# 1AC Wake

### Plan

#### The United States federal government should lessen restrictions on natural gas production in the Environmental Protection Agency’s New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews.

### Advantage 1 is Manufacturing

#### **Natural gas prices are low and stable---production is high---that spurs a renaissance in US manufacturing and chemical production**

Yergin 10-22 – Daniel is a Pulitzer Prize winning American author, speaker, and economic researcher. Yergin is the co-founder and chairman of Cambridge Energy Research Associates, an energy research consultancy that is now part of IHS Inc.. “Daniel Yergin: The Real Stimulus: Low-Cost Natural Gas,” 2012, http://online.wsj.com/article/SB10000872396390444734804578062331199029850.html

An unconventional oil and gas revolution is under way in the United States, but its full ramifications are only beginning to be understood. The basic facts are clear enough. Half a decade ago, it was assumed that the U.S. would become a large importer of liquefied natural gas; now **the domestic natural gas market is oversupplied, thanks to** the **ability to produce shale gas** through hydraulic fracturing and horizontal drilling technologies.¶ Shale gas alone is now 10% of the overall U.S. energy supply. And similar technologies to recover so-called tight oil trapped in rock formations are largely responsible for boosting U.S. oil production by 25% since 2008—the highest growth in oil output of any country in the world over that time period.¶ So far more than 1.7 million jobs are the result, according to a report titled "America's New Energy Future," released Tuesday by my research firm, IHS. These jobs include people working on rigs in Pennsylvania or North Dakota, manufacturing equipment in Ohio or Illinois, and providing information-technology services in California or legal services to royalty owners nationwide. The number of jobs could rise to three million by 2020. The energy revolution will add an estimated $62 billion to federal and state revenues this year.¶ But the energy revolution is having other effects that get less attention. The balance of payments is one. The increase in domestic oil production over the past five years will reduce our oil-import bill this year by about $75 billion. The growth of shale gas will save the U.S. from spending $100 billion a year on imported LNG, which was the likely prospect five years ago.¶ There is also a geopolitical dimension. The increase in U.S. oil production since 2008 is equivalent to almost 80% of what was Iran's export level before the imposition of sanctions on the Tehran regime. Without the additional oil coming from the surge in U.S. oil output, the Iranian oil sanctions could not have worked as well as they have.¶ Domestically, growing natural gas supplies provide a foundation for a manufacturing renaissance at least for industries for which energy is an important feedstock or where energy costs are significant. Chemical companies have been leaving the U.S. for years in the search for lower-cost countries in which to operate. Now they are planning to invest billions of dollars in new factories in this country **because of inexpensive and relatively stable natural gas prices.** The price of natural gas, which averaged $2.66 per thousand cubic feet in the first nine months of this year, is less than half of what it was five years ago.¶ This holds out a tantalizing prospect that **the U.S. could regain market share among the world's manufacturing exporters.** That prospect preoccupies companies around the world, from Europe to China. When I was in China recently I heard much talk about how China's historical advantage in cheap labor (which is becoming less cheap) could in the years ahead be offset by cheap energy in the U.S.

#### Low prices are stabilizing and key to long-term investment

CCES 12 – Center for Climate and Energy Solutions, May 2012, "Natural Gas in the Industrial Sector," [www.c2es.org/docUploads/natural-gas-industrial-sector.pdf](http://www.c2es.org/docUploads/natural-gas-industrial-sector.pdf)

Increased availability and low prices of natural gas have significant implications for domestic manufacturing, which has historically been concerned about supply availability and price volatility. Recently, abundant supply and low prices have led to an **increase in domestic manufacturing, creating new jobs and economic value.** Numerous companies have cited natural gas supply and price in announcing plans to open new facilities in the chemicals, plastics, steel, and other industries in the United States.18 In the past few years, the number of firms disclosing the **positive impact of new gas resources** for facility power generation and feedstock use to the Securities and Exchange Commission **has increased substantially**.19 In 2010, exports of basic chemicals and plastics increased 28 percent from the previous year, yielding a trade surplus of $16.4 billion.20 If the expectation that low prices will continue is correct, these economic benefits would be significant over the long term. A study by the American Chemistry Council, for instance, estimates that a 25 percent increase in ethane supplies would yield a $32.8 billion increase in U.S. chemical production.21 Industry, however, needs more than just abundance and low prices to maintain use of natural gas. Price stability is necessary to encourage long-term investments in industry, and **increased natural gas supplies** also have the potential to stabilize prices.22

#### **They’re key to manufacturing and the chemical industry**

PWC 11 – PwC's Industrial Products (IP) practice provides financial, operational, and strategic services to global organizations. December 2011, "Shale Gas - A Renaissance in US Manufacturing?"www.pwc.com/en\_US/us/industrial-products/assets/pwc-shale-gas-us-manufacturing-renaissance.pdf

The economic environment remains difficult for many US manufacturers, with soft demand and margin pressures making it harder to grow their domestic workforces. In this analysis, we present our point of view on how **shale gas** resources **can** help the sector **address these challenges** and create more jobs in the United States.¶ Executive summary¶ Shale, savings, growth, and jobs¶ During the last couple of years, increased commercialization of alternative energy has ushered in mounting debate on the impact – or lack of impact – that the deployment of new energy sources has on US job creation. Shale gas is one such alternative energy source that has drawn momentous investment and discussion as the country pursues a cleaner and more sustainable energy mix. Indeed, the shale gas industry has captured national attention, with even the names of reserves – Marcellus, Utica, Bakken, Barnett, and Eagle Ford – recognizable as national assets by even the casual observer… And for good reason. The amount of shale gas in these reserves and others potentially makes the United States one of the top producers of shale gas in the world.¶ While there has been a sharp focus cast upon shale gas – both on its potential promise and possible drawbacks – as a tenable energy source, there has been less focus on how shale gas impacts other industries. This led PsC to ask a simple but important question: “What could a growing shale gas industry mean for manufacturing job creation in the United States going forward?”¶ Potential opportunities¶ A PwC analysis finds that full-scale and robust shale gas development through 2025 would likely have a number of knock-on effects for other industries, particularly the manufacturing and chemical sectors. Given a scenario calling for high recovery of shale gas and low prices of natural gas, **the US manufacturing sector and the** **broader US economy** could stand to **benefit** in the following ways:¶ Energy affordability¶ Lower feedstock and energy costs could help US manufacturers reduce natural gas expenses by as much as $11.6 billion annually through 2025.¶ Demand growth¶ In 2011, 17 chemical, metal, and industrial manufacturers commented in SBC filings that shale gas developments drove demand for their products, compared to none in 2008.¶ More jobs¶ US manufacturing companies could employ approximately one million more workers by 2025 due to benefits from affordable energy and demand for products used to extract the gas.¶ This report demonstrates how shale gas can lead to each of these opportunities, based upon our analysis of trends in, and forecasts of, the domestic economy, manufacturing, and employment.¶ An increase in domestic investment¶ With shale gas resources more abundant than previously thought, US manufacturers can look forward to multiple new opportunities and a significant uptick in employment in the sector. Chemicals **and metals** companies are expected to gain the greatest benefit over the next several years. Chemicals companies can acquire affordable feedstock, meriting greater capital expenditures in the United States. For metals companies and some industrial manufacturers, opportunities abound to sell the equipment required for more robust drilling activity.¶ Many **companies have already announced new investment plans** geared to the development of shale gas. Our research on recent capex plans shows an increase in domestic investment going to support incremental gas production, along with more explicit communication to investors about shale-related growth opportunities. An underappreciated part of the shale gas story is the substantial cost benefit to manufacturers, based on estimates of future natural gas prices as more shale gas is recovered., Historically, there has been an indirect relationship between the level of energy prices, such as those for natural gas, and the level of domestic manufacturing employment, as manufacturers consume approximately one-third of all the energy produced in the United States. Consequentially, this relatively abundant domestic energy source has the potential to **drive an uptick in US manufacturing over the** long term **and create new jobs in the sector.**

#### **Manufacturing is key to the economy and competitiveness – massive multiplier effects**

Boushey 12 – Heather Boushey, Senior Economist, Center for American Progress Action Fund, July 19th, 2012, "Testimony before the U.S. House of Representatives Committee on Ways and Meanson Tax Reform and the U.S. Manufacturing Sector" waysandmeans.house.gov/uploadedfiles/boushey\_testimony.pdf

