes and preemption- that’s Filger

#### And- It’s most likely scenario for nuclear war and causes US draw in

Steven **David**, Professor of Political Science, Johns Hopkins University, “Saving America From the Coming Civil Wars,” FOREIGN AFFAIRS, v 78 n 1, Jan/Feb **1999**, LN.

Only three countries, in fact, meet both criteria: Mexico, Saudi Arabia, and Russia. Civil conflict in Mexico would produce waves of disorder that would spill into the United States, endangering the lives of hundreds of thousands of Americans, destroying a valuable export market, and sending a torrent of refugees northward. A rebellion in Saudi Arabia could destroy its ability to export oil, the oil on which the industrialized world depends. And internal war in Russia could devastate Europe and trigger the use of nuclear weapons. Of course, civil war in a cluster of other states could seriously harm American interests. These countries include Indonesia, Venezuela, the Philippines, Egypt, Turkey, Israel, and China. In none, however, are the stakes as high or the threat of war as imminent.

#### Plus it’s the Only existential risk

Nick **Bostrom** (PhD Philosophy – Oxford U) **2002** Existential Risks, http://www.nickbostrom.com/existential/risks.html)

A much greater existential risk emerged with the build-up of nuclear arsenals in the US and the USSR. An all-out nuclear war was a possibility with both a substantial probability and with consequences that *might* have been persistent enough to qualify as global and terminal. There was a real worry among those best acquainted with the information available at the time that a nuclear Armageddon would occur and that it might annihilate our species or permanently destroy human civilization.[4]  Russia and the US retain large nuclear arsenals that could be used in a future confrontation, either accidentally or deliberately. There is also a risk that other states may one day build up large nuclear arsenals. Note however that a smaller nuclear exchange, between India and Pakistan for instance, is not an existential risk, since it would not destroy or thwart humankind’s potential permanently. Such a war might however be a local terminal risk for the cities most likely to be targeted. Unfortunately, we shall see that nuclear Armageddon and comet or asteroid strikes are mere preludes to the existential risks that we will encounter in the 21st century.

#### Russian economic downturn will disrupt the world economy

**Cooper 08**

(William, Congressional Research Service Specialist in International Trade and Finance Foreign Affairs, Defense, and Trade Division, “Russia’s Economic Performance and Policies and Their Implications for the United States,” May 30, <http://www.fas.org/sgp/crs/row/RL34512.pdf>)

The greater importance of Russia’s economic policies and prospects to the United States lie in their indirect effect on the overall economic and political environment in which the United States and Russia operate. From this perspective, Russia’s continuing economic stability and growth can be considered positive for the United States. Because financial markets are interrelated, chaos in even some of the smaller economies can cause uncertainty throughout the rest of the world. Such was the case during Russia’s financial meltdown in 1998. Promotion of economic stability in Russia has been a basis for U.S. support for Russia’s membership in international economic organizations, including the International Monetary Fund (IMF), the World Bank, and the World Trade Organization (WTO). As a major oil producer and exporter, Russia influences world oil prices that affect U.S. consumers.

### Solar Not Inevitable – 2NC

#### Solar power incentives are not being renewed

Springer 13 (Dan, Fox News, “Solar subsidies dim, putting future of industry in doubt,” 2-6-13, http://www.foxnews.com/politics/2013/02/06/cutbacks-in-subsidies-indicate-future-solar-may-be-dimming/

For decades, supporters of renewable power have been singing the praises about the possibilities of capturing energy from the sun. The solar industry got a huge boost during President Obama's first term when the stimulus package threw billions of dollars in subsidies at solar power companies in hopes of dramatically increasing production. Generation has increased in that time -- but now federal, state and local incentives are being slashed, leading some to conclude the future of solar power in the U.S. is dimming. "The fundamental problem is it's not economically sustainable," said Todd Myers of the Washington Policy Center, a think tank in Washington state. Federal stimulus incentives have run out and are not being renewed. States are also slashing their solar power subsidies. Oregon recently cut its solar business tax credit by 99 percent. And utilities all over the country are complaining about lost revenue.

### A2: No Nuke War

#### Nuclear war more likely now than ever.

**Zaitchik 4** (Alexander, Co-founded Freezerbox in 1998, Reported from more than a dozen countries for publications such as the International Herald Tribune, Bulletin of Atomic Scientists, Wired, the San Francisco Chronicle, The Believer, and many others, *Hair-Trigger Planet*, http://www.freezerbox.com/archive/article.php?id=285)

When the U.S.S.R. collapsed, American public interest in nuclear weapons disappeared under the rubble. People boxed up their fears and hauled them down to the basements of their souls like some hideous secret, never to be looked upon again. Thirteen years later, we're still willful strangers to thermonuclear dread, carrying on as if the nuclear stockpiles amassed during the Cold War had all been converted into solar panels and parakeet swings under Boris Yeltsin's kindly gaze. Of course, they weren't. Most of those warheads are still live, still scattered under prairies, under seas, on roving flatbed trucks, ready to launch at a moment's notice. Right now, thousands of them are aimed at you, your family and your favorite television and sports personalities. Against a backdrop of nuclear proliferation, both Russia and the U.S. continue to maintain and refine their own arsenals. They are also lowering the thresholds for their use. As Washington pushes forward with missile defense and a bonus round of NATO expansion, Russian generals are bristling, while Russia's command and control system continues to deteriorate, increasing the chance that misjudgment, error or sabotage could trigger a missile launch against, say, New York City, which is still targeted for a couple hundred megatons. According to those analysts who never took their eyes off the nuclear threat, the danger of a missile exchange between U.S. and Russia is actually greater today than during the more stable periods of the Cold War. Last week, Russia held a wide-ranging exercise simulating a nuclear war with America. Old Soviet Tu-160 strategic bombers launched cruise missiles over the North Atlantic and ICBMs were tested over Russia's far northern region. Military satellites were launched under simulation battlefield conditions, and Russia's beleaguered early warning system was put through the ringer. Gen. Yuri Baluyevsky, first deputy chief of the General Staff of the Russian military, told reporters in Moscow that the military exercise reflected Russian concerns over U.S. plans to research and develop new classes of nuclear weapons, including so-called "bunker busters." "The [U.S. is] trying to make nuclear weapons an instrument of solving military tasks [and] lower the threshold of nuclear weapons use," Baluyevsky said. "Shouldn't we react to that?" Days before the exercise, Russian defense minister Sergei Ivanov had a testy exchange with Senator John McCain at NATO's annual security conference in Munich. The two clashed over Moscow's "meddling" in the Baltics, Ukraine and the Caucuses. McCain charged neo-imperialism; Ivanov reiterated Russia's right to secure its "near abroad." It is an argument that is just getting started. As the two nuclear superpowers vie for influence and oil routes, U.S.-Russian tensions will rise. In a sign of the changing times, nostalgic Cold Warrior William Safire blurted out in his Feb. 9 syndicated column something that has rarely been said in polite company since 1989: that the central mission of NATO is still to "contain the Russian bear." The clash at the Munich conference was certainly a chilling moment for those unenthusiastic about another Cold War. But it was far from the first such moment since the dismantling of the Berlin Wall. In fact, the entire post-Cold War period could be accurately described as one long series of huge, underreported chilling moments, during which the threat of nuclear war has persisted and grown amid public apathy and ignorance. Call it the dirty little open secret of nuclear planning: Neither Russia nor the U.S. ever stopped viewing preparation for war against the other as the central organizing principle of its nuclear policy. February's extensive war game wasn't Russia's first such drill since the end of the Cold War, and the U.S. military performs similar drills annually. Driving the Russian side of U.S.-Russian nuclear politics is the General Staff. The Russian General Staff is made up of officers from the various branches of the military, including the Strategic Rocket Forces. It is the generator and keeper of Russian nuclear policy. These senior generals, who maintain de facto independent control over the country's nuclear weapons, are proud, tough bastards who came of age during the heyday of Soviet military prestige. It is said that Gorbachev just barely prevented some of them from launching an invasion of Eastern Europe to prevent the collapse of the Warsaw Pact. Even now, many remain deeply bitter about the dissolution of the U.S.S.R., which deprived Russia of the eastern buffer it acquired in World War II, when the Red Army beat back and crushed the Nazi Wehrmacht at the cost of 20 million lives. The memory of Hitler's June 1941 invasion lives deep in the General Staff's collective military mind, fueling a determination that Russia will never again be taken by surprise. This determination is today reinforced by Russian weakness and what these generals perceive as the growing NATO "threat." Faced with economic ruin and the collapse of the conventional military, they have concentrated attention and resources on the world's second-greatest deterrent: Russia's remaining massive nuclear arsenal. American military planners are naturally unnerved by the continued existence of this arsenal, and lingering mutual suspicions have led both sides to maintain their nuclear forces on a constant alert, launch-on-warning footing. This means that American and Russian rocket-mounted nuclear weapons remain armed, fueled, loaded and kept at hair-trigger readiness 24 hours a day, 365 days a year.

### A2: Aggression

**1. Economic decline is the largest internal link to Russian aggression.**

**Peters 8** (Ralph, Retired United States Army Lieutenant Colonel and Degree in International Relations from St. Mary’s University, *Bankrupt Rogues: Beware Failing Foes*, NY Post, November 29th, http://www.nypost.com/p/news/opinion/opedcolumnists/item\_Sq6rxuaQjf2dV655mfdh9M)

FEELING gleeful at the misfortunes of others is an ugly-but-common human characteristic. The world delighted in our crashing economy, then we got our own back as Euro-bankers and Russian billionaires proved at least as greedy as our own money-thugs. Of all the pleasures to be found in the pain of others, though, none seems more justified than smugness over the panic in Moscow, Caracas and Tehran as oil prices plummet. We may need to be careful what we wish for. Successful states may generate trouble, but failures produce catastrophes: Nazi Germany erupted from the bankrupt Weimar Republic; Soviet Communism's economic disasters swelled the Gulag; a feckless state with unpaid armies enabled Mao's rise. Economic competition killed a million Tutsis in Rwanda. The deadliest conflict of our time, the multi-sided civil war in Congo, exploded into the power vacuum left by a bankrupt government. A resource-starved Japan attacked Pearl Harbor. The crucial point: The more a state has to lose, the less likely it is to risk losing it. "Dizzy with success," Russia's Vladimir Putin may have dismembered Georgia, but Russian tanks stopped short of Tbilisi as he calculated exactly how much he could get away with. But now, while our retirement plans have suffered a setback, Russia's stock market has crashed to a fifth of its value last May. Foreign investment has begun to shun Russia as though the ship of state has plague aboard. The murk of Russia's economy is ultimately impenetrable, but analysts take Moscow's word that it entered this crisis with over $500 billion in foreign-exchange reserves. At least $200 billion of that is now gone, while Russian markets still hemorrhage. And the price of oil - Russia's lifeblood - has fallen by nearly two-thirds. If oil climbs to $70 a barrel, the Russian economy may eke by. But the Kremlin can kiss off its military-modernization plans. Urgent infrastructure upgrades won't happen, either. And the population trapped outside the few garish city centers will continue to live lives that are nasty, brutish and short - on a good day. Should oil prices and shares keep tumbling, Russia will slip into polni bardak mode - politely translated as "resembling a dockside brothel on the skids." And that assumes that other aspects of the economy hold up - a fragile hope, given Russia's overleveraged concentration of wealth, fudged numbers and state lawlessness. Should we rejoice if the ruble continues to drop? Perhaps. But what incentive would Czar Vladimir have to halt his tanks short of Kiev, if his economy were a basket case shunned by the rest of the world? Leaders with failures in their laps like the distraction wars provide. (If religion is the opium of the people, nationalism is their methamphetamine.) The least we might expect would be an increased willingness on Moscow's part to sell advanced weapons to fellow rogue regimes. Of course, those rogues would need money to pay for the weapons (or for nuclear secrets sold by grasping officials). A positive side of the global downturn is that mischief-makers such as Iran and Venezuela are going to have a great deal less money with which to annoy civilization.