**Having a strong manufacturing industry in the United States should be at the top of our national economic agenda. Without a vibrant and innovative manufacturing base,** we will not be a global leader **for long. Moreover, as more of our energy** future will rely on high-tech manufacturing**, our** economic competitiveness will be even more closely aligned with our ability to be an innovator and producer of manufactured goods**.**¶ Further, this is an urgent national issue and one of those cases where success begets success. Economists have begun to study and show that the “industrial commons” matters for innovation and the extent to which we allow manufacturing processes to continue to go overseas, we only make it that much harder to regain our place as a global leader.11 As my colleagues Michael Ettlinger and Kate Gordon have put it, “the cross-fertilization and engagement of a community of experts in industry, academia, and government is vital to our nation’s economic competitiveness.”12¶ Manufacturing is not only a key part of our economy, but moving forward it will remain critical to our nation’s economic vitality¶ **The U.S. manufacturing sector is still a force internationally and an important part of our economy, despite employment losses and the relative rise in manufacturing in other countries over the past few decades**.13 **Last year, manufacturing contributed over** $1.8 trillion **to U.S.** g**ross** d**omestic** p**roduct, or about** 12 percent of the economy.14 Two years ago, manufacturing accounted for 60 percent of all U.S. exports.15 In 2008, the United States ranked first in the world in manufacturing value added, and it was the third largest exporter of manufactured goods to the world, behind only China and Germany and ahead of Japan and France.16 Between 1979 and 2010 manufacturing output per hour of labor in the United States increased by an average of 4 percent annually, and the United States has one of the world’s most productive workforces.17 Moreover, in 2009 there were 11.8 million direct jobs in manufacturing and 6.8 million additional jobs in related sectors.18 Put another way, one in six U.S. private-sector jobs is directly linked to manufacturing.19¶ Yet the industry suffered declines in the 2000s. The U.S. share of worldwide manufacturing value added dropped from 26 percent in 1998 to less than 20 percent in 2007, and we have gone from being a net exporter of manufactured goods in the 1960s to a net importer.20 Manufacturing as a share of U.S. GDP has declined from more than 15 percent in 1998 to 11 percent in 2009.21 And jobs in U.S. manufacturing declined from 17.6 million in January 1998 to 11.5 million in January 2010.22 And although the manufacturing sector has gained jobs in every month since then, for a total of 504,000 jobs as of June 2012, its share of total employment is down from 16.8 percent in 1998 to 10.8 percent today.23¶ These trends matter because the United States needs a strong manufacturing sector. **Manufacturing** provides good, middle-class jobs; **propels U.S. leadership in technology and innovation**, which is critical to our economic growth and vitality; and is important to balancing the trade deficit, as well as important for our nation’s long-term national security. The manufacturing sector has historically been a source of solid, middle-class jobs and it continues to be so today. **The average manufacturing worker earns a weekly wage that is 8.4 percent higher than non-manufacturing workers,** taking into account worker and job characteristics that influence wages, including unionization.24 **Economist Susan Helper and her colleagues conclude** that the economic evidence points to the fact that “the main reason why manufacturing wages and benefits are higher than those outside of manufacturing is that manufacturers need to pay higher wages to ensure that their workers are appropriately skilled and motivated.” 25 U.S.-based **manufacturing underpins a broad range of jobs in other industries,** including higher skill service jobs such as accountants, bankers, and lawyers, as well as a broad range of other jobs such as basic research and technology development, product and process engineering and design, operations and maintenance, transportation, testing, and lab work.26 Compared to jobs in other economic sectors, manufacturing jobs have the highest “multiplier effect**,” that is, the largest effect on the overall economy for each job created, relative to jobs in other industries.** To put this in perspective, each job in motor vehicle manufacturing creates 8.6 indirect jobs, each job in computer manufacturing creates 5.6 indirect jobs, and each job in steel product manufacturing creates 10.3 indirect jobs.27¶ Manufacturing is also important because it fuels the United States’ leadership in technology and innovation, which are critical to maintain for our future economic competitiveness.28 Manufacturing firms are more likely to innovate than firms in other industries: **Research from the National Science Foundation finds that 22 percent of manufacturing companies are active innovators compared to only 8 percent of nonmanufacturing companies.**29 This number is even higher for specific sectors within manufacturing. For example, in computer and electronic products manufacturing, 45 percent of companies are product innovators and 33 percent are process innovators.30 Manufacturing firms also **perform the vast majority of private research and development**: Despite comprising just 12 percent of the nation’s GDP in 2007, manufacturing companies contributed 70 percent of private research and development spending.31 ¶ In addition to what manufacturers spend on innovation, there is **increasingly strong empirical evidence showing a tight link between innovation and manufacturing production.** Economic research now shows that the United States will not likely be able to keep the highly skilled technical jobs if the production jobs go overseas. Harvard Business School professors Gary Pisano and Willy Shih have written about the decline of the “industrial commons” in the United States: the collective R&D, engineering, and manufacturing capabilities that mutually reinforce each other to sustain innovation.32 **For many types of manufacturing,** geographic proximity is key **to having a strong “commons,” and they point to evidence showing that there are few hightech industries where the feedback loop from the manufacturing process is not a factor in developing new products.**33 As they put it, “product and process innovation are intertwined.” Pisano and Shih point to the example of rechargeable batteries as a product where innovation followed manufacturing. Rechargeable battery manufacturing left the United States many years ago, leading to the migration of the batteries commons to Asia. Now new technology (batteries for hybrid and electric vehicles) are being designed in Asia where the commons are located. I’d draw your attention to a January New York Times article on China’s increasing investment in research and development, which asked, “**Our global competitiveness is based on being the origin of the newest, best ideas.** How will we fare if those ideas originate somewhere else?”34

#### 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.

#### Domestic manufacturing is vital to US military tech innovation – dependence on foreign suppliers guts security

Ettlinger and Gordon 11 – Michael Ettlinger is the Vice President for Economic Policy at American Progress. Kate is a Senior Fellow at American Progress. “The Importance and Promise of American Manufacturing,” April, http://www.americanprogress.org/wp-content/uploads/issues/2011/04/pdf/manufacturing.pdf

Beyond innovation and competitiveness, basing manufacturing in the United States also is important to our overall national **and economic** security. The most clear-cut example of this, of course, is the importance of **being able to produce for the needs of our armed forces**. The importance of domestic capabilities in defense manufacturing is obvious—one doesn’t want to be dependent on foreign suppliers in a time of conflict. Equally obvious is the importance of **keeping innovations in military technology close to home**.

#### Military tech innovation is key to hegemony

Segal 4 – Maurice R. Greenberg Senior Fellow in China Studies at the Council on Foreign Relations. Foreign Affairs, November 2004 - December 2004, Is America Losing Its Edge?, Adam Segal, Pg. 2 Vol. 83 No. 6, Technology Enterprises in China.

The United States' **global primacy** **depends** in large part **on its ability to** develop new technologies and industries **faster than anyone else.** **For** the last five decades, **U.S. scientific innovation and** technological **entrepreneurship** **have** ensured the country'seconomic prosperity and military power. It was Americans who invented and commercialized the semiconductor, the personal computer, and the Internet; other countries merely followed the U.S. lead.¶ Today, however, **this technological edge**-so long taken for granted-may be slipping, and the most serious challenge is coming from Asia. Through competitive tax policies, increased investment in research and development (R&D), and preferential policies for science and technology (S&T) personnel, Asian governments are improving the quality of their science and ensuring the exploitation of future innovations. The percentage of patents issued to and science journal articles published by scientists in China, Singapore, South Korea, and Taiwan is rising. Indian companies are quickly becoming the second-largest producers of application services in the world, developing, supplying, and managing database and other types of software for clients around the world. South Korea has rapidly eaten away at the U.S. advantage in the manufacture of computer chips and telecommunications software. And even China has made impressive gains in advanced technologies such as lasers, biotechnology, and advanced materials used in semiconductors, aerospace, and many other types of manufacturing.¶ **Although the** United States' **technical dominance** remains solid**, the globalization** of research and development **is exerting** **considerable pressures on the American system**. Indeed, as the United States is learning, globalization cuts both ways: it is both a potent catalyst of U.S. technological innovation and a significant threat to it. **The** United States **will never be able to** prevent rivals from developing new technologies**; it can** remain dominant only **by** continuing to innovate faster **than everyone else.** But this won't be easy; to keep its privileged position in the world, **the** United States **must get better at** fostering technological entrepreneurship at home.

#### Heg decline causes nuclear war and 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.

#### Low prices are key to the steel industry

IHS 11 (IHS Global Insight - leading economic analysis and forecasting firm, December 2011, "The Economic and Employment Contributions of Shale Gas in the United States," anga.us/media/235626/shale-gas-economic-impact-dec-2011.pdf)

**Energy from** electricity or **natural gas makes up a high**er **proportion of the value of iron ore** processed¶ from taconite in the Great Lakes region. Given that the price for iron ore is essentially a global price, domestic¶ producers of iron **ore pellets** are benefitting from higher margins due to lower electricity and natural gas prices. With these incrementally higher margins, domestic iron ore pellet production is likely¶ higher than it would otherwise be.¶ The steel industry is **expected to be** reactivated with the improvement of auto manufacturing and an increase¶ in construction activity. Moreover, the development of shale gas has given a considerable boost¶ **to the steel industry** by increasing the demand for steel pipes. Used for drilling, production, transportation,¶ and distribution, steel pipes are essential to the natural gas industry, and the large infrastructure¶ investments already announced could have quite a significant impact on the steel industry.

#### That’s key to aircraft carriers and the navy

Gibson 11 – Thomas J. Gibson received his law degree from Georgetown University where he graduated magna cum laude. He holds a Master of Marine Affairs degree from the University of Rhode Island and a B.S. in Naval Architecture from the United States Naval Academy. Gibson served as Senior Vice President of Advocacy for the American Chemistry Council. Previously, Gibson served as the Senior Vice President, Government Affairs for the Portland Cement Association. Prior to joining PCA in 2004, Gibson served as Chief of Staff for the U.S. Environmental Protection Agency. 2011, "Profile of the American Iron and Steel Institute 2010-2011"www.steel.org/~/media/Files/AISI/About AISI/Profile Brochure F-singles\_CX.pdf

Military uses for steel are extensive. Thousands of skilled men and women of the American steel industry work to produce high-quality, cost-competitive products that are used by the military in various applications ranging from aircraft carriers and nuclear submarines to Patriot and Stinger missiles, armor plate for tanks and field artillery pieces, as well as every major military aircraft in production today. Some examples of steel use in defense applications are: 􀀩 The USS New York was built with 24 tons of scrap steel reclaimed and recycled from the World Trade Center. 􀀩 The USS George H.W. Bush, an aircraft carrier named after the 41st President, contains 47,000 tons of structural steel and serves as home to 6,000 Navy personnel. 􀀩 Steel is a strategic material needed to strengthen existing U.S. infrastructure and installations. All segments of the domestic steel industry contribute directly or indirectly to the defense industrial base. Whether it is missiles, jet aircraft, submarines, helicopters, Humvees® or munitions, American-made steels and specialty metals are crucial components of U.S. military strength. **Steel plate is used in the bodies and propulsion systems of the naval fleet**. The control cables on virtually all military aircraft, including fighter jets and military transport planes, are produced from steel wire rope. In addition, land-based vehicles such as the Bradley Fighting Vehicle, Abrams Tank and mine-resistant ambush-protected (MRAP) vehicles use significant amounts of steel.

#### Carriers prevent rogue generals from using Pakistani nuclear weapons

Gordon et al. 6 – John Gordon, Senior Policy Analyst At RAND Corporation, Ph.D. in public policy, George Mason University; M.A. in international relations, St. Mary's University; M.B.A., Marymount University; B.A. in history, The Citadel, May 9th, 2006, John Gordon IV, Peter A. Wilson, John Birkler, Steven Boraz, Gordon T. Lee, Leveraging America’s Aircraft Carrier Capabilities, http://www.rand.org/pubs/monographs/2006/RAND\_MG448.pdf

This vignette examined the possibility that a radical group within the Pakistani military attempts to overthrow the government in Islamabad. Although the coup attempt fails, the rebels seize one or more nuclear-weapons storage sites and a number of missile launchers. The Pakistani government asks the United States for assistance in the form of intelligence, surveillance, and reconnaissance (ISR), precision strike, and Special Operations Forces liaison personnel to assist in its attempts to quickly retake the storage facilities and prevent the launch or removal of nuclear weapons. Strike and reconnaissance aircraft or unmanned aerial vehicles (UAVs) from carriers operating in the Indian Ocean are a key U.S. capability that can assist the Pakistanis. The vignette highlights the need for the United States to quickly establish liaison with both Pakistani and Indian authorities. In this situation, U.S. forces would provide detailed, real-time, persistent, all-weather ISR support to Pakistani forces, as well as precision-strike assets that the Pakistani military would lack. It should be pointed out that support by current and projected long-endurance UAVs or manned ISR aircraft cannot be provided unless those systems operate below any cloud layers, which thus makes them subject to attack by man-portable air defense systems (MANPADS) and other air defenses.

#### Extinction

Caldicott 2 (Helen Caldicott, Founder, Physicians for Social Responsibility, THE NEW NUCLEAR DANGER, 2002, p. xii)

The use of Pakistani nuclear weapons could trigger a chain reaction. Nuclear-armed India, an ancient enemy, could respond in kind. China, India's hated foe, could react if India used her nuclear weapons, triggering a nuclear holocaust on the subcontinent. If any of either Russia or America's 2, 250 strategic weapons on hair-trigger alert were launched either accidentally or purposefully in response, nuclear winter would ensue, meaning the end of most life on earth.

#### Collapse of the navy causes great power wars

Conway et al. 7 [James T., General, U.S. Marine Corps, Gary Roughead, Admiral, U.S. Navy, Thad W. Allen, Admiral, U.S. Coast Guard, “A Cooperative Strategy for 21st Century Seapower,” October, http://www.navy.mil/maritime/MaritimeStrategy.pdf]

No other disruption is as potentially disastrous to global stability as war among major powers. Maintenance and extension of this Nation’s comparative seapower advantage is a key component of deterring major power war. While war with another great power strikes many as improbable, the near-certainty of its ruinous effects demands that it be actively deterred using all elements of national power. The expeditionary character of maritime forces—our lethality, global reach, speed, endurance, ability to overcome barriers to access, and operational agility—provide the joint commander with a range of deterrent options. We will pursue an approach to deterrence that includes a credible and scalable ability to retaliate against aggressors conventionally, unconventionally, and with nuclear forces. Win our Nation’s wars. In times of war, our ability to impose local sea control, overcome challenges to access, force entry, and project and sustain power ashore, makes our maritime forces an indispensable element of the joint or combined force. This expeditionary advantage must be maintained because it provides joint and combined force commanders with freedom of maneuver. Reinforced by a robust sealift capability that can concentrate and sustain forces, sea control and power projection enable extended campaigns ashore.

#### The navy solves piracy

Hilley 8 – Mass Communication Specialist 1st Class (Monique, “Coalition Forces Work To Deter Piracy In Gulf Of Aden”, The United States Department of the Navy, 1/17/09, Story Number: NNS090117-01, Online @ http://www.navy.mil/submit/display.asp?story\_id=41897)

USS SAN ANTONIO, At sea (NNS) -- Combined Task Force (CTF) 151 is working closely with international navies in the Gulf of Aden to conduct counterpiracy operations and ensure a lawful maritime order in the region. "We're out here as a force, with the coalition nations, to ensure commerce flows freely throughout the world," explained Rear Adm. Terry McKnight, commander, CTF 151. "We are working to achieve an objective of preventing piracy at sea. Over the past few years, we've learned from many combined operations that working with the coalition is key to our success throughout the world." The mission of CTF 151 is to prevent and deter piracy operations in the Gulf of Aden. The task force, which has assembled on board the amphibious transport dock ship USS San Antonio (LPD 17), has many capabilities which are enhanced by the ship's crew. The personnel currently embarked aboard San Antonio in support of CTF 151 counterpiracy operations include a helicopter squadron, fleet surgical team, boarding teams and several elements from the U.S. Marine Corps and U.S. Coast Guard. "This mission is very important for the maritime strategy of our nation and also to work with our coalition nations," said McKnight. "We are out here to demonstrate that the United States Navy will not allow criminal acts on the high seas and that we want, as best we can, to improve the open trade agreements throughout the world." Piracy acts spiked in the region in mid-August due to a very aggressive increase in activity by a clan on the north coast of Somalia. In response to the activity, Vice Adm. William Gortney, commander, Combined Maritime Forces, directed the establishment of the maritime security patrol area (MSPA), an area coalition ships and aircraft patrol to prevent destabilizing activity. "Because of the complexity of the operations, I determined it was necessary to establish CTF 151 to create a task force with a mission and a mandate from the United Nations to conduct counterpiracy operations throughout the area of responsibility," said Gortney during a press briefing at the Pentagon Jan. 15. Although the Combined Maritime Forces (CMF) do not have a mandate to conduct counterpiracy operations, combined task forces each have a particular mandate under which they operate. Any nation that does not yet have the authority to conduct counterpiracy operations will continue to work in Combined Task Force 150, while those that seek the authority to operate with CTF 151 will bring their collective capabilities together to deter, disrupt and eventually bring to justice the maritime criminals involved in the piracy events. "It's really a fascinating story to watch unfold as, at this point, 14 nations have sent their navies to work against the destabilizing activity," added Gortney. CTF 151, with the International Maritime Organization, created the maritime security patrol area as a place to channel the shipping so that they could concentrate naval activity. The task force includes three phases, which outline critical mission goals. The first phase is focused on bringing more international navies into the efforts to help solve this international problem. The second phase involves working with the shipping industry to develop and share practices that prevent pirates from successfully boarding their vessels. The third phase, once authorized, will allow the task force to deliver suspected pirates to court, where they will be held accountable for their actions. "We've had great effects on the first two," explained Gortney. "Fourteen nations are down there. The shipping industry is having the greatest impact. They're doing a terrific job of sharing best practices, speed, maneuver and non-kinetic defensive measures that will prevent pirates from getting aboard the vessel. We have had a great effect on that. In the last six weeks, there have only been four successful piracy attacks." CTF 151 is working very closely with the U.S. State Department to finalize an agreement with one of the nations in the area that will allow CTF 151 and coalition forces to disrupt, deter, capture and hold suspected pirates accountable for their actions. The task force expects that authority to be granted within the next week. "**We are going to aggressively go after the pirates** that are conducting pirate activity," said Gortney. "We have to make it unpleasant to be a pirate." CTF 151 is a multinational task force conducting counterpiracy operations to detect and deter piracy in and around the Gulf of Aden, Arabian Sea, Indian Ocean and Red Sea. It was established to create a lawful maritime order and develop security in the maritime environment.