**2. Russia will pursue a moderate foreign policy now.**

**Mankoff 10** (Jeffrey, Adjunct fellow for Russia studies at the Council on Foreign Relations, Associate director of International Security Studies at Yale University, John M. Olin national security fellow at the Olin Institute for Strategic Studies – Harvard University, Henry Chauncey fellow in grand strategy – Yale University, Fellow at Moscow State University, *The Russian Economic Crisis*, Council Special Report, Number 53, April 2010, Accessed Online @ the Council on Foreign Relations)

By exposing structural deficiencies in the Russian economy and high- lighting the limits of its post-1998 resurgence, the crisis forced officials to pull back from sweeping claims about Russia’s imminent return to great-power status and focus attention on problems closer to home. Such foreign policy caution might not endure in the face of another commodity price–driven boom. Yet given the modest economic prognoses for the coming year, Russia’s foreign policy is likely to remain cautious for the near future. A period of foreign policy restraint in Moscow gives the West a window of opportunity to encourage both fundamental economic reform in Russia and greater integration with the global economy. If successful, such integration would diminish the likelihood that a recovered Russia would again pursue regional domination and autarky as the basis for a revisionist foreign policy. The inability of Russian industries to compete globally has long forced them to focus on meeting domestic demand, which has plummeted in the course of the crisis. Yet because of their inability to modernize on their own, Russian companies have increasingly turned to partners in Europe (especially Germany, France, and Italy) for high technology. In the context of the crisis and President Barack Obama’s promise to “reset” relations with Moscow, Russia has also appeared more receptive to political overtures from the United States and the European Union (EU), for instance on sanctions against Iran, strategic arms cuts, and the war in Afghanistan. Even so, renewed (albeit limited) growth and uncertainty about who will lead Russia after Medvedev’s first term expires in 2012 create concern for the future.

### Natural Gas Key – 2NC

#### Natural Gas is key- allows for government revenue which prevents a crisis- that’s Mead

#### GDP- Gazprom is 1/10th of it- prevents economic collapse

Forrest 12

[[Brett Forrest](http://www.businessweek.com/authors/3479-brett-forrest) Journalist for Vanity Fair, The Atlantic, The New York Times Magazine, National Geographic, Time, The Wall Street Journal, Rolling Stone,  Bloomberg Businessweek,), February 09, , Bloomberg Businessweek Magazine, Gazprom's Empire at the End of the Earth, <http://www.businessweek.com/magazine/gazproms-empire-at-the-end-of-the-earth-02092012.html#p1>]

Gazprom performs many functions traditionally reserved for the state, including funding public works projects directly from its budget. It’s the only Russian company that is compelled to pay its tax bill monthly, since this revenue makes up the single largest portion of Russian gross domestic product (10 percent) and is critical to the basic workings of government. Gazprom is less a company than a public trust, one that enjoys special advantages in exchange for fulfilling official wishes. Such mixed status helps explain why the Medvezhye No. 5 gas field, Nadym’s first, operates with control room technology dating to 1975, even though on an average day it extracts gas worth $1 million on the European market. This continues to be one of Russia’s charms, its ability to press on regardless. Frills are for the weak, planning for the dawdler. Still, time is catching up with Gazprom. The old fields around Nadym, the foundation of the Soviet gas industry, are just that: Old and swiftly losing their vigor, operating at just 10 percent of original pressures. At Nadym’s pyramid-shaped Iceberg Hotel, the gas managers share a vodka at the end of the day. Their hair is pasted against their skulls after many hours under fur hats. Velmer Davletov, the director of Medvezhye No. 5, talks of little besides the booster pumps he has installed in his wells, as he and his men use every trick to drain every last cubic meter. Europe’s dependence on Gazprom for natural gas gives the Kremlin power to leave millions in the cold should it choose to do so (as it did to Ukraine after pricing disputes in 2006 and 2009). A deep freeze in Russia this winter has increased domestic demand for fuel, producing a shortfall in natural gas supply to Europe. Over the last year, as European customers have been squeezed by surging gas prices (generating Gazprom’s record earnings), some of Gazprom’s Western clients have demanded arbitration. European Union antitrust investigators stormed Gazprom offices in Germany and the Czech Republic, seizing contracts. (Gazprom insists its contracts adhere to international law.) And officials in Brussels are debating the Third Energy Package, anti-monopoly legislation focused squarely on Gazprom’s ability both to transport and sell gas in the territory of the EU.

#### Specifically- it prevents negative growth- reliance is inevitable

Nilsen 12

[Thomas, Barents Observer, 5/27/12, <http://barentsobserver.com/en/energy/gazprom-fuels-russian-economy>]

The state-own gas giant Gazprom’s share of the European gas market increased to 27 percent from 24 percent in 2010, the company reports on Friday. This is also the main reason for the boost in earnings last year. Profit inside Russia itself had only a marginal growth by 16 percent. Gazprom explains this with primarily the increase in the average domestic price for gas established by the Federal Tariffs Service. Net sales of crude oil and gas condensate increased by 20 percent year-on-year, mainly due to increased oil prices. On Thursday, Russia’s Economic Development Ministry presented the forecast for the country’s economical growth in the years to come. A growth of 3,4 percent this year will expand to 4,7 percent growth in 2015, according to the positive outlook. The big question debated was whether the new government to be formed after Putin takes over the presidency in May will choose to proceed with developing innovations or continue to rely on income from Russia’s petroleum sector, the Moscow Times reports. In a conservative scenario, Russia will continue to rely heavily on oil and gas in its economic development.

### Exports Bad – Warming

#### Exports cause methane leaks – makes warming irreversible

**Romm 11** (Joe, Senior Fellow at American Progress, editor of Climate Progress, assistant secretary of energy for energy efficiency and renewable energy in 1997, Ph.D. in physics from MIT, “Natural Gas Bombshell: Switching From Coal to Gas Increases Warming for Decades, Has Minimal Benefit Even in 2100,” 9-9-11 <http://thinkprogress.org/climate/2011/09/09/315845/natural-gas-switching-from-coal-to-gas-increases-warming-for-decades/>)

A key finding of the NCAR study is: In summary, our results show that the substitution of gas for coal as an energy source results **in increased** rather than decreased **global warming** for many decades — out to the mid 22nd century for the 10% leakage case. This is in accord with Hayhoe et al. (2002) and with the less well established claims of Howarth et al. (2011) who base their analysis on Global Warming Potentials rather than direct modeling of the climate…. The most important result, however, in accord with the above authors, is that, unless leakage rates for new methane can be kept below 2%, substituting gas for coal is not an effective means for reducing the magnitude of future climate change. What is the leakage rate for methane? Well, as I’ve written, we don’t know exactly because the gas companies won’t release all of their data. We do know that total life-cycle leakage and fugitive emissions from extraction, production, transport, and consumption is higher for shale gas than conventional gas. The controversial — but peer-reviewed — paper by Cornell’s Robert Howarth, which I wrote about here, seeks to quantify the impact of the leakage from the **best available data**. It **concluded**: Natural gas is composed largely of methane, and 3.6% to 7.9% of the methane from shale-gas production escapes to the atmosphere in venting and leaks over the life-time of a well. These methane emissions are at least 30% more than and perhaps more than twice as great as those from conventional gas. The higher emissions from shale gas occur at the time wells are hydraulically fractured — as methane escapes from flow-back return fluids — and during drill out following the fracturing. Methane is a **powerful greenhouse gas**, with a global warming potential that is far greater than that of carbon dioxide, particularly over the time horizon of the first few decades following emission.

### Exports Bad – Turns Renewables/Modeling

#### Exports cause international adoption of natural gas – that crowds out renewables

Simmons 12 (Bradford, Editor-in-Chief, “The Editor's Monthly Memo: The Staggering Implications of the U.S. Natural Gas Market,” International Affairs Review, 8-12, http://www.iar-gwu.org/node/429)

At home, a cautious, yet supportive approach to LNG exports would have ancillary benefits as well. With coal plants retiring every year and the declining economic viability of nuclear power, natural gas is well positioned to vastly expand its 30 percent share of electricity production. While this will translate into lower utility bills for U.S. consumers, it also raises the specter of overreliance. If natural gas exceeds a 50 percent share of power generation, any source disruptions or sudden price fluctuations would have a calamitous economic impact. Furthermore, such cheap gas could potentially crowd out other promising sources of energy, such as renewables. Though natural gas fired plants produce roughly half the carbon of a coal plant and have contributed to an overall reduction in emissions in the United States, a recent International Energy Administration report reveals that a shift to gas generated electricity will not prove sufficient to significantly alter current climate change scenarios.

### Helium

**A. Low prices devastate future supply of gas**

**Shackouls 3** (Bobby S., Chair of the National Petroleum Council, “Balancing Natural Gas Policy,” September 2003, <http://www.npc.org/reports/dtg-final.pdf>)

Both the NGPA and PIFUA were repealed because they produced unintended consequences that distorted the market and created inefficiencies. The legacy of these experiments is that regulated prices will rarely work to keep markets balanced because they will invariably send the wrong price signals to producers and consumers, and result in supply shortages or surpluses. An initial regulatory act often leads to a series of regulatory acts to correct the adverse consequences of the previous actions. For example, the **low** controlled **prices** of the 1960s to 1970s decreased **exploration and drilling** activity to the point of causing a supply shortage. Instead of lifting price controls and allowing the free market forces to balance the market, the federal government instead set policy that would decrease demand to match the lower supplies. This action **reduced drilling a**ctivity, requiring an additional regulation to fix that problem.

**B. Shuts off global helium production**

**EIA 6** (Energy Information Administration, the official energy statistics agency of U.S. Government , “Natural Gas Processing: The Crucial Link Between Natural Gas Production and Its Transportation to Market” http://www.eia.gov/pub/oil\_gas/natural\_gas/feature\_articles/2006/ngprocess/ngprocess.pdf)

**The world’s supply of helium** **comes exclusively** **from natural gas production**. The single largest source of helium is the United States, which produces about **80 percent of the annual world production** of 3.0 billion cubic feet (Bcf). In 2003, U.S. production of helium was 2.4 Bcf, about two-thirds of which came from the Hugoton Basin in north Texas, Oklahoma, and Kansas (Figure 2). The rest mostly comes from the LaBarge field located in the Green River Basin in western Wyoming, with small amounts also produced in Utah and Colorado. According to the National Research Council, the consumption of helium in the United States doubled between 1985 and 1996, although its use has leveled off in recent years. It is used in such applications as magnetic resonance imaging, semiconductor processing, and in the pressurizing and purging of rocket engines by the National Aeronautics and Space Administration. Twenty-two natural gas treatment plants in the United States currently produce helium as a major byproduct of natural gas processing. Twenty of these plants, located in the Hugoton-Panhandle Basin, produce marketable helium which is sold in the open market when profitable, while transporting the remaining unrefined helium to the Federal Helium Reserve (FHR). The FHR was created in the 1950s in the Bush salt dome, underlying the Cliffside field, located near Amarillo, Texas. Sales of unrefined helium in the United Statesfor the most part, come from the FHR.