#### Piracy causes oil spills---devastates marine life for decades

Middleton 8—Roger, consultant reseacher in the Africa Programme at the Chatham House, the Royal Institute of Economic Affairs, "Piracy in Somalia", October, <http://www.chathamhouse.org/sites/default/files/public/Research/Africa/1008piracysomalia.pdf>

Large oil tankers pass through the Gulf of Aden and the danger exists that a pirate attack could cause a major oil spill in what is a very sensitive and important ecosystem. During the attack on the Takayama the ship’s fuel tanks were penetrated and oil spilled into the sea. The consequences of a more sustained attack could be much worse. As pirates become bolder and use ever more powerful weaponry a tanker could be set on fire, sunk or forced ashore, any of **which could result in an environmental catastrophe** that would devastate marine and bird life for years to come. The pirates’ aim is to extort ransom payments and to date that has been their main focus; however, the possibility that they could destroy shipping is very real.

#### Ocean destruction causes extinction

Craig 3 (Robin, Professor of Law at Indiana, “Taking Steps,” 34 McGeorge Law Review. 155, Lexis)

Biodiversity and ecosystem function arguments for conserving marine ecosystems also exist, just as they do for terrestrial ecosystems, but these arguments have thus far rarely been raised in political debates. For example, besides significant tourism values - the most economically valuable ecosystem service coral reefs provide, worldwide - coral reefs protect against storms and dampen other environmental fluctuations, services worth more than ten times the reefs' value for food production. Waste treatment is another significant, non-extractive ecosystem function that intact coral reef ecosystems provide. More generally, "ocean ecosystems play a major role in the global geochemical cycling of all the elements that represent the **basic building blocks of living organisms**, carbon, nitrogen, oxygen, phosphorus, and sulfur, as well as other less abundant but necessary elements." In a very real and direct sense, therefore, human degradation of marine ecosystems impairs the planet's ability to support life. Maintaining biodiversity is often critical to maintaining the functions of marine ecosystems. Current evidence shows that, in general, an ecosystem's ability to keep functioning in the face of disturbance is strongly dependent on its biodiversity, "indicating that more diverse ecosystems are more stable." Coral reef ecosystems are particularly dependent on their biodiversity. Most ecologists agree that the complexity of interactions and degree of interrelatedness among component species is higher on coral reefs than in any other marine environment. This implies that the ecosystem functioning that produces the most highly valued components is also complex and that many otherwise insignificant species have strong effects on sustaining the rest of the reef system. Thus, maintaining and restoring the biodiversity of marine ecosystems is critical to maintaining and restoring the ecosystem services that they provide. Non-use biodiversity values for marine ecosystems have been calculated in the wake of marine disasters, like the Exxon Valdez oil spill in Alaska. Similar calculations could derive preservation values for marine wilderness. However, economic value, or economic value equivalents, should not be "the sole or even primary justification for conservation of ocean ecosystems. Ethical arguments also have considerable force and merit." At the forefront of such arguments should be a recognition of how little we know about the sea - and about the actual effect of human activities on marine ecosystems. The United States has traditionally failed to protect marine ecosystems because it was difficult to detect anthropogenic harm to the oceans, but we now know that such harm is occurring - even though we are not completely sure about causation or about how to fix every problem. Ecosystems like the NWHI coral reef ecosystem should inspire lawmakers and policymakers to admit that most of the time we really do not know what we are doing to the sea and hence should be preserving marine wilderness whenever we can - especially when the United States has within its territory relatively pristine marine ecosystems that may be unique in the world. We may not know much about the sea, but we do know this much: **if we kill the ocean** we kill ourselves**, and we will take** most of the biosphere with us**.** The Black Sea is almost dead, its once-complex and productive ecosystem almost entirely replaced by a monoculture of comb jellies, "starving out fish and dolphins, emptying fishermen's nets, and converting the web of life into brainless, wraith-like blobs of jelly." More importantly, the Black Sea is not necessarily unique. The Black Sea is a microcosm of what is happening to the ocean systems at large. The stresses piled up: overfishing, oil spills, industrial discharges, nutrient pollution, wetlands destruction, the introduction of an alien species. The sea weakened, slowly at first, then collapsed with shocking suddenness. The lessons of this tragedy should not be lost to the rest of us, because much of what happened here is being repeated all over the world. The ecological stresses imposed on the Black Sea were not unique to communism. Nor, sadly, was the failure of governments to respond to the emerging crisis. Oxygen-starved "dead zones" appear with increasing frequency off the coasts of major cities and major rivers, forcing marine animals to flee and killing all that cannot. Ethics as well as enlightened self-interest thus suggest that the United States should protect fully-functioning marine ecosystems wherever possible - even if a few fishers go out of business as a result.

### Advantage 2 is Energy Leverage

#### **There’s a large natural gas supply now**

Buurma 10-25 – Christine Buurma, writer for Businessweek, October 25th, 2012, "Natural Gas Declines After Bigger-Than-Average Supply Increase" [www.businessweek.com/printer/articles/351414?type=bloomberg](http://www.businessweek.com/printer/articles/351414?type=bloomberg)

Natural gas futures dropped to a two-week low in New York after a government report showed U.S. stockpiles climbed by more than the five-year average last week.¶ Gas declined 0.5 percent after the Energy Department said inventories expanded by 67 billion cubic feet in the week ended Oct. 19 to 3.843 trillion cubic feet. Analyst estimates compiled by Bloomberg showed a gain of 67 billion. A survey of Bloomberg users predicted an increase of 66 billion. Supplies rose to a record 3.852 trillion cubic feet last year.¶ “The short story is that we’re not running out of gas,” said Tim Evans, an energy analyst at Citi Futures Perspective in New York. “We’re within 9 billion cubic feet of an all-time high storage level.”¶ Natural gas for November delivery fell 1.6 cents to $3.434 per million British thermal units on the New York Mercantile Exchange, the lowest settlement since Oct. 8. The futures have dropped 6.1 percent from a year ago.¶ November $3.50 calls were the most active gas options in electronic trading. They were 3 cents lower at 0.4 cent on volume of 1,115 contracts as of 3:46 p.m. Calls accounted for 56 percent of options volume.¶ The futures have created a bearish “double top” formation after failing to breach $3.65 per million Btu earlier this week and last week, said Aaron Calder, senior market analyst at Gelber & Associates in Houston. Prices may slip to $3.225 per million Btu, he said.¶ Stockpile Report¶ The stockpile increase was bigger than the five-year average gain for the week of 65 billion cubic feet, department data show. A surplus to the five-year average fell to 7 percent from 7.1 percent the previous week. Supplies were 4.1 percent above year-earlier levels, down from 5 percent a week earlier.¶ Inventories may climb to a record 3.903 trillion cubic feet by the end of this month, the Energy Department said Oct. 10 in its monthly Short-Term Energy Outlook.¶ U.S. natural gas production in 2012 will average an all- time high of 68.85 billion cubic feet a day, up 4 percent from last year, the department said.¶ **The number of rigs drilling for natural gas in the U.S. rose** by five to 427 last week, according to data released Oct. 19 by Baker Hughes Inc. in Houston. The rig count was down 47 percent this year.¶ Commodity Weather Group LLC in Bethesda, Maryland, predicted mostly warmer-than-normal weather on the East Coast through Oct. 29.¶ The low in New York on Oct. 27 may be 56 degrees Fahrenheit (13 Celsius), 9 above normal, according to AccuWeather Inc. in State College, Pennsylvania. The low in Boston may be 52 degrees, also 9 more than the usual reading.