**C. Collapses US space exploration**

**CN 12** – Citation News, “Scientists' High-Pitched Response to Helium Shortage”, 3-22, http://www.cyberregs.com/webapps/Blog/post/Scientists-High-Pitched-Response-to-Helium-Shortage.aspx

**Helium** - the second lightest element in the universe with an atomic weight of 4.002602 - is an inert gas that can be cooled to temperatures of -270 Celsius without becoming a solid, **making it indispensible** in the operation of, among many things, superconducting magnets used in MRI scanners, telescopes and **particle accelerators** like the Large Hadron Collider. Helium also holds an important place in the defense industry. It also has some far less profound applications, which consume great quantities of the gas annually - applications such as party balloons and squeak-voice huffing. These latter applications have drawn the ire of researchers. This month, the Guardian reported that the UK's Rutherford Appleton Laboratory wasted three days and £90,000 (US$ 143,091), when, during an important experiment exploring the structure of matter, they could not obtain a supply of helium. Needless to say, the scientists were in a less-than-celebratory mood. "We put the stuff into party balloons and let them float off into the upper atmosphere, or we use it to make our voices go squeaky for a laugh. It is very, very stupid. It makes me really angry,” said Oleg Kiricheck, the research team leader. Cornell University Professor Robert Richardson is also concerned. He believes that, with our current reserves of helium, the price of the element severely discounts its real value. By his estimation, the price of a single party balloon should cost as much as $100. Richardson suggests increasing the price of helium by 20-50% to eliminate excessive waste. Although helium ranks next to hydrogen as the most abundant element in the universe, **here on earth it is a finite commodity**. The helium that is here is all we have! Helium is **collected during natural gas** and oil drilling. If the gas is not captured, it dissipates into earth's upper atmosphere and **is lost forever**. The same happens when a party balloon is released into the air, or when it self-deflates, because helium atoms are so small that they can easily move through the balloon's latex shell. Party balloons do not represent the only wasteful expenditures of helium. Macy's Thanksgiving Day parade typically uses 400 Mcf a year, although there have been recent attempts to recycle some of the helium used in the floats. NASA uses up to 75 MMcf annually to pressurize rocket tanks. The agency has made no attempt to recycle this huge amount of gas. Weather balloons also consume about 140 MMcf of helium per year. At the present rate of supply depletion, the United States will become an importer of helium from the Middle East and Russia within 10 years, and the world will run out of helium within 30 years. This would have major implications for **space travel and exploration**, scientific and nuclear research, medical advances and early detection of diseases. Possible solutions for this problem **should address supply**, not pricing. A drastic increase in the price of helium as a preservative measure would cause a huge spike in billing for medical procedures, such as MRIs, scientific research, and defense expenditures, as well as party balloons.

**Accelerator prevent nuclear testing**

**Henning 10** (Walter, Senior Physicist – Argonne National Laboratory and Member – American Association for the Advancement of Science, “Accelerators for America’s Future”, June, http://www.acceleratorsamerica.org/files/Repo rt.pdf)

From the earliest days of their development, accelerators have made critical contributions to the security and defense of the United States. During World War II, accelerators contributed directly to the separation of isotopes using industrial- scale accelerator mass spectrometry and provided facilities for defense-related nuclear physics research. The plutonium war effort relied heavily on Ernest Lawrence’s 60-inch cyclotron at Berkeley. In turn, war-related research, most notably radar, found peacetime applications in technologies for accelerators. Post World War II government support of accelerator research led to the global preeminence of U.S. acceleratorresearch facilities and technological expertise. Universities and national laboratories, including defense laboratories, developed increasingly powerful and sophisticated accelerators for basic and applied sciences. As early as 1949, the potential uses of accelerators for national security included the predetonation of critical nuclear devices, the deployment of antipersonnel weapons, the detection of contraband fissile materials, the identification of aircraft and the enrichment of nuclear materials. Lawrence and the Berkeley group developed prototype accelerators including a high-intensity linear accelerator, the Materials Testing Accelerator. The current U.S. accelerator-facility infrastructure at the national laboratories is the direct legacy of the Atomic Energy Commission’s postwar program. The Department of Energy defense laboratories, Livermore, Los Alamos and Sandia, have also pursued security-related accelerator technology. Induction linac technology, originally developed for acceleratorinduced fusion, finds application in radiography, of direct importance to the nuclear weapons program. The Los Alamos Neutron Science Center, or LANSCE, provides important nuclear data. Both Livermore and Sandia pursued electronbeam- based technology for directed-energy weapons. The 458 Accelerators for America’s Future Particle beams can scan shipping containers for contraband materials. Defense Advanced Research Projects Agency, or DARPA, supported the exploration of the potential of accelerators for direct military applications at the Advanced Test Accelerator and the RADLAC I, the Radial Line Accelerator. The Los Alamos-based Beam Experiments Aboard a Rocket, or BEAR, deployed the then-new radio-frequency-quadrupole, or RFQ, based LINAC. This experiment succeeded in producing a neutral particle beam in flight and generated data on these technologies for the Department of Defense Strategic Defense Initiative Organization, SDIO. Argonne National Laboratory pursued neutral-particle-beam research with the Continuous Wave Deuterium Demonstrator. The SDIO activities were noteworthy for joint laboratory and industry cooperation. Early applications of accelerators to inspect nuclear fuels used commercial low-energy (tens of MeV) electron linacs to induce photo-fission reactions. These inspection technologies expanded to waste-drum assays in the 1980s and eventually to cargo inspections. The invention of the free electron laser in the 1970s led to ever-higher-power electromagnetic radiation using high-energy electrons, of direct interest to security and defense applications, including the Navy’s proposed application of free-electron laser technology to shipboard defense. Nearly all accelerator applications for security and defense have sprung from research and development in fundamental science. The promise of future accelerator technologies continues to rest on advances in basic science and its need for more and more powerful tools. These accelerator advances stock the shelves with technologies and data. The scientific and technical workforce engaged in these developments contributes to their application to security programs. Continued support for basic science and for accelerator R&D as a scientific discipline has great significance for national security and defense. Accelerator technologies find applications for a diverse and growing set of security and defense needs, including stockpile stewardship, war-fighter and asset protection, materials characterization, interrogation of cargo and inspection capabilities of all types, and the support of present and future nonproliferation regimes. Accelerator laboratories and technologies have the potential to make significant contributions to the needs of national security and defense in ten key areas: physical data; high-energy-density conditions; directed-energy capability; cargo inspection and interrogation; replacement of radioactive sources and materials; isotope production; nuclear forensics; compact, fieldable accelerator systems; simulation tools; and workforce training. Physical data National security and defense programs have a critical need for the highestquality data on materials characterization, material alteration, nuclear fission, and the interaction of radiation with materials. These requirements rely on all the types of accelerator facilities operated by the DOE Office of Science: neutron sources, synchrotron radiation light sources, and low- and high-energy particle beams. The data are necessary to reliably simulate systems for detecting special nuclear materials and byproducts of nuclear fission. Much of the current data is incomplete and much of it dates from the 19**50s** and 19**60s**. Missing data include time, angular, and neutron-gamma correlations; high-resolution spectroscopy; and nuclear resonance fluorescence. Existing accelerator facilities could perform this work, but often encounter impediments to conducting measurements with special nuclear materials. The facilities may lack licenses to hold such materials or may be unprepared for the associated health and safety requirements. Obtaining these data will require particle- and nuclear-physics-style detectors with near full solid-angle coverage, particle identification, and fast timing. A significant challenge is the development of detectors that operate in ambient conditions. For example, many current detectors must operate at extremely low (tens of degrees Kelvin) temperatures. Developing materials that can operate in ambient conditions while accurately recording events is a great challenge for security and defense field operations. A further challenge is to develop dedicated accelerator-based beamlines, for example a beamline at a synchrotron light source, for security and defense needs. Currently, the nation has no dedicated beamline for studies of exotic materials including radiological, biological, chemical and explosive ones. Accelerator-based science has much to contribute to better production of such materials, characterization of their reactions, decontamination and safer handling. High energy density Facilities that provide conditions of high energy density, such as those found in plasmas, provide an important, controlled environment for understanding phenomena important to aspects of the security mission. Many such pulsedpower based facilities have operated outside the DOE Office of Science mission. However, accelerator research for inertial confinement fusion concepts could advance such high-energy-density environments and serve high-energy-density research for security and defense. Directed energy Accelerator-based directed-energy capabilities have been pursued from the earliest times of accelerator development. Research into beam-power levels high enough for directed energy has supported the development of several technologies, most notably radio-frequency-quadrupole structures, or RFQs, now ubiquitous in the accelerator world. The current need is for development of a fieldable device for testing with defense and security partners. Relativistic electron beams can generate high-power electromagnetic radiation at various frequencies for directed-energy-specific missions. Examples include free electron lasers, highly directional gamma-ray beams through Compton scattering, and millimeter-wave to terahertz radiation. Free electron lasers can in principle achieve megawatt average power levels and optical beam quality and wavelengths required for security and defense purposes. In the mid-1990s, the highest average-power FEL had achieved only 11 watts. The Navy, as a user of the FEL at DOE’s Thomas Jefferson National Accelerator Facility achieved 2.2 kW, and a subsequent upgrade in 2006 demonstrated 14kW at 1.6microns, a wavelength of particular interest to the Navy. Free electron laser-based directed energy can expand to a wide range of missions. With increased efficiency and decreased weight, for example, FELs might serve as airborne platforms. With appropriate R&D, such goals appear achievable. Most such improvements would feed back to the basic science programs, potentially leading to lower-cost FEL systems and associated energyrecovery- linac light sources. A megawatt-class FEL will require several critical accelerator R&D developments. Credible designs exist for two of these: a high-quality ampereclass electron gun and continuous wave injector that can operate for weeks, and ampere-class SRF cavities with higher-mode suppression using high-temperature superconductors. However, demonstration of these designs requires funding. At the conceptual level with simulations, researchers are currently exploring a third critical element, megawatt-level RF couplers. Complete system modeling is underway; but bringing these efforts to the point of comparison to the actual performance of, for example, future 100-kW prototypes, will require major efforts. Cargo inspection and interrogation Security priorities of the last decade have turned to deterring the threat from subnational organizations. Some of these deterrents rely on identifying small quantities of special nuclear material in shipping containers through a signature reaction induced by radiation. Accelerators are a natural choice for producing well-characterized beams of radiation and are central to a number of current proposals to develop active interrogation techniques. “ Standing off” at a distance from the object under inspection by using electromagnetic radiation, including that from accelerators, is of significant interest in security and defense. The recent developments in terahertz radiation at FELs show potential for active interrogation with desirable standoff distances for cargo, improvised explosive devices and biological investigations. Other interrogation techniques use neutron and proton beams ranging from tens of keV to tens of GeV with radiographic sensitivity to a variety of materials. Standoff with GeV protons to induce fission will require milliampere beam currents, high gradient and high temperature superconducting technologies, as well as compact devices that laser-driven accelerator technology may make possible. Researchers have proposed more exotic radiography using the low interaction rates of muons to achieve significant standoff. Such proposals would build on developments for muon colliders and neutrino factories, the subject of R&D for possible future basic-science facilities. Replacement of radioactive sources and materials In the 1970s, accelerator-based gamma-ray radiation therapy replaced radioisotope- based devices in the United States and Western Europe. However, in much of the rest of the world, 60Co-based teletherapy units are still very common, with over 10,000 in service, according to the International Atomic Energy Agency. With an average radioactivity of 2000 curies, these devices represent a potential source of material for a radiological attack. Progress towards more compact, rugged, and reliable accelerators can replace 60Co-based sources in medicine, as well as in industrial applications. Advances in high-gradient accelerator structures, microwave generation, and power electronics could sharply reduce the cost of accelerator-based therapy. The accelerator must be able to function with high reliability in adverse environmental conditions, with fluctuating electrical supply. Because it is unlikely that private industry would undertake such a design without a defined market, deployment of this accelerator would need to be a coordinated effort among various U.S. government agencies, industry and the international community. Isotope production Accelerator production of both stable and radioactive isotopes has potential impact on security and defense. Demand for the stable helium isotope 3He has significantly increased in recent years, due to its use in neutron detectors for portal monitors and other systems for detecting special nuclear materials. The main source of 3He is as a byproduct of the nuclear weapons stockpile. Changes in stockpile management have led to decreased production, creating a need that accelerators could meet. Beyond security, researchers in low-temperature physics and materials science are suffering severely from the shortfall in 3He. Production of the medical isotope 99mTc by reactor irradiation of a nuclear material (235U) yields the same by-products as detonation of a nuclear device.As part of the **C**omprehensive **T**est **B**an **T**reaty, monitoring stations worldwide look for telltale by-products, specifically for the radioactiveisotopes of the noble gas xenon that are difficult to contain and that propagate over large distances in the atmosphere. Medical isotope production affects the sensitivity of radio-xenon measurements by producing elevated and variable concentrations over large areas around production facilities. Accelerator-based production at required volumes and competitive costs would **reduce backgrounds, enhance international monitoring capabilities,** and simultaneously eliminate the need for **h**ighly **e**nriched **u**ranium and nuclear reactor facilities for production.