#### Scenario 1 is Russia

#### **US gas supply is key to prevent Russian energy leverage over Europe**

Koven 12 – Colonel Alexander L. Koven, United States Air Force, United States Army War College, January 3rd, 2012, "Under the Yoke: Europe's Natural Gas Dependency on Russia," [www.dtic.mil/cgi-bin/GetTRDoc?Location=U2&doc=GetTRDoc.pdf&AD=ADA561551](http://www.dtic.mil/cgi-bin/GetTRDoc?Location=U2&doc=GetTRDoc.pdf&AD=ADA561551)

UNDER THE YOKE: EUROPE'S NATURAL GAS DEPENDENCY ON RUSSIA

**Rising shale gas supplies** have significantly reduced U.S. requirements for LNG, a move that has already had **geopolitical implications**. This shift has played a key role in weakening Russia's ability to wield an 'energy weapon'over its European customers by **offering European customers an alternative supply** in the form of LNG displaced from the U.S. market.80

#### The plan reduces US gas imports and frees up the global market – allows Europe to lessen its dependence on Russian gas

Jaffe & O’Sullivan 12 – Amy Myers Jaffe is the Wallace S. Wilson Fellow in Energy Studies at the James A. Baker III Institute for Public Policy at Rice University, and Meghan L. O'Sullivan is the Jeane Kirkpatrick Professor of the Practice of International Affairs at the John F. Kennedy School at Harvard University. “The Geopolitics of Natural Gas,” July, http://bakerinstitute.org/publications/EF-pub-HKSGeopoliticsOfNaturalGas-073012.pdf

Knowledge of the shale gas resource is not new. Geologists have known about the existence of¶ shale formations for years but accessing those resources was long held to be an issue of technology and cost. In the past decade, innovations have yielded substantial cost reductions,¶ making shale gas production a commercial reality. In fact, shale gas production in the United¶ States has increased from virtually nothing in 2000 to more than 10 billion cubic feet per day¶ (bcfd) in 2010. Rising North America shale gas supplies have **significantly reduced US requirements for imported LNG** and contributed to lower US domestic natural gas prices. The natural gas supply picture in North America will have a ripple effect around the globe that will¶ expand over time, **not only through** displacement of supplies in global trade **but also by fostering a growing interest in shale resource potential in other parts of the world**.¶ The importance of the commercialization of shale cannot be understated from a geopolitical,¶ environmental, or market development perspective. Given the assumption that known shale gas resources will be developed according to their commercial viability in North America and¶ elsewhere, the reference scenario projects shale gas production could **more than** quadruple over the next two decades, accounting for over 50 percent of total US natural gas production by the early 2030s. Still, the countries of the former Soviet Union will collectively be the largest¶ supplier of natural gas (conventional and unconventional) by 2040, with North America a close second. The reference case anticipates the strongest supply of shale gas will be in North America, where the recoverable shale resource comprises more than a quarter of the world’s 4,024 trillion cubic feet (Tct) and is rivaled in size only by the shale plays in Asia and Oceania.¶ These supply trends will have a significant impact on gas trade flows. Not only will the United¶ States be able to avoid growth in LNG imports for the next three decades, but the reference case projects that North America will export 720 million cubic feet per day of LNG by 2030. Australia will rival Qatar as the world’s largest LNG exporter by 2030. Qatar and Australia will remain the largest LNG exporters through 2040, collectively accounting for about 40 percent of global LNG exports.¶ LNG supplies whose development was anchored to the belief that the United States would be a¶ premium market will continue to be diverted. In the reference case, the US market remains the lowest priced major market region in the world throughout the model time horizon. Many US terminals once expected to be actively utilized will remain relatively empty. During the period from 2013 to 2015, US terminals see some growth as new volumes from Australian LNG development push African LNG cargoes to the US market—a trend exacerbated by growth in LNG supply from West Africa in the 2014-2015 period.¶ The reference case projects that **consumers in Europe will receive** a double benefit from the rise in global gas supply. Not only will Europe increasingly find **alternatives to Russian** pipeline¶ **supplies,** but these alternative supplies will exert pressure on the status quo of indexing gas sales to a premium marker determined by the price of petroleum products. In fact, Russia has already had to accept lower prices for its natural gas and is now allowing a portion of its sales in Europe to be indexed to spot natural gas markets, or regional market hubs, rather than oil prices. This change in pricing terms signals a major paradigm shift.¶ Yet as Europe moves to gas-on-gas pricing, global marker prices in the reference scenario fail to converge through 2040. Europe’s price premium will hover at more than $1 above Henry Hub prices, even as Europe develops its own shale resource and diversifies sources of supply.¶ Shale gas eventually makes up 20 percent of European market. European shale gas production¶ begins in earnest in 2020s, and approaches 20 percent of the total market by 2040. LNG import growth is the second fastest growing source of European supply. The availability of shale gas under the reference case means that Caspian flows will not make economic sense as a competing supply to Europe. The Nabucco pipeline project, for example, is not constructed until lower-cost Iraqi gas is able to flow into the line.

#### European gas independence from Russia solves Russian aggression, terrorism, and EU relations

Medlock et al. 11 – Dr. Kenneth B. Medlock, Ph.D. in economics, fellow in Energy and Resource Economics at the Baker Institute, and former advisor to the U.S. Department of Energy and the California Energy Commission, AND\*\*\* Amy Myers Jaffe, graduate from Princeton University, fellow of Energy Studies and director of the Energy Forum at the Baker Institute, and associate director of the Rice Energy Program, AND\*\*\* Dr. Peter R. Hartley, Ph.D in economics at Rice University, July 2011, "Shale Gas and U.S. National Security,” http://bakerinstitute.org/publications/EF-pub-DOEShaleGas-07192011.pdf

The dramatic lessening of Europe’s dependence on Russian gas will likely have considerable geopolitical implications in thwarting Russia’s ability **to exercise an** “energy” weapon or to unduly influence political outcomes on the Continent. **European buyers will have ample alternatives** to Russian supplies, thereby **reducing Moscow’s political leverage**. This outcome would also contribute positively to the balance of power between Russia and the EU, putting Europe in a stronger position to influence Russian foreign policy near Europe’s borders. To wit, **Europe’s high dependence** on Russian pipeline natural gas supplies **made it difficult for** certain European leaders to engage in diplomacy **objecting to** Russia’s invasion of Georgia in 2008 and weakened their support of the shaky election of pro-Western Ukrainian president Viktor Yushchenko, who was negatively targeted by Moscow for his anti-Russian stances.¶ A more diverse energy supply for Europe enhances U.S. interests by buttressing Europe’s abilities to resist Russian interference in European affairs and help border states in the Balkans and Eastern Europe assert greater foreign policy independence from Moscow. U.S. coalitions with European nations are an important element to U.S. national security, including efforts to combat international terrorism **and** prevent humanitarian crises. An energy-independent Europe will be better positioned to join with the United States in global peacekeeping **and other international initiatives** that might not have the full support of Russia.