**Global nuclear war**

**Johnson 1** (Rebecca, Executive Director – Acronym Institute for Disarmament Diplomacy, The Guardian, 7-17, Lexis)

Then the international arms control and non- proliferation regimes collapsed. Americans weren't bothered at first, for hadn't the government promised a super-sophisticated force field round the whole nation that no terrorist or missile would ever penetrate? So nuclear testing resumed in Nevada for new warheads to improve the kill prospects of missile interceptors and to penetrate deep into enemies' bunkers. India had been waiting for just such a go-ahead, and Pakistan soon followed; both raced to test warheads to fit on to missiles, upping the tension in Kashmir and along the borders with China. Free now to resume its own testing, China boosted its programme to modernise and increase the size of its small nuclear arsenal. Somewhat reluctantly, Russia followed. Moscow suspended all further reductions and cooperative security and safety programmes for its still-large nuclear arsenal and facilities. Within a few short years, the nuclear non-proliferation treaty was just another discarded agreement. Many governments with nuclear power programmes developed nuclear weapons as well, while others fitted **anthrax** or **sarin** on to weapons, just in case. Most hadn't wanted to, but fearful that their neighbours would, all felt compelled. Regional rivalries grew quickly into **major international problems. Alliances collapsed** amid suspicion and recriminations. The burgeoning **arms races** even **spread into** outer **space,** threatening military surveillance, as well as public communication, entertainment and navigation. No one knew who had what. Deterrence was empty, as defence analysts calculated the advantages of the pre-emptive strike. In that terrified atmosphere of insecurity and mistrust, someone launched first. And then it was too late to speak out. The Republicans hadn't yet managed to get missile defence to work. Such a **doomsday scenario** is notsofanciful. On July 7, the New York Times announced that President Bush wants to ditch the comprehensive test ban treaty. A week before, the administration asked nuclear laboratories to work out how quickly the US could resume testing after its nine-year moratorium. If Bush were to back out of the test ban treaty or break the moratorium on nuclear testing - undertaken with China, Russia, Britain and France - he would also explicitly breach agreements made last May, when 187 countries negotiated measures to strengthen and implement the non- proliferation treaty. The test ban is no outdated cold war instrument, but a fundamental tool to prevent new, destabilising developments in nuclear weapons. Over several decades, from the Arctic to the Pacific, from the capitals of Europe to the deserts of Nevada, people have marched, petitioned, demonstrated and even sailed or hiked into test sites. Many have been imprisoned, and some even lost their lives trying to stop the nuclear weapons governments from polluting our oceans and earth with radioactivity from nuclear explosions, conducted for one purpose only - to make "better" nuclear bombs. It took three arduous years to complete negotiations on the comprehensive test ban treaty. It isn't perfect. No product of compromise ever is. The verification system is very thorough, but it also had to be affordable, financially and politically. The treaty stopped short of closing and dismantling the known test sites or banning laboratory testing, which the weapon states said they needed to assure the safety and reliability of weapons in the stockpiles (pending achievement of their other treaty obligations to eliminate the nuclear arsenals com pletely). But it does ban all nuclear test explosions in all environments. India panicked, because the treaty would close off its nuclear options. It refused to sign, and then let off a string of nuclear explosions in May 1998. Pakistan followed, to prove it could. Even so, the treaty held. Neither government has felt able to keep testing, which means their options for further developments were curbed. Bush has embarked on a very slippery slope that could potentially put at risk the future of the citizens of even the most advanced military nation. Mumbling and grumbling won't keep us safe. It is time to speak out.

### 2NC No XTC

#### Experts agree

Hsu 10 (Jeremy, Live Science Staff, July 19, pg. <http://www.livescience.com/culture/can-humans-survive-extinction-doomsday-100719.html>)

His views deviate sharply from those of most experts, who don't view climate change as the end for humans. Even the worst-case scenarios discussed by the Intergovernmental Panel on Climate Change don't foresee human extinction. "The scenarios that the mainstream climate community are advancing are not end-of-humanity, catastrophic scenarios," said Roger Pielke Jr., a climate policy analyst at the University of Colorado at Boulder. Humans have the technological tools to begin tackling climate change, if not quite enough yet to solve the problem, Pielke said. He added that doom-mongering did little to encourage people to take action. "My view of politics is that the long-term, high-risk scenarios are really difficult to use to motivate short-term, incremental action," Pielke explained. "The rhetoric of fear and alarm that some people tend toward is counterproductive." Searching for solutions One technological solution to climate change already exists through carbon capture and storage, according to Wallace Broecker, a geochemist and renowned climate scientist at Columbia University's Lamont-Doherty Earth Observatory in New York City. But Broecker remained skeptical that governments or industry would commit the resources needed to slow the rise of carbon dioxide (CO2) levels, and predicted that more drastic geoengineering might become necessary to stabilize the planet. "The rise in CO2 isn't going to kill many people, and it's not going to kill humanity," Broecker said. "But it's going to change the entire wild ecology of the planet, melt a lot of ice, acidify the ocean, change the availability of water and change crop yields, so we're essentially doing an experiment whose result remains uncertain."

#### Previous temperature spikes disprove the impact

Singer 11 (S. Fred, Robert M. and Craig, PhD physics – Princeton University and professor of environmental science – UVA, consultant – NASA, GAO, DOE, NASA, Carter, PhD paleontology – University of Cambridge, adjunct research professor – Marine Geophysical Laboratory @ James Cook University, and Idso, PhD Geography – ASU, “Climate Change Reconsidered,” 2011 Interim Report of the Nongovernmental Panel on Climate Change)

Research from locations around the world reveal a significant period of elevated air temperatures that immediately preceded the Little Ice Age, during a time that has come to be known as the Little Medieval Warm Period. A discussion of this topic was not included in the 2009 NIPCC report, but we include it here to demonstrate the existence of another set of real-world data that do not support the IPCC‘s claim that temperatures of the past couple of decades have been the warmest of the past one to two millennia. In one of the more intriguing aspects of his study of global climate change over the past three millennia, Loehle (2004) presented a graph of the Sargasso Sea and South African temperature records of Keigwin (1996) and Holmgren et al. (1999, 2001) that reveals the existence of a major spike in surface air temperature that began sometime in the early 1400s. This abrupt and anomalous warming pushed the air temperatures of these two records considerably above their representations of the peak warmth of the twentieth century, after which they fell back to pre-spike levels in the mid-1500s, in harmony with the work of McIntyre and McKitrick (2003), who found a similar period of higher-than-current temperatures in their reanalysis of the data employed by Mann et al. (1998, 1999).

### 2NC Irreversible

#### Strong consensus that it’s too late

Edwards 12 (Rich, PhD in Communication – Baylor University, “A Preliminary Analysis of the IPFF Resolution for 2012-2013,” http://www.bickelbrewer.com/pdf/IPPF\_Topic\_Primer\_2012\_13.pdf)

This position argues that it is already too late for mitigation efforts to meaningfully change the course of climate change. Matthew Baca, writing in the Summer 2010 issue of the New York University Journal of International Law and Politics, offers the following rationale for prioritizing adaptation: “Climate change is already occurring, and some of its effects will be felt before mitigation can have any impact. Even if emissions are stabilized relatively soon (an unlikely prospect), sea level rise and anthropogenic warming will likely continue for many years to come. While mitigation is critical to the welfare of later generations, . . . adaptation is critical to our generation” (Baca, 2010, pp. 1343-1344). Jacqueline Peel and Lee Godden, both professors of law at Melbourne Law School, conclude that prevention should now be regarded as impossible: “Although future warming and its likely effects may be reduced if an effective agreement on deep emissions cuts emerges from the current post-Kyoto negotiation process, it is becoming increasingly clear that climate change impacts cannot be entirely prevented. In this context, climate change mitigation, in the sense of ‘implementing policies to reduce [greenhouse gas] emissions and enhance sinks,’ will not be sufficient to avert serious environmental damage. Instead there is a need for adaptation ‘initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects’” (Peel & Godden, 2009, p. 37). Eric Klinenberg, professor of public policy at New York University, believes that the fight to stop global warming is already lost; attention must now turn to how we should deal with it: “The question is no longer what’s happening with the climate but what we can do about it. The macro challenge is inescapable: Dramatically reducing our carbon footprint and quickly reversing the environmental damage that we’ve already inflicted. Whether and how we do that is the problem of our time. But as the fossil-fuel industry and the politicians it bankrolls do everything in their power to slow that transition, the rest of us have no choice but to adapt. If the mercury is going to keep rising, we need to start protecting ourselves from its consequences” (Klinenberg, 2012). Kevin Anderson, a scientist at the Tyndal Centre for Climate Change Research at the School of Mechanical Aerospace and Civil Engineering, and Alice Bows of the University of Manchester’s Sustainable Consumption Institute, conclude that the battle to stop global warming is already lost: “The analysis within this paper offers a stark and unremitting assessment of the climate change challenge facing the global community. There is now little to no chance of maintaining the rise in global mean surface temperature at below 2°C, despite repeated high-level statements to the contrary” (Anderson & Bows, 2011, p. 41).

#### Low threshold—less than 2 degrees is sufficient to cause their impacts

Harvey 11 (Fiona, Environment Reporter – Guardian, 11/9, “World headed for irreversible climate change in five years, IEA warns,” <http://www.guardian.co.uk/environment/2011/nov/09/fossil-fuel-infrastructure-climate-change>)

Climate scientists estimate that global warming of 2C above pre-industrial levels marks the limit of safety, beyond which climate change becomes catastrophic and irreversible. Though such estimates are necessarily imprecise, warming of as little as 1.5C could cause dangerous rises in sea levels and a higher risk of extreme weather – the limit of 2C is now inscribed in international accords, including the partial agreement signed at Copenhagen in 2009, by which the biggest developed and developing countries for the first time agreed to curb their greenhouse gas output.

#### Even the IPCC agrees

ENS 12-17 (Environment News Service, “Leaked UN Report Predicts ‘Irreversible’ Climate Change,” 2012, http://ens-newswire.com/2012/12/17/leaked-un-report-predicts-irreversible-climate-change/)

A leaked early draft of the UN’s latest climate change study shows human activities to be responsible for climate warming that will take centuries to reverse, even if greenhouse gas emissions were to stop right now. “Many aspects of climate change will persist for centuries even if concentrations of greenhouse gases are stabilised. This represents a substantial multi-century commitment created by human activities today,” states the draft report by the UN’s Intergovernmental Panel on Climate Change. “For scenarios driven by carbon dioxide alone, global average temperature is projected to remain approximately constant for many centuries following a complete cessation of emissions,” the draft states. “Thus a large fraction of climate change is largely irreversible on human time scales, except if net anthropogenic greenhouse gas emissions were strongly negative over a sustained period.”