#### Russian aggression causes nuclear war

Blank 9 – Dr. Stephen Blank is a Research Professor of National Security Affairs at the Strategic Studies Institute of the U.S. Army War College, March 2009, “Russia And Arms Control: Are There Opportunities For The Obama Administration?” http://www.strategicstudiesinstitute.army.mil/pdffiles/pub908.pdf

Proliferators or nuclear states like China and Russia can then deter regional or intercontinental attacks either by denial or by threat of retaliation.168 Given a multipolar world structure with little ideological rivalry among major powers, it is unlikely that they will go to war with each other. Rather, like Russia, they will strive for exclusive hegemony in their own “sphere of influence” and use nuclear instruments towards that end. However, wars may well break out between major powers and weaker “peripheral” states or between peripheral and semiperipheral states given their lack of domestic legitimacy, the absence of the means of crisis prevention, the visible absence of crisis management mechanisms, and their strategic calculation that asymmetric wars might give them the victory or respite they need.169 Simultaneously,¶ The states of periphery and semiperiphery have far more opportunities for political maneuvering. Since war remains a political option, these states may find it convenient to exercise their military power as a means for achieving political objectives. Thus international crises may increase in number. This has two important implications for the use of WMD**.** First, they may be used deliberately to offer a decisive victory (or in Russia’s case, to achieve “intra-war escalation control”—author170) to the striker, or for defensive purposes when imbalances in military capabilities are significant; and second, crises increase the possibilities of inadvertent or accidental wars involving WMD.171¶ Obviously nuclear proliferators or states that are expanding their nuclear arsenals like Russia can exercise a great influence upon world politics if they chose to defy the prevailing consensus and use their weapons not as defensive weapons, as has been commonly thought, but as offensive weapons to threaten other states and deter nuclear powers. Their decision to go either for cooperative security and strengthened international military-political norms of action, or for individual national “egotism” will critically affect world politics. For, as Roberts observes,¶ But if they drift away from those efforts [to bring about more cooperative security], the consequences could be profound. At the very least, the effective functioning of inherited mechanisms of world order, such as the special responsibility of the “great powers” in the management of the interstate system, especially problems of armed aggression, under the aegis of collective security, could be significantly impaired. Armed with the ability to defeat an intervention, or impose substantial costs in blood or money on an intervening force or the populaces of the nations marshaling that force, the newly empowered tier could bring an end to collective security operations, undermine the credibility of alliance commitments by the great powers, [undermine guarantees of extended deterrence by them to threatened nations and states] extend alliances of their own, and perhaps make wars of aggression on their neighbors or their own people.172

#### There’s a high risk of nuclear terrorism – causes extinction

Hellman 8 [Martin E. Hellman, emeritus prof of engineering @ Stanford, “Risk Analysis of Nuclear Deterrence” SPRING 2008 THE BENT OF TAU BETA PI, http://www.nuclearrisk.org/paper.pdf]

The threat of nuclear terrorism looms much larger in the public’s mind than the threat of a full-scale nuclear war, yet this article focuses primarily on the latter. An explanation is therefore in order before proceeding. A terrorist attack involving a nuclear weapon would be a catastrophe of immense proportions: “A 10-kiloton bomb detonated at Grand Central Station on a typical work day would likely kill some half a million people, and inflict over a trillion dollars in direct economic damage. America and its way of life would be changed forever.” [Bunn 2003, pages viii-ix]. **The likelihood of such an attack is also significant**. Former Secretary of Defense William Perry has estimated the chance of a nuclear terrorist incident within the next decade to be roughly 50 percent [Bunn 2007, page 15]. David Albright, a former weapons inspector in Iraq, estimates those odds at less than one percent, but notes, “We would never accept a situation where the chance of a major nuclear accident like Chernobyl would be anywhere near 1% .... A nuclear terrorism attack is a low-probability event, but we can’t live in a world where it’s anything but extremely low-probability.” [Hegland 2005]. In a survey of **85 national security experts**, Senator Richard Lugar **found** a median estimate of 20 percent for the “probability of **an attack involving a nuclear explosion occurring** somewhere in the world in the next 10 years,” with 79 percent of the respondents believing “it more likely to be carried out by terrorists” than by a government [Lugar 2005, pp. 14-15]. I support increased efforts to reduce the threat of nuclear terrorism, but that is not inconsistent with the approach of this article. Because terrorism is one of the potential trigger mechanisms for a full-scale nuclear war, the risk analyses proposed herein will include estimating the risk of nuclear terrorism as one component of the overall risk. If that risk, the overall risk, or both are found to be unacceptable, then the proposed remedies would be directed to reduce which- ever risk(s) warrant attention. Similar remarks apply to a number of other threats (e.g., nuclear war between the U.S. and China over Taiwan). his article would be incomplete if it only dealt with the threat of nuclear terrorism and neglected the threat of full- scale nuclear war. If both risks are unacceptable, an effort to reduce only the terrorist component would leave humanity in great peril. In fact, society’s almost total neglect of the threat of full-scale nuclear war makes studying that risk all the more important. The cosT of World War iii The danger associated with nuclear deterrence depends on both the cost of a failure and the failure rate.3 This section explores the cost of a failure of nuclear deterrence, and the next section is concerned with the failure rate. While other definitions are possible, this article defines a failure of deterrence to mean a full-scale exchange of all nuclear weapons available to the U.S. and Russia, an event that will be termed World War III. Approximately 20 million people died as a result of the first World War. World War II’s fatalities were double or triple that number—chaos prevented a more precise deter- mination. In both cases humanity recovered, and the world today bears few scars that attest to the horror of those two wars. Many people therefore implicitly believe that a third World War would be horrible but survivable, an extrapola- tion of the effects of the first two global wars. In that view, World War III, while horrible, is something that humanity may just have to face and from which it will then have to recover. In contrast, some of those most qualified to assess the situation hold a very different view. In a 1961 speech to a joint session of the Philippine Con- gress, General Douglas MacArthur, stated, “Global war has become a Frankenstein to destroy both sides. … If you lose, you are annihilated. If you win, you stand only to lose. No longer does it possess even the chance of the winner of a duel. It contains now only the germs of double suicide.” Former Secretary of Defense Robert McNamara ex- pressed a similar view: “If deterrence fails and conflict develops, the present U.S. and NATO strategy carries with it a high risk that Western civilization will be destroyed” [McNamara 1986, page 6]. More recently, George Shultz, William Perry, Henry Kissinger, and Sam Nunn4 echoed those concerns when they quoted President Reagan’s belief that nuclear weapons were “totally irrational, totally inhu- mane, good for nothing but killing, possibly destructive of life on earth and civilization.” [Shultz 2007] Official studies, while couched in less emotional terms, still convey the horrendous toll that World War III would exact: “The resulting deaths would be far beyond any precedent. Executive branch calculations show a range of U.S. deaths from 35 to 77 percent (i.e., 79-160 million dead) … a change in targeting could kill somewhere between 20 million and 30 million additional people on each side .... These calculations reflect only deaths during the first 30 days. Additional millions would be injured, and many would eventually die from lack of adequate medical care … millions of people might starve or freeze during the follow- ing winter, but it is not possible to estimate how many. … further millions … might eventually die of latent radiation effects.” [OTA 1979, page 8] This OTA report also noted the possibility of serious ecological damage [OTA 1979, page 9], a concern that as- sumed a new potentiality when the TTAPS report [TTAPS 1983] proposed that the ash and dust from so many nearly simultaneous **nuclear explosions** and their resultant fire- storms **could usher in a nuclear winter that might** erase homo sapiens from the face of the earth, much as many scientists now believe the K-T Extinction that wiped out the dinosaurs resulted from an impact winter caused by ash and dust from a large asteroid or comet striking Earth. The TTAPS report produced a heated debate, and there is still no scientific consensus on whether a nuclear winter would follow a full-scale nuclear war. Recent work [Robock 2007, Toon 2007] suggests that even a limited nuclear exchange or one between newer nuclear-weapon states, such as India and Pakistan, could have devastating long-lasting climatic consequences due to the large volumes of smoke that would be generated by fires in modern megacities. While it is uncertain how destructive World War III would be, prudence dictates that we apply the same engi- neering conservatism that saved the Golden Gate Bridge from collapsing on its 50th anniversary and assume that preventing World War III is a necessity—not an option.

#### **US gas production collapses Gazprom**

Aslund 9-27 – Anders Åslund has been a senior fellow at the Peterson Institute since 2006. He is also an adjunct professor at Georgetown University. He worked at the Carnegie Endowment for International Peace from 1994 to 2005, first as a senior associate and then from 2003 as director of the Russian and Eurasian Program. He also worked at the Brookings Institution and the Kennan Institute for Advanced Russian Studies. He earned his doctorate from Oxford University. Åslund served as an economic adviser to the governments of Russia, Ukraine, and Kyrgyzstan. He was a professor at the Stockholm School of Economics and the founding director of the Stockholm Institute of East European Economics. He worked as a Swedish diplomat in Kuwait, Poland, Geneva, and Moscow. He is a member of the Russian Academy of Natural Sciences and an honorary professor of the Kyrgyz National University. He is co-chairman of the board of trustees of the Kyiv School of Economics and chairman of the Advisory Council of the Center for Social and Economic Research (CASE), Warsaw. September 27th, 2012, "Gazprom crisis casts shadow over Putin," [www.ft.com/cms/s/0/55c1aeb0-07c6-11e2-9df2-00144feabdc0.html#axzz2BaXJTzpG](http://www.ft.com/cms/s/0/55c1aeb0-07c6-11e2-9df2-00144feabdc0.html#axzz2BaXJTzpG)

Gazprom, the natural gas company controlled by the Russian state, is in crisis. It is likely **to fall victim to the shale gas revolution that is under way across the US.** The shale gas revolution will probably have telling consequences for Russian state capitalism and President Vladimir Putin’s power.¶ This crisis erupted suddenly. With its surge in shale gas production the US has become self-sufficient in natural gas. It has overtaken Russia as the biggest natural gas producer. Crucially, US natural gas is cheap. Domestic US natural gas prices are only a quarter of Gazprom’s oil-linked eastern European prices. Such large price differentials cannot possibly last for long.¶ **Many countries had prepared to produce** l**iquefied** n**atural** g**as for export to the US. Now these large volumes of LNG are being diverted to Europe, where spot prices have fallen to half of Gazprom’s prices.** In Germany, Gazprom has been forced to accept large price cuts, but it insists on maintaining high contracted prices in eastern Europe, although oil and gas prices have delinked on the market.