### Cant Solve Quick enough

#### E) China and domestic politics block

**Hale 11** (Thomas, PhD Candidate in the Department of Politics – Princeton University and a Visiting Fellow – LSE Global Governance, London School of Economics, “A Climate Coalition of the Willing,” Washington Quarterly, Winter, http://www.twq.com/11winter/docs/11winter\_Hale.pdf)

Intergovernmental efforts to limit the gases that cause climate change have all but failed. After the unsuccessful 2010 Copenhagen summit, and with little progress at the 2010 Cancun meeting, it is hard to see how major emitters will agree any time soon on mutual emissions reductions that are sufficiently ambitious to prevent a substantial (greater than two degree Celsius) increase in average global temperatures. It is not hard to see why. No deal excluding the United States and China, which together emit more than 40 percent of the world’s greenhouse gases (GHGs), is worth the paper it is written on. But domestic politics in both countries effectively block ‘‘G-2’’ leadership on climate. In the United States, the Obama administration has basically given up on national cap-and-trade legislation. Even the relatively modest Kerry-Lieberman-Graham energy bill remains dead in the Senate. The Chinese government, in turn, faces an even harsher constraint. Although the nation has adopted important energy efficiency goals, the Chinese Communist Party has staked its legitimacy and political survival on raising the living standard of average Chinese. Accepting international commitments that stand even a small chance of reducing the country’s GDP growth rate below a crucial threshold poses an unacceptable risk to the stability of the regime. Although the G-2 present the largest and most obvious barrier to a global treaty, they also provide a convenient excuse for other governments to avoid aggressive action. Therefore, the international community should not expect to negotiate a worthwhile successor to the Kyoto Protocol, at least not in the near future.

#### Solar can only account for one sixth of global emissions – this assumes the most liberal estimates

IEA 12 (7-9,"Solar energy could meet one-sixth of global demand for heating and cooling in under 40 years" http://www.iea.org/newsroomandevents/news/2012/july/name,28298,en.html)

Solar energy could account for around one-sixth of the world’s total low-temperature heating and cooling needs by 2050, according to a roadmap launched today by the International Energy Agency (IEA). This would eliminate some 800 megatonnes of carbon dioxide (CO2) emissions per year, or more than Germany’s total CO2 emissions in 2009. The IEA’s Solar Heating and Cooling Roadmap outlines how best to advance the global uptake of solar heating and cooling (SHC) technologies, which produce very low levels of greenhouse-gas emissions. Some SHC technologies, such as domestic hot water heaters, are already widely in use in certain countries, but others are just entering the development phase. While solar heating and cooling today makes a modest contribution to world energy demand, the roadmap envisages that if governments and industry took concerted action, solar energy could annually produce more than 16% of total final energy use for low-temperature heat and nearly 17% for cooling. This would correspond to a 25-fold increase in absolute terms of SHC technology deployment in the next four decades. “Given that global energy demand for heat represents almost half of the world’s final energy use – more than the combined global demand for electricity and transport – solar heat can make a significant contribution in both tackling climate change and strengthening energy security,” said Paolo Frankl, Head of the IEA’s Renewable Energy Division. Benefiting warm climate countries In addition to replacing fossil fuels that are directly burned to produce heat, solar heating technologies can also replace electricity used for heating water as well as individual rooms and buildings. This would be especially welcome in warm climate countries without gas infrastructure and lacking alternative heating fuels. South Africa is cited as an example of a country that would benefit, as electric water heating currently accounts for a third of average household (coal-based) power consumption there. On top of this, the report notes that solar thermal cooling technology – in which the sun’s heat can be used to cool air – can reduce the burden on electric grids at times of peak cooling demand by fully or partially replacing conventional electrically powered air conditioners in buildings.

### AT Causes War

#### Tech and adaptive advances prevent all climate impacts---warming won’t cause war

Dr. S. Fred Singer et al 11, Research Fellow at The Independent Institute, Professor Emeritus of Environmental Sciences at the University of Virginia, President of the Science and Environmental Policy Project, a Fellow of the American Association for the Advancement of Science, and a Member of the International Academy of Astronautics; Robert M. Carter, Research Professor at James Cook University (Queensland) and the University of Adelaide (South Australia), palaeontologist, stratigrapher, marine geologist and environmental scientist with more than thirty years professional experience; and Craig D. Idso, founder and chairman of the board of the Center for the Study of Carbon Dioxide and Global Change, member of the American Association for the Advancement of Science, American Geophysical Union, American Meteorological Society, Arizona-Nevada Academy of Sciences, and Association of American Geographers, et al, 2011, “Climate Change Reconsidered: 2011 Interim Report,” online: <http://www.nipccreport.org/reports/2011/pdf/FrontMatter.pdf>

Decades-long empirical trends of climate-sensitive measures of human well-being, including the percent of developing world population suffering from chronic hunger, poverty rates, and deaths due to extreme weather events, reveal dramatic improvement during the twentieth century, notwithstanding the historic increase in atmospheric CO2 concentrations.

The magnitude of the impacts of climate change on human well-being depends on society's adaptability (adaptive capacity), which is determined by, among other things, the wealth and human resources society can access in order to obtain, install, operate, and maintain technologies necessary to cope with or take advantage of climate change impacts. The IPCC systematically underestimates adaptive capacity by failing to take into account the greater wealth and technological advances that will be present at the time for which impacts are to be estimated.

Even accepting the IPCC's and Stern Review's worst-case scenarios, and assuming a compounded annual growth rate of per-capita GDP of only 0.7 percent, reveals that net GDP per capita in developing countries in 2100 would be double the 2006 level of the U.S. and triple that level in 2200. Thus, even developing countries' future ability to cope with climate change would be much better than that of the U.S. today.

The IPCC's embrace of biofuels as a way to reduce greenhouse gas emissions was premature, as many researchers have found "even the best biofuels have the potential to damage the poor, the climate, and biodiversity" (Delucchi, 2010). Biofuel production consumes nearly as much energy as it generates, competes with food crops and wildlife for land, and is unlikely to ever meet more than a small fraction of the world's demand for fuels.

The notion that global warming might cause war and social unrest is not only wrong, but even backwards - that is, global cooling has led to wars and social unrest in the past, whereas global warming has coincided with periods of peace, prosperity, and social stability.

### Prices Low Now – 2NC

#### Electricity prices are at historic lows now AND renewables aren’t coming now

Volcovici 3/1/13 ("Campaign says has helped retire 15 percent of coal capacity," http://articles.chicagotribune.com/2013-03-01/business/sns-rt-us-usa-coal-climatebre920113-20130301\_1\_coal-fired-power-coal-plant-natural-gas)

The campaign crossed the halfway mark this week after American Electric Power (AEP) announced Monday it will stop burning coal at three Midwest power plants by 2015 as part of a settlement with federal regulators, states and environmental groups, including the Sierra Club.¶ Environmental groups said the Ohio-based company, long known as the biggest coal generator in the country, would retire a total of 2,011 megawatts (MW) of coal-fired capacity at plants in Indiana, Ohio and Kentucky.¶ Since President Barack Obama took office power companies, including AEP, have announced plans to retire over 40,000 MW of coal capacity over the next several years as weak natural gas prices pushed power prices to decade lows.¶ Bloomberg told reporters that natural gas will continue to play a central role in the U.S. energy mix as the country weans itself off of coal use.¶ Solar and wind generation will only play small part in overall U.S. energy consumption, while hydro power can "help in some areas" but is constrained by energy transmission issues, Bloomberg said.

#### Electricity prices are low now - gas supplies, utility companies concede

Jacobs 3/5/13 ("Nuke giant Exelon's future: sustainable or stuck in the mud?," http://news.medill.northwestern.edu/chicago/news.aspx?id=217657)

But hydraulic fracturing in the U.S. has surfaced vast supplies of shale gas in recent years, making natural gas a cheap and attractive fuel source. And, given that it produces cleaner emissions than coal, it’s (managed to avoid the kind of environmental stigma coal plants suffer.) even been given the pass as being relatively sustainable.

“Power prices are typically correlated with natural gas prices,” Miller said. “And as natural gas prices have hovered at decades-low prices, power prices have come down substantially from the peaks they reached in 2008.”

Miller = analyst and director of utilities research for Morningstar

### Econ Recovery Now – 2NC

#### US economy recovering now – job growth, improving housing market, and sequestration/tax increases don’t thump

Rushe 3/8/13 (Dominic, The Guardian, "US unemployment rate falls to four-year low as economy adds 236,000 jobs," http://www.guardian.co.uk/business/2013/mar/08/us-jobless-rate-jobs-february)

The US added 236,000 new jobs in February as the unemployment rate edged down to 7.7%, its lowest level since December 2008. The figures easily beat economists' predictions that the US would add 160,000 jobs in February and look set to drive US stock markets to new record highs.¶ This is 29th month in a row that the US has added jobs. On average, 183,000 jobs were added each month in all of 2012. In past three months, that pace has picked up to an average of about 195,000 a month.¶ The Obama administration said the figures showed that the economy was strengthening. "While more work remains to be done, today's employment report provides evidence that the recovery that began in mid-2009 is gaining traction," said Alan Krueger, chairman of the Council of Economic advisers.¶ But he cautioned that the reference period for the surveys was before sequester budget cuts began, suggesting that the impact of those cuts will be felt later.¶ "The administration continues to urge Congress to move toward a sustainable federal budget in a responsible way; one that balances tax-loophole closing, entitlement reform and sensible spending cuts, while making critical investments in the economy that promote growth and job creation – and protecting our most vulnerable citizens," Krueger said.¶ The Bureau of Labor Statistics said the job gains were made in professional and business services, construction, and healthcare. In a sign of the improving housing market, the construction industry added 48,000 in February. Since September, construction employment has risen by 151,000.¶ There are still major issues in the job market, however. The number of long-term unemployed – those jobless for 27 weeks or more – was unchanged in February at 4.8m. These individuals accounted for 40.2% of the unemployed. The unemployment rates for teenagers (25.1%), black people (13.8%), and Hispanics (9.6%) remained high and showed little or no change.¶ The number of people not in the labour force rose to 90.1 million in February, up from 89.9 million in January and 88.3 million in February 2012.¶ The news comes after payroll giant ADP's latest poll concluded that the private sector added 198,000 jobs in February, higher than the 175,000 forecast by economists. The firm also revised its January number up to 215,000, 22,000 higher than its initial estimate.¶ Mark Zandi, the chief economist of Moody's Analytics, which compiles the report with ADP, said: "The job market remains sturdy in the face of significant fiscal headwinds. Businesses are adding to payrolls more strongly at the start of 2013 with gains across all industries and business sizes. Tax increases and government spending cuts don't appear to be affecting the job market."¶ The jobs figures and better than expected figures from the service sector helped drive US stock markets to all time highs this week. On Tuesday, the Dow Jones Industrial Average passed levels unseen since before the start of the recession.

### 1NC Solvency

#### Solar tax credits don’t incentivize adoption

Schmalensee 11 -- Howard W. Johnson Professor of Economics and Management, Emeritus at the Massachusetts Institute of Technology, Professor of Economics, Emeritus, Dean Emeritus, and Director of the MIT Center for Energy and Environmental Policy Research at the MIT Sloan School of Management, member of the President’s Council of Economic Advisers from 1989 through 1991, Fellow of the Econometric Society and the American Academy of Arts and Sciences, a Research Associate of the National Bureau of Economic Research, and a member of the International Academy of Management and the National Commission on Energy Policy (Richard, 5/11, "Evaluating Policies to Increase the Generation of Electricity from Renewable Energy," http://dspace.mit.edu/bitstream/handle/1721.1/66279/2011-008.pdf?sequence=1)

Outside the U.S., feed-in Tariff (FIT) policies have been much more popular. FIT policies are price-based and generally require that electricity generated from renewable energy be purchased at a fixed, premium price. FIT policies were employed by fifty nations at the start of 2010, while only ten used RPS. In contrast, FITs have been very little used by U.S. states and have received essentially no recent attention at the federal level (Couture et al 2010). Since 1992 federal support of renewable generation has mainly involved tax credits that provide per-kWh subsidies of generation or fractional subsidies of up-front capital cost (Schmalensee 2010). The adverse incentive effects of subsidizing capital cost are clear; the shortcomings of providing subsidies in the form of tax credits are also serious. This approach generally requires renewable generation developers, who rarely have enough taxable income to make use of tax credits, to partner with one of a few large tax-paying financial institutions who are willing to serve as “tax equity” providers (Bipartisan Policy Center 2011). Forming such partnerships raises costs significantly, with no social benefit.

## 1NR

### Impact – 2NC

#### Immigration solves inevitable economic collapse – turns case

Ozimek 2-7 (Adam, Contributor, “Does An Aging Population Hurt The Economy?” Forbes, 2013, http://www.forbes.com/sites/modeledbehavior/2013/02/07/does-an-aging-population-hurt-the-economy/)

The economic benefit of immigration is in part about how big of a problem our aging population is. Immigrants are in general younger, and our best way to fight against a growing ratio of retirees to workers. But this raises the question of how big of a problem is this ratio and our aging population in general. While many are concerned about this, Dean Baker argues it is not a problem. He agrees that the ratio has increased and will continue to increase in the future as the population ages, but he argues that we haven’t seen any problems yet so we won’t see any later: We have already seen a sharp decline in the ratio of workers to retirees, yet even people who follow the economy and economic policy closely, like Klein, were apparently not even aware of this fact. Since this decline is never cited as factor causing our current economic problems, why would we think the comparatively mild decline in this ratio projected for future decades will be a large burden? Dean is wrong that the ratio of workers to retirees is not cited as a factor in the current economic problems. The most prominent example comes from newly appointed Council of Economic Advisors member James Stock and his co-author Mark Watson. In their paper “Disentangling the Channels of the 2007-2009 Recession” they specifically cite demographic trends as a cause of our slow recovery. The variable Stock and Watson ultimately cite is the decline in labor force participation, and they argue it is driven by the aging of the workforce and the overall distribution of workers by age. Dean may argue that this technically isn’t the dependency ratio, but that would be quibbling: changes in these two measures capture the same basic economic phenomenon of the aging population and a lower percentage of the population working. Not only has the aging population contributed to the slow recovery, Stock and Watson argue there is good reason to believe it will mean slow recoveries in the future too: The main conclusion from this demographic work is that, barring a new increase in female labor force participation or a significant increase in the growth rate of the population, these demographic factors point towards a further decline in trend growth of employment and hours in the coming decades. Applying this demographic view to recessions and recoveries suggests that the future recessions with historically typical cyclical behavior will have steeper declines and slower recoveries in output and employment. Furthermore, this is just the impact of the aging population on business cycles, there is also the very serious problem of how it will affect our finances. Dean knows that by increasing the workforce immigration improves Social Security’s finances. In 2006 he wrote that if future immigration was at 2001-2002 levels instead of at around 900,000 per year it would reduce the Social Security trust fund’s long-term shortfall by 12%. A shortfall means we will reduce benefits or pay for it in higher taxes, and either are going to result in lower welfare for someone.

**Nuclear war causes warming**

**Turco et. Al** **08**

Toon: chair of the Dept of Atmospheric and Oceanic Sciences and a member of the Laboratory for Atmospheric and Space Physics at the University of Colorado @ Boulder. Robock is a Proff of atmospheric science at Rutgers University in New Brunswick, New Jersey. Turco is a professor of atmospheric science at the University of California, Los Angeles, (Owen B. Toon, Alan Robock, and Richard P. Turco, “Environmental consequences of nuclear war,” 2008 American Institute of Physics, December 2008 Physics Today 37-42, http://www.plu.edu/~haykm/332\_Course\_Material/current\_events/NuclearWar.pdf)

Complementary to temperature change is radiative forcing, the change in energy flux. Figure 3b shows how nuclear soot changes the radiative forcing at Earth’s surface and com- pares its effect to those of two well-known phenomena: warming associated with greenhouse gases and the 1991 Mount Pinatubo volcanic eruption, the largest in the 20th century. Since the Industrial Revolution, greenhouse gases have increased the energy flux by 2.5 W/m. The transient forcing from the Pinatubo eruption peaked at about −4 W/m 2 (the minus sign means the flux decreased). One implication of the figure is that even a regional war between India and Pakistan can force the climate to a far greater degree than the greenhouse gases that many fear will alter the climate in the foreseeable future. Of course, the durations of the forcings are different: The radiative forcing by nuclear-weapons-gen- erated soot might persist for a decade, but that from green- house gases is expected to last for a century or more, allow- ing time for the climate system to respond to the forcing. Accordingly, while the Ice Age–like temperatures in figure 3a could lead to an expansion of sea ice and terrestrial snow- pack, they probably would not be persistent enough to cause the buildup of global ice sheets. Agriculture responds to length of growing season, tem- perature during the growing season, light levels, precipita- tion, and other factors. The 1980s saw systematic studies of the agricultural changes expected from a nuclear war, but no such studies have been conducted using modern climate models. Figure 4 presents our calculations of the decrease in length of the growing season—the time between freezing temperatures—for the second summer after the release of soot in a nuclear attack.

#### Hegemony key to solve global warming – global solutions

Cascio ‘8

(Jamais,Writer for the Institute for Ethics and Emerging Technologies, *The Big Picture: Climate Chaos*)

The relationship between climate chaos and the rise of the post-hegemonic world is tricky. Climate disruption isn’t causing the decline of US hegemony, nor is it caused by that decline. However, global warming underscores the weakness of the American hegemony, and that the decline of American hegemony weakens the potential for a near-term coordinated response to global warming. Moreover, this decline has the potential to make dealing with climate chaos more difficult. The best example of this situation occurred at the Bali global warming conference in December. The US delegation refused to sign an agreement accepted by essentially the rest of the participants, instead arguing for its own alternative. Kevin Conrad, the delegate from Papua New Guinea, then stepped to the microphone and said this: There’s an old saying: If you are not willing to lead, then get out of the way. I ask the United States: We asked for your leadership; we seek your leadership. But if for some reason you are not willing to lead, leave it to the rest of us; please get out of the way. A weakened American hegemon is one that is most likely to either try a costly attempt to shore up its power, or lash out at rising competitors, distracting national and world leadership at a time when distraction is most problematic. Of all of the risks to our global capacity to deal with global warming, this is the most dangerous.

### Solar – 2NC

#### Plan requires lots of capital – Congressional engagement key

Businessweek, 9/6 (“Renewable Energy Is Obama Goal for Next Term, Aide Says”, http://www.businessweek.com/news/2012-09-06/renewable-energy-is-obama-goal-for-next-term-aide-says)

President Barack Obama’s effort to develop renewable power sources and persuade Congress to adopt a long-term energy policy will be priorities should he win a second term, his top climate and energy aide said. Clean-energy programs and efficiency initiatives will be a focus for the president if he’s re-elected in November, Heather Zichal, Obama’s deputy assistant for energy and climate change, told reporters today in Washington. “The big issue will remain engagement with Congress,” she said. “The president has talked continuously about the need for a long-term energy policy, and I think that will be something that he will obviously remain focused on in the second term.” As a candidate in 2008, Obama pledged to create 5 million green jobs over 10 years by investing in renewable sources such as solar and wind power. He promoted alternatives to fossil fuels as a way to cut U.S. dependence on imported fuel. The 2009 economic-stimulus plan spent a record $90 billion on clean energy, creating 225,000 green jobs after one year, according to the White House. Republicans have used U.S. support for Solyndra LLC, the solar-panel maker that collapsed two years after getting a $535 million U.S. loan guarantee, to depict Obama’s policies as a failure by meddling in the free market. Mitt Romney, the Republican presidential nominee, said federal regulation of oil and gas limit U.S. energy development.

#### Massive GOP opposition to the plan – just passed “No More Solyndras Act”

Abrams, 9/14 (Jim, “House votes to end energy loan guarantee program”, Associated Press, http://www.boston.com/business/technology/2012/09/14/house-votes-end-energy-loan-guarantee-program/AdM0doMf7MgEIqbjxfTcVI/story.html)

WASHINGTON (AP) — Republicans on Friday pushed a bill through the House shining a campaign-season light on the most conspicuous failure of President Barack Obama’s economic stimulus package. The bill would phase out federal loan guarantees like those that went to the now-bankrupt solar power company Solyndra LLC and left taxpayers on the hook for more than $500 million. The ‘‘No More Solyndras Act,’’ which passed on a mainly party-linevote, has no chance of advancing in the Democratic-led Senate and was assailed by House Democrats as an election-year stunt. The vote was 245-161. The bill would curtail an Energy Department loan guarantee program that was the source of the more than $500 million investment in Solyndra. It was part of the $787 billion stimulus package enacted shortly after Obama took office in 2009. The Fremont, Calif.-based company was the first renewable energy company to receive a federal loan guarantee under the stimulus, and its financial woes in the face of Chinese competition made it a target for Republican scrutiny. The company filed for bankruptcy protection in September 2011, and under its reorganization plan, taxpayers would lose almost all of their investment. The bill would require the Treasury to review any future Energy loan guarantees made before the program expires and reaffirm that it is forbidden to ‘‘subordinate’’ loans so that private investors are repaid before the government is. ‘‘I'm stunned by the cavalier manner in which the administration squandered all of these tax dollars yet says it has no regrets, no apologies, about its handling of the program,’’ said Rep. Fred Upton, R-Mich., chairman of the House Energy and Commerce Committee. ‘‘Burning money is one source of energy that the country doesn’t need.’’ The measure was approved by Upton’s committee in early August, along with the results of an 18-month investigation by committee Republicans concluding the administration was determined to make Solyndra a stimulus success story despite evidence that it was headed for failure. The report said the Energy Department knowingly violated the law when it restructured the loan last year so as to subordinate taxpayer interests to those of private investors. One of the private equity funds that takes repayment priority is an investment vehicle for a foundation headed by billionaire George Kaiser, a major Obama campaign contributor. Democrats dismissed the report as partisan and one-sided and said Republicans failed to prove their argument that the loan was made for political reasons. The White House said the president strongly believed it was the right decision to invest in clean energy technologies. ‘‘It’s clear that this legislation is a political exercise,’’ said Rep. Diana DeGette, D-Colo. ‘‘It does nothing but attempt to keep the word ‘Solyndra’ in the news.’’ Republicans pointed out that three of the first five companies that received loan guarantees under the stimulus, among them Solyndra, have gone bankrupt. Democrats said Republicans were ignoring the Energy Department successes, including saving nearly 300 million gallons of gasoline a year by supporting such projects as one of the world’s largest wind farms in Oregon, a large solar generation project in California and a major photovoltaic solar power plant in Arizona. The loan guarantee program falls under the Energy Policy Act of 2005 that was passed partly with the intention of promoting a revival of nuclear energy. The George W. Bush administration did not approve any loan guarantees and under Obama it shifted toward boosting development of innovative clean energy technology. The legislation bars the Energy Department from issuing loan guarantees for any application received after Jan. 1 this year, leaving $34 billion in authorized money to provide financial backing to applications made before that date. Democrats said that means the department could provide loan guarantees to older energy industries favored by Republicans, specifically nuclear and coal, while shutting out future applicants with breakthrough clean energy technology.