#### **Gazprom leads to Arctic drilling oil spills**

ENS 12 – Environment News Service, August 27th, 2012, "Greenpeace Battles Gazprom Over Russia’s Arctic Drill Rig" ens-newswire.com/2012/08/27/greenpeace-battles-gazprom-over-russias-arctic-drill-rig/

Gazprom, the world’s largest natural gas company, has big plans for oil and gas production from Arctic resources Miller told shareholders. In addition to the Prirazlomnoye field, “The Shtokman field development will be the next milestone on the Arctic shelf,” he said.¶ The Shtokman field is situated in the central part of the continental shelf within the Russian sector of the Barents Sea, to the north and east of the Prirazlomnoye field. One of the largest gas fields in the world, the Shtokman field is estimated to contain 3.9 trillion cubic meters of gas and 56 million tons of gas condensate.¶ “The Shtokman gas and condensate field development project is of strategic importance for Gazprom,” the company says. **“The project implementation will give a start to a new gas production region on the Arctic shelf of Russia.”**¶The Shtokman field will become a resource base for building up deliveries of Russian pipeline gas and LNG to domestic and foreign markets,” Gazprom says.¶ On February 21, 2008 Gazprom, the French company Total and the Norwegian company now known as Statoil signed a Shareholders Agreement establishing Shtokman Development AG, a special purpose vehicle to implement Phase 1 of the project. Gazprom holds 51 percent in the company, while Total and Statoil hold 25 and 24 percent respectively.¶ But Greenpeace warns Gazprom is not ready to prevent spills or clean them up if they occur.¶ “Despite extreme operating conditions, Gazprom has only released a summary of its oil spill response plan to the public. Yet even this document shows that **the company would be completely unprepared to deal with an accident in the Far North, and would rely on substandard clean-up methods, such as shovels and buckets, warns the conservation organization**.¶ This is why Greenpeace activists are so eager to take action against Gazprom in the icy Arctic waters.

#### That kills Arctic biodiversity

O’Rourke 12 – Ronal O’Rourke, specialist in naval affairs, June 15th, 2012, “Changes in the Arctic: Background and Issues for Congress” http://www.fas.org/sgp/crs/misc/R41153.pdf

No oil spill is entirely benign. **Even a** relatively minor spill**, depending on the timing and location, can cause significant harm to individual organisms and entire populations**. Regarding aquatic spills, marine mammals, birds, bottom-dwelling and intertidal species, and organisms in early developmental stages—eggs or larvae—are especially vulnerable. However, the effects of oil spills can vary greatly. Oil spills can cause impacts over a range of time scales, from only a few days to several years, or even decades in some cases. Conditions in the Arctic may have implications for toxicological effects that are not yet understood. For example, **oil spills on permafrost may persist in an ecosystem for relatively long periods of time, potentially harming plant life through their root systems**. Moreover, little is known about the effects of oil spills on species that are unique to the Arctic, particularly, species’ abilities to thrive in a cold environment and the effect temperature has on toxicity.94 The effects of oil spills in high latitude, cold ocean environments **may last longer and cause greater damage** than expected. Some recent studies have found that oil spills in lower latitudes have persisted for longer than initially expected, thus raising the concern that the persistence of oil in the Arctic may be understated. In terms of wildlife, population recovery may take longer in the Arctic because many of the species have longer life spans and reproduce at a slower rate.95

#### **Extinction**

**CAFF 98 – Biodiversity Working group of the Arctic Council, Conservation of Arctic Flora and Fauna, September 1998, “Strategic Plan for the Conservation of Arctic Biological Diversity” http://arcticportal.org/uploads/RX/zN/RXzNc4KU8QKfhN\_KDw\_oQQ/The-StrategicPlanforTheConservofArcticBiolDiv.pdf**

The **species of the Arctic are important** for their own sake and for their value, directly or indirectly, **to other parts of their ecosystems,** including humans. Of particular concern for conservation are **rare and endangered species**. CAFF’s inventories have identified 39 species and subspecies of rare and endangered birds and mammals and 96 species of rare endemic vascular plants (i.e., those with root systems) in the Arctic. In addition, several shared species, such as murres (guillemots) and eiders, have been targeted for co-operative action as species of common conservation concern. While these species may not be considered rare or endangered at a global level, **some populations may be seriously threatened at the local level in parts of the Arctic**. Out of the approximately 360 bird species that breed regularly in the Arctic region as defined by CAFF, 279 migrate out of the region and spend the winter in a non-Arctic country. In addition, **many Arctic plant species** are also found elsewhere, which may affect **their** overall genetic diversity**.** The conservation of these species may require co-operative efforts with non-Arctic countries.

#### Scenario 2 is Iran

#### The plan prevents Iranian gas leverage– it’s key to international cooperation to curb Iranian influence and solve a nuclear Iran through sanctions

Medlock et al. 11 - Dr. Kenneth B. Medlock, Ph.D. in economics, fellow in Energy and Resource Economics at the Baker Institute, and former advisor to the U.S. Department of Energy and the California Energy Commission, AND\*\*\* Amy Myers Jaffe, graduate from Princeton University, fellow of Energy Studies and director of the Energy Forum at the Baker Institute, and associate director of the Rice Energy Program, AND\*\*\* Dr. Peter R. Hartley, Ph.D in economics at Rice University, [July 2011, "Shale Gas and U.S. National Security,” http://bakerinstitute.org/publications/EF-pub-DOEShaleGas-07192011.pdf](file:///C%3A%5CUsers%5CPei%5CDesktop%5CROGERS%20HOUSE%5CJuly%202011%2C%20%22Shale%20Gas%20and%20U.S.%20National%20Security%2C)

At the present time, economic sanctions against Tehran have been inhibiting natural gas export project development in Iran. This includes both its previously planned South Pars LNG export projects and a proposed pipeline to Pakistan and India. With no signs of conflict resolution between Iran and the West in sight, it is assumed that the development of Iranian export projects could not begin until 2020 at the earliest.¶ Greater shale gas production in the United States, and eventually Europe, will also make it **more difficult for Iran to profit** from exporting natural gas. Since Iran is **currently hampered by Western sanctions against investment in its energy sector**, by the time it can get its natural gas ready for export, the marketing window to Europe will likely be closed by the availability of shale gas. This reality may give the United States and its allies more leverage over Iran for a longer period of time, helping to shape **outcomes in the Middle East more positive** for U.S. and allied interests.¶ Iran is more likely to become a much larger exporter in the case in which no new shale is developed (Scenario Two), primarily because of greater LNG demand from the United States. In the Reference Case, Iran only emerges as an LNG exporter in the late 2020s and its market position is more limited. However, in the constrained shale case (Scenario Two), Iranian LNG exports grow more quickly and, by 2040, they are about 75 percent higher than in the Reference Case. Thus, shale gas plays an instrumental role in delaying the opening for Iran to sell its natural gas, **thwarting** its ability **in the near term** to use natural gas exports as a means to develop bilateral relations with major gas consuming countries and limiting its opportunity to use energy diplomacy to strengthen its regional position29 or buttress its pursuit of nuclear weapons. ¶ Although there are many complex factors that influence Iran’s political leverage globally, the circumstance of lower requirements for Iranian natural gas could make it easier for the United States to achieve buy-in for continued economic sanctions against Iran. Lower interest in Iranian gas reduces the chances that Iran can use its energy resources to drive a wedge in the international coalition against it. By delaying the need for Iranian gas by over a decade, the United States buys time **to find a better solution to the Iranian nuclear problem** and leaves open the possibility that political change will take place in Iran before its influence as a major global natural gas supplier grows. In addition, the long delay in the commerciality of Iranian gas means that Tehran will have trouble getting Asian pipelines to India or Pakistan off the ground with mutually acceptable terms, thereby reducing—for at least the time being—a potential source of tension between the United States and India.30