#### Plan forces Obama to spend capital

Hansen, 10 (Dr. James, director of the NASA Goddard Institute for Space Studies in New York City and is Adjunct Professor of Earth Sciences at Columbia University’s Earth Institute, “Obama's Second Chance on the Predominant Moral Issue of This Century”, Huffington Post, Apil 5, http://www.huffingtonpost.com/dr-james-hansen/obamas-second-chance-on-c\_b\_525567.html)

But so far Congress has been steamrolled by special interests. Congressional leaders add giveaways in their bills to attract industry support and specific votes. The best of the lot, the Cantwell-Collins bill, returns 75 percent of the revenue to the public. But it is still a cap-and-trade scheme, and its low carbon price and offset-type projects create little incentive for clean energy and would have only small impact on carbon emissions. Can the cacophony of special interests be overcome? There is one way: the president must get involved. He must explain the situation to the public and use his bully pulpit to persuade Congress to do what is right for the nation and future generations. He must explain that a rising carbon price is needed to phase out our fossil fuel addiction. The dividend will provide the public the means to move to a clean energy future, stimulating the economy.

#### Support is diminishing - Solyndra

Cart, 12 (Julie, LA Times Staff Writer, April 26, “Public split over elimination of U.S. energy subsidies, poll finds,” Los Angeles Times, April 26, http://articles.latimes.com/2012/apr/26/local/la-me-enviro-poll-20120426)

The Yale-George Mason University poll being released Thursday found that 76% of Americans support regulating carbon dioxide as a greenhouse gas pollutant and that two-thirds believe the U.S. should pursue policies to reduce its carbon footprint. Support for federal funding of renewable energy appears to be slipping, perhaps in response to the bankruptcy of the solar manufacturing company Solyndra, which had received federal loan guarantees.

#### More evidence – Solyndra has undermined support for solar

Harder, 12 (Amy, “ENERGY: Obama Pushes Forward on Clean Energy Without Congress”, National Journal, Jan 24, http://www.nationaljournal.com/stateoftheunion/energy-obama-pushes-forward-on-clean-energy-without-congress-20120124)

With Congress gridlocked and clean-energy policy stifled by solar-panel maker Solyndra's default on a federal loan, President Obama said on Tuesday evening in his State of the Union address that he is pressing forward with major initiatives in solar and wind energy that his administration can shepherd on its own. “The differences in this chamber may be too deep right now to pass a comprehensive plan to fight climate change,” Obama said. “But there’s no reason why Congress shouldn’t at least set a clean energy standard that creates a market for innovation. So far, you haven’t acted. Well tonight, I will.” Obama announced that the Navy will make the largest purchase of renewable energy purchase in history, enough to power a quarter of a million homes a year, and the Interior Department will lay the foundation to provide 3 million homes with renewable energy power from solar and wind projects on public lands by year’s end. The announcements are consistent with Obama’s “We Can’t Wait” initiatives that focus on actions the president can do under his own executive authority without congressional action. Obama’s commitment to renewable energy in his speech comes as Republicans in Congress and on the campaign trail attack him for the failings of Solyndra, the now-bankrupt solar manufacturer that received a $535 million federal loan guarantee. Repeating his call from last year’s State of the Union address, Obama urged lawmakers to pass legislation that would create a standard for producing electricity from cleaner sources such as natural gas, nuclear power, and renewables by 2035. He also called on Congress to act on clean-energy tax credits but didn’t specify what kind. Obama also announced that his administration would provide new incentives for industrial manufacturers to improve the energy efficiency of their operations. That could save companies $100 billion over the next decade, Obama said. The president's moves on clean energy are bolder than some experts were expecting, such as his call to develop wind and solar energy projects on public lands. But others, like the Pentagon’s initiatives and the focus on energy efficiency, are already part of the White House strategy on clean energy absent comprehensive energy and environment policy from Congress.

#### -- Public popularity irrelevant

Gelman 9 (Andrew, Professor of Statistics and Political Science and Director of the Applied Statistics Center – Columbia University, FiveThirtyEight.com, 11-14, http://www.fivethirtyeight.com/2009/11/politicians-have-lot-of-leeway-in-how.html)

Matthew Yglesias remarks that, when staking out positions, congressmembers are not very strongly constrained by the ideologies of their constituents. Wow, that was a lot of big words. What I meant to say was**:** Congressmembers and Senators can pretty much vote how they want on most issues, whatever their constituents happen to believe. Not always, of course, but a representative can take a much more liberal or conservative line than the voters in his or her district or state, and still do fine when election time comes. Yglesias gives some examples from the U.S. Senate, and I just wanted to back him up by citing some research from the House of Representatives. First, here's a graph (from chapter 9 of Red State, Blue State; the numbers are based on research with Jonathan Katz) showing that, when running for reelection, it helps for a congressmember to be a moderate--but not by much: Being a moderate is worth about 2% of the vote in a congressional election: it ain't nuthin, but it certainly is not a paramount concern for most representatives. To look at this another way, here's a graph showing the members of the House of Representatives in 1993-1994: Representatives from more politically extreme districts tended themselves to be further to the right (if Republicans) or to the left (if Democrats), but only slightly so, with a lot of exceptions. There's a lot of leeway on where politicians stand. (And, yes, many of these Democrats did lose in 1994--but, pretty much, the ones that lost were those in marginal districts, not particularly those with extremely liberal ideologies. By this I'm not trying to say the extreme liberals benefited from their ideology--as noted above, I estimate that it hurt them by, on average, a couple percentage points of the vote--but that these couple percentage points didn't really matter much; the partisanship of their districts was much more of the key factor in determining whether they were reelected.) More discussion here, in the context of the notorious "median voter theorem." As I wrote earlier, I am sympathetic to the related point that it can be a mistake to assume that politicians of your political party agree with you, deep down, on the issues, and that they're only voting differently because of expedience, craven political calculation, or whatever. It's worth considering the hypothesis that lots of Democratic politicians do not share the values and policy preferences of lots of Democratic voters, and similarly for the Republicans. Given the diversity of public opinion, this really has to be true on some issues, and it very well might be true all over the place. Another way of saying all this is: Incumbent congressmembers almost always win reelection. And, when they don't, they're often losing as part of a national swing (as in the 1994 Republican sweep or the 2006/2008 Democratic shift). And when an incumbent does lose unexpectedly, it can be for something unrelated to their votes (remember the "check kiting scandal" of 1992?).

#### -- Prefer our evidence: best studies and theory

Bond and Fleisher 96 (Jon R. and Richard, Professors of Political Science – Texas A&M University, The President in Legislation, p. 29)

Thus studies of congressional behavior and Neustadt's theory lead one to expect that presidential popularity will have only a marginal impact on voting decisions of representatives in Congress. Liberal Democrats, for example, did not become solid supporters of President Reagan even at the zenith of his popularity. The expectation of marginal effects is not to deny that for some individuals on some votes, the president's popularity with the public is a crucial-perhaps even deciding-consideration. But the available evidence does suggest that, in general, presidential popularity is not likely to alter greatly the decisions of individuals already in Congress. Instead, its effects are likely to be indirect, operating through the electoral process to alter the distribution of partisan and ideological forces in Congress through changes in membership.

### Will Pass – 2NC

#### Merica evidence says Obama is pushing and getting support

#### Will pass – GOP

Smith 3/8

[Larry, Left Foot Forward, The Week in Washington: Obama and GOP talk budget, filibuster fails to block CIA director and more, 3/8/13,

<http://www.leftfootforward.org/2013/03/the-week-in-washington-obama-and-gop-talk-budget-filibuster-fails-to-block-cia-director-and-more/>]

Republican senators involved in talks on immigration reform have said they are still prepared to offer undocumented aliens a pathway to full citizenship, despite unexpected opposition to the idea from Jeb Bush. In press interviews this week, the three most influential GOP senators in favour of an overhaul – John McCain, Lindsey Graham and Marco Rubio - restated their support for a pathway and rejected an alternative plan floated by the former Florida governor which would allow immigrants legal residency but not citizenship. Bush’s intervention – which comes in a new book written last year – took many observers by surprise given his previous support for large-scale reform. Some have wondered whether the ex-governor is positioning himself for a Republican presidential primary, although it seems more likely he formulated the alternative to woo his party away from hardline positions it took during the 2012 election. Bush has already indicated he could change his position on the issue. The Washington Post reported on Tuesday that the cross-party group of senators working on an immigration reform bill would not have a draft ready until April at the earliest. However, there are signs of progress in the House of Representatives. Judiciary Chair Bob Goodlatte has announced he will hold classes for members on immigration to ensure a lack of in-depth knowledge does not hinder legislation, and small **GOP working groups are aiding bipartisan House talks on the issue**. Aides to Speaker Boehner have said his chamber may end up passing ‘**small-bore’ bills that could then be reconciled with a comprehensive Senate blueprint**.

#### Momentum and top of docket – this also answers “poison pill”

Liasson 2-20 (Mara, Anchor – NPR, “Where Does Overhauling Immigration Stand?,” Lexis)

MARA LIASSON: Well, that's a good question. To hear some Republicans explain it, anything with the president's name on it hurts, but that doesn't really make sense because I don't think Republicans are going to vote for or against immigration reform based on whether the president supports it. This is an issue that has momentum because it's in the political interests of both sides to support it. And then there's the notion that some Republicans believe that the president wants and issue not a bill. But I don't see any evidence for that. He has tread very carefully on this issue. He hasn't demonized Republicans on immigration reform as he has been more than willing to do on other issues like sequestration, as we just heard in Scott's piece. I think the president does want to sign a bill, but he also has to prove to his own base that he is willing to move forward with his own plan if Congress is unable to come up with a bipartisan immigration reform proposal. He hasn't put a hard and fast deadline on it, but he has mentioned March as a time when he expects something to happen in the Senate. STEVE INSKEEP: OK. So if he has to prove that to his own base, his fellow Democrats, does the release of this White House plan actually help things a little bit then? MARA LIASSON: Well, it could help push things forward in a perverse way, because it provides some cover for Republicans, particularly Marco Rubio, who's been a leader on this issue. He was very critical of the White House draft. He said it would be dead on arrival if they sent that up in legislative form to the Hill. It allows him to position himself in maybe a more politically comfortable position, opposing the president's plan and saying he supports this bipartisan congressional package instead of the, you know, far left White House proposal on immigration reform. So you could make the argument that this actually could help the process.

#### Bipartisan support BECAUSE Obama is pushing

Samay 2-21 (Samay Live, Obama is hoping to sign immigration reform bill, Lexis)

US President Barack Obama is encouraged by the progress made in the US Congress on comprehensive immigration reform and hoped that a bill in this regard would soon land up on his table for signature. "As the (US) President has made clear, he is encouraged by and hopeful about the process underway in the Senate, the bipartisan process led by the so-called Gang of Eight (a group of eight Senators), towards achieving a comprehensive immigration reform bill that could pass the Senate -- and hopefully pass the House, and land on his desk for his signature," the White House Press Secretary Jay Carney told reporters here yesterday. "He (Obama) prefers that option to any other, and he is very encouraged by the progress that's been made so far. He thought his conversations with Senate Democrats involved in this process last week were very productive, and he felt the same about his conversations with Senate Republicans yesterday," Carney said referring to the telephonic conversations the US President had with top three Republican lawmakers, a day earlier. Responding to questions, Carney said there is not much disagreement among various parties when it comes to the need to pursue enhanced border security as part of comprehensive immigration reform. "That's part of why it's called comprehensive. So we look forward, to continuing to work with Congress, work with the Senate as they pursue bipartisan comprehensive immigration reform legislation," he said. Carney said that the prospects of success in this regard can be easily reflected from the comments of Republican Senator Mario Rubio. "But we encourage the Senate to keep working because this is a significant priority. It's a priority that has in the past enjoyed broad bipartisan support, and that we believe is, once again, enjoying that kind of support," the White House Press Secretary said. He said the legislation that then-Senator Obama supported back in 2006 was co-authored by Senator (John) McCain, which also got the support of President George W. Bush "And that I think represents and reflects what should be the bipartisan consensus behind this very important policy goal," he said. Carney said that comprehensive immigration reform provides a clear path to citizenship that includes getting in the back of the line and paying taxes and the like, a view supported by both the Democratic and Republican parties.

### A2: Uniqueness Overwhelms

#### CIR will pass, but it’s tough – GOP will still scrap the bill

Benen 2-6 (Steve, “Defining the ‘Extremes’ in the Immigration Debate,” Maddow Blog, 2013, http://maddowblog.msnbc.com/\_news/2013/02/06/16868677-defining-the-extremes-in-the-immigration-debate)

At the surface, there's ample reason for optimism on comprehensive immigration reform. President Obama is investing considerable political capital into the issue; the public strongly supports the reform efforts; a bipartisan bill is already progressing in the Senate; and every Republican strategist and consultant is warning the party not to further alienate the fastest-growing voting constituency in the country. Even House Speaker John Boehner (R-Ohio) recently declared, "This issue has been around far too long. A comprehensive approach is long overdue, and I'm confident that the president, myself, others can find the common ground to take care of this issue once and for all." All House Republicans have to do now is be half-way reasonable and reform should become a reality. What could go wrong? At a House Judiciary Committee hearing exploring an overhaul of the immigration system -- the first of several such hearings expected in the House -- Representative Robert W. Goodlatte, Republican of Virginia and chairman of the committee, tried to frame what he called the question of the day: "Are there options that we should consider between the extremes of mass deportation and a pathway to citizenship for those not lawfully present in the United States?" It was a question later echoed by Representative Lamar Smith, Republican of Texas and the former chairman of the committee, when questioning Mayor Julian Castro of San Antonio. "Do you see any compromise area between the current status quo and a path to citizenship for virtually all the 11 million who are illegal immigrants in the country today?" he asked. Hmm. Apparently, the position embraced by the White House, congressional Democrats, most of the public, and several Senate Republicans is now "the extreme" position, at least according to the far-right chairman of the House Judiciary Committee. What's more, around the same time as Goodlatte's remark, Boehner decided not to endorse a pathway to citizenship for undocumented immigrants and told reporters it would be "very difficult" for the House to approve the centerpiece of any credible, comprehensive reform package. So much for the Speaker feeling "confident" about a "comprehensive" approach. This is not to say the House GOP wants to do nothing -- their version of a compromise is approving measures they already like. House Republicans on Tuesday staked out what they cast as a middle-ground option in the debate over immigration, pushing an approach that could include legal residency but not a path to citizenship -- as their Democratic counterparts favor -- for the 11 million illegal immigrants already in the country. Republicans also signaled that they are open to the idea of breaking immigration legislation into several smaller bills, which would allow them to deal with the question of highly skilled workers, as well as a farmworker program, without addressing what Democrats and immigration advocates say is the larger issue of potential citizenship. As for citizenship, Rep. Raul Labrador, a member of a bipartisan group of House members discussing immigration reform proposals, told reporters yesterday that undocumented immigrants don't really care about citizenship anyway, so there's no reason to make a fuss. "They're not clamoring for it. It's only the activists here in Washington D.C. who keep clamoring for it," Labrador said. So, on the one hand, immigrants could celebrate a semi-permanent status as second-class not-quite-citizens, and on the other, a comprehensive approach that nearly everyone agrees is necessary would be broken up so that provisions the right doesn't like could go away. In fairness, I should note that many notable House Republicans have become rather cagey about what they are and are not willing to consider. They don't want a pathway to citizenship, and they don't like a comprehensive solution, but most of them have not categorically ruled out the possibility. These may be opening moves in a larger chess match in which the House GOP sees what it can get away with and how far mainstream voices can be pushed. Or maybe the radicalized House Republican caucus fully intends to ignore the prevailing winds and public demand, and once again ruin any chance of serious policymaking in this Congress.

### PC Key – 2NC

#### PC key – bridges perception differences

South Chicagoan 2-21 (Will Obama be trashed for cooperation?, Lexis)

So will the Republican leadership now demonize the president for trying to go around their own ideologically-inspired agenda to get something done that they might not approve of? Of course, the president has his own agenda - which largely consists of ensuring that something, anything gets passed into law this year. If he were to fail again and we get stuck with the status quo, it would reinforce much of the apathy that many Latinos have felt toward Obama. The idea that he speaks in our favor, but is too willing to push our concerns aside when the political maneuvering gets too rough. WHICH MEANS THE opponents of immigration reform could score a victory if nothing happens. Even though that would be a harm to the rest of us - since the current immigration policy is a bureaucratic mess that complicates the situation and gives our entire society a massive headache we'd be better off without! For the record, Obama made his calls to John McCain, R-Ariz., and Lindsay Graham, R-S.C. - who have devoted significant amounts of time and attention to this issue in the past; along with Marco Rubio, R-Fla., who seems to have become THE self-appointed voice of Latinos on this particular issue. Even though some of us might wonder if a Cuban-American person has such a differing perspective on the immigration issue that perhaps they're not best suited to appreciate the difficulties imposed by the current federal policies. Although I'm not going to bash on Rubio that much - even if he was the most-outspoken critic of the effort that Obama's aides are putting together as a back-up immigration reform plan in the event that Congress can't get its act together. LIKE I WROTE earlier, Obama is determined to have something, anything, be passed into law during 2013. But the fact is that we have a split in the way that immigration reform is being perceived. To the point where I wonder if this differing perception IS going to be the factor that stalls the issue. For while the Obama backup plan is one that creates an option where the people now living without a valid visa in this country can eventually gain citizenship - but one in which it can take about eight years just to get the 'green' card and several more before one gets to take the oath of naturalization where they renounce their ties to any foreign potentate. While the ideologues who realize that outright opposition is no longer a viable option are more concerned with focusing on programs that would allow people to work without any option for naturalization, or more talk along the lines of building that stupid wall along the U.S./Mexico border. YOU KNOW. THE one that will be easily scaled with the mythical '51 foot' ladder? This is going to be an ugly political brawl. I have always accepted that. But it is also a brawl that I believe our nation is just going to have to go through. The sooner we do, the quicker we will reach the long-term solution.

### A2: Winners Win – 2NC

#### Obama can’t win on energy – only risk of a link

Eisler 12 Matthew is a Researcher @ the Chemical Heritage Foundation. “Science, Silver Buckshot, and ‘All of The Above’” April 2, http://scienceprogress.org/2012/04/science-silver-buckshot-and-%E2%80%9Call-of-the-above%E2%80%9D/

Conservatives take President Obama’s rhetoric at face value. Progressives see the president as disingenuous. No doubt White House planners regard delaying the trans-border section of the Keystone XL pipeline and approving the Gulf of Mexico portion as a stroke of savvy realpolitik, but one has to wonder whether Democratic-leaning voters really are as gullible as this scheme implies. And as for the president’s claims that gasoline prices are determined by forces beyond the government’s control (speculation and unrest in the Middle East), it is probably not beyond the capacity of even the mildly educated to understand that the administration has shown little appetite to reregulate Wall Street and has done its part to inflate the fear premium through confrontational policies in the Persian Gulf. Committed both to alternative energy (but not in a rational, comprehensive way) and cheap fossil fuels (but not in ways benefiting American motorists in an election year), President Obama has accrued no political capital from his energy policy from either the left or the right by the end of his first term.¶ The president long ago lost the legislative capacity for bold action in practically every field, including energy, but because the GOP’s slate of presidential candidates is so extraordinarily weak in 2012, he may not need it to get re-elected. At least, that is the conventional wisdom in Democratic circles. Should President Obama win a second term, Congress is likely to be even more hostile than in his first term, as in the Clinton years. And as in the Clinton years, that will probably mean four more years of inaction and increased resort to cant.

#### Obama thinks that pol cap is finite – he’ll back off controversial issues even if he’s winning

Kuttner 9 (Robert – , co-editor of The American Prospect and a senior fellow at Demos, author of "Obama's Challenge: America's Economic Crisis and the Power of a Transformative Presidency, 4/28/9, “Obama Has Amassed Enormous Political Capital, But He Doesn't Know What to Do with It,” <http://www.alternet.org/economy/138641/obama_has_amassed_enormous_political_capital,_but_he_doesn%27t_know_what_to_do_with_it/?page=entire>)

We got a small taste of what a more radical break might feel like when Obama briefly signaled with the release of Bush's torture memos that he might be open to further investigation of the Bush's torture policy, but then backtracked and quickly asked the Democratic leadership to shut the idea down. Evidently, Obama's political self wrestled with his constitutional conscience, and won. Civil libertarians felt a huge letdown, but protest was surprisingly muted.

Thus the most important obstacle for seizing the moment to achieve enduring change: Barack Obama's conception of what it means to promote national unity. Obama repeatedly declared during the campaign that he would govern as a consensus builder. He wasn't lying. However, there are two ways of achieving consensus. One is to split the difference with your political enemies and the forces obstructing reform. The other is to use presidential leadership to transform the political center and alter the political dynamics. In his first hundred days, Obama has done a little of both, but he defaults to the politics of accommodation.

#### Winners lose – any major win is the quickest way to kill future proposals. The GOP will backlash

**The Economist**, 2/16/**2011** (What’s the equilibrium here?, p. lexis)

The Obama administration's theory of policymaking amid divided government is a frustrating one. What most people want from the president is to lead. And leading, in this case, means giving a speech, getting behind some unpopular ideas, trying to change public opinion... But the White House has come to the conclusion that that type of leadership doesn't work. It believes that the **quickest way to kill a controversial proposal** in a polarized political system is to have the president endorse it. Once a high-profile proposal is associated with the White House, Republicans (correctly) view its passage as a **threat to their political fortunes**. That's why the Obama administration didn't endorse a payroll tax holiday until after the election, when it emerged as part of the tax deal. Endorsing it before the election would've "**poisoned the well**," one administration official told me after. Republicans would have had to attack it, and that would have made it impossible for them to endorse it later. The Obama administration may have a point here. Consider one item that the president has repeatedly, openly pushedinvestment in America's long-neglected intercity rail system. Republican governors are cancelling rail plans as fast as they can. Florida Governor Rick Scott just scrapped a Florida plan, despite the fact that the federal government was going to cover most of the capital costs, while private companies were offering to cover the rest in exchange for the right to operate the line. On the other hand, Mr Obama responded to Republican budget proposals that avoided addressing entitlements by...releasing a budget that avoided addressing entitlements. And lo and behold, Republican congressional leaders are now scrambling to include entitlement reforms in new budget plans. Maybe the president has this whole reverse psychology thing figured out. But I doubt this is a stable equilibrium. The GOP's reflexive **anti-Obama streak** is motivated, one presumes, by a desire to win elections. One supposes that they feel they must **deny him legislative victories** in order to be successful at the ballot box. So for a while, presidential abdication of leadership may create political space for something like honest legislative negotiations over policy. But a grand bargain that takes place under Mr Obama's watch is a **political victory** for Mr Obama, whether or not he led the charge. And the GOP is **unlikely to let the president have such a win**.