#### Iranian influence causes nuclear war

Ben-Meir 7 – Alon Ben-Meir, professor of international relations at the Center for Global Affairs at NYU, UPI, February 6, 2007, “Realpolitik: Ending Iran's defiance”

That Iran stands today able to challenge or even defy the United States in every sphere of American influence in the Middle East attests to the dismal failure of the Bush administration's policy toward it during the last six years. Feeling **emboldened and unrestrained**, Tehran may, however, miscalculate the consequences of its own actions, which could **precipitate a catastrophic regional war**. The Bush administration has less than a year to rein in Iran's reckless behavior if it hopes to prevent such an ominous outcome and achieve, at least, a modicum of regional stability. By all assessments, Iran has reaped the greatest benefits from the Iraq war. The war's consequences and the American preoccupation with it have provided Iran with an historic opportunity to establish Shiite dominance in the region while aggressively pursuing a nuclear weapon program to deter any challenge to its strategy. Tehran is fully cognizant that the successful pursuit of its regional hegemony has now become intertwined with the clout that a nuclear program bestows. Therefore, it is most unlikely that Iran will give up its nuclear ambitions at this juncture, unless it concludes that the price will be too high to bear. That is, whereas before the Iraq war Washington could deal with Iran's nuclear program by itself, now the Bush administration must also disabuse Iran of the belief that it can achieve its regional objectives with impunity. Thus, while the administration attempts to stem the Sunni-Shiite violence in Iraq to prevent it from engulfing other states in the region, Washington must also take a clear stand in Lebanon. Under no circumstances should Iranian-backed Hezbollah be allowed to topple the secular Lebanese government. If this were to occur, it would trigger not only a devastating civil war in Lebanon but a wider Sunni-Shiite bloody conflict. The Arab Sunni states, especially, Saudi Arabia, Egypt and Jordan, are terrified of this possible outcome. For them Lebanon may well provide the litmus test of the administration's resolve to inhibit Tehran's adventurism but they must be prepared to directly support U.S. efforts. In this regard, the Bush administration must wean Syria from Iran. This move is of paramount importance because not only could Syria end its political and logistical support for Hezbollah, but it could return Syria, which is predominantly Sunni, to the Arab-Sunni fold. President Bush must realize that Damascus' strategic interests are not compatible with Tehran's and the Assad regime knows only too well its future political stability and economic prosperity depends on peace with Israel and normal relations with the United States. President Bashar Assad may talk tough and embrace militancy as a policy tool; he is, however, the same president who called, more than once, for unconditional resumption of peace negotiation with Israel and was rebuffed. The stakes for the United States and its allies in the region are too high to preclude testing Syria's real intentions which can be ascertained only through direct talks. It is high time for the administration to reassess its policy toward Syria and begin by abandoning its schemes of regime change in Damascus. Syria simply matters; the administration must end its efforts to marginalize a country that can play such a pivotal role in changing the political dynamic for the better throughout the region. Although ideally direct negotiations between the United States and Iran should be the first resort to resolve the nuclear issue, as long as Tehran does not feel seriously threatened, it seems unlikely that the clergy will at this stage end the nuclear program. In possession of nuclear weapons Iran will intimidate the larger Sunni Arab states in the region, bully smaller states into submission, threaten Israel's very existence, use oil as a political weapon to blackmail the West and instigate regional proliferation of nuclear weapons' programs. In short, if unchecked, **Iran could plunge the Middle East into a deliberate or inadvertent nuclear conflagration**. If we take the administration at its word that it would not tolerate a nuclear Iran and considering these regional implications, Washington is left with no choice but to warn Iran of the severe consequences of not halting its nuclear program.

#### International cooperation on sanctions prevents nuclearization – it’s effective now

Rubin 12 – Michael Rubin, Resident Scholar at the American Enterprise Institute, January 4, 2012, “The West should hand Iran's leadership a chalice of poison,” http://www.aei.org/article/foreign-and-defense-policy/the-west-should-hand-irans-leadership-a-chalice-of-poison/

**To relieve** economic and military **pressure on Iran would be** counterproductive. So long as Iran does not attain nuclear weapons, its threats to close the Strait of Hormuz remain simple bluster. If Iran is allowed to develop nuclear weapons, all bets are off. Tehran's ability to amplify its leverage over the international economy would increase exponentially.¶ Make no mistake: Iran cannot close the Strait of Hormuz for more than a day. When its navy mined the Persian Gulf in 1988, damaging a US vessel, president Ronald Reagan responded with Operation Praying Mantis, decimating the Iranian navy, a bloody nose that led Tehran to respect international waters for more than two decades.¶ Nor can Iran itself afford a closure of the strait. Not only does it need to export oil itself through the waterway, but, because of decades of financial mismanagement, it also depends on the strait for the import of refined petroleum products.¶ Without imported gasoline to fuel its car and factories, Iran's economy would grind to a halt. To close the strait even for a day would do far more economic damage to Iran than it would to Australia, east Asia or the West.¶ The leadership in Tehran knows better than anyone that every time Iran has experienced a fuel shortage, protesters have poured into the streets.¶ Despite bluster that sanctions have had no effect, Iranian behaviour suggests the opposite. Both the March 2007 Iranian attack on British sailors in the waters between Iraq and Iran, and the November 2011 attack on the British embassy in Tehran, came two days after the British government lent its support to new sanctions. Both attacks were overreactions that belied Tehran's insistence that sanctions are meaningless.¶ Even Iranian parliamentarians do not buy their government's rhetoric. Last month, 30 representatives called for a closed session of the parliament in order to dispense with polemic and to discuss sanctions truthfully. Abolghasem Mozaffari, the head of the Revolutionary Guards' economic wing, confessed that ''the sanctions have not been without impact''.¶ Iran's current provocations may have more to do with its own **desperation** than any real grievance. After the US Congress imposed unilateral sanctions on Iran last month, Iran's currency lost nearly half its value. Unemployment and inflation are both in double digits.

#### Iranian nuclearization causes global proliferation, nuclear terrorism, and Middle East nuclear war

Lindsay 10 – James M. Lindsay 10, Senior Vice President, Director of Studies, and Maurice R. Greenberg Chair at the Council on Foreign Relations and Ray Takeyh is a Senior Fellow at the Council on Foreign Relations, After Iran Gets the Bomb, Foreign Affairs, Mar/Apr2010, Vol. 89, Issue 2

The dangers of Iran's entry into the nuclear club are well known: emboldened by this development, Tehran might multiply its attempts at subverting its neighbors and encouraging terrorism against the United States and Israel; the risk of both conventional and nuclear war in the Middle East would escalate; more states in the region might also want to become nuclear powers; the geopolitical balance in the Middle East would be reordered; and broader efforts to stop the spread of nuclear weapons would be undermined. The advent of a nuclear Iran--even one that is satisfied with having only the materials and infrastructure necessary to assemble a bomb on short notice rather than a nuclear arsenal--would be seen as a major diplomatic defeat for the United States. Friends and foes would openly question the U.S. government's power and resolve to shape events in the Middle East. Friends would respond by distancing themselves from Washington; foes would challenge U.S. policies more aggressively.

#### Proliferation will be fast and destabilizing – guarantees nuclear war

Evans and Kawaguchi 9 (Gareth, Chancellor of the Australian National University, an Honorary Professorial Fellow at the University of Melbourne and President Emeritus of the Brussels-based International Crisis Group, and Yoriko Kawaguchi, Member of the House of Councillors for the Liberal Democratic Party since 2005. She was Special Adviser to the Prime Minister of Japan, “Eliminating Nuclear Threats,” International Commission on Nuclear Non-Proliferation and Disarmament, <http://www.icnnd.org/reference/reports/ent/part-ii-3.html>)

3.1 Ensuring that no new states join the ranks of those already nuclear armed must continue to be one of the world’s top international security priorities. Every new nuclear-armed state will add significantly to the inherent risks – of accident or miscalculation as well as deliberate use – involved in any possession of these weapons, and potentially encourage more states to acquire nuclear weapons to avoid being left behind. Any scramble for nuclear capabilities is bound to generate **severe instability** in bilateral, regional and international relations. The carefully worked checks and balances of interstate relations will come under severe stress. There will be enhanced fears of nuclear blackmail, and of irresponsible and unpredictable leadership behaviour. 3.2 In conditions of inadequate command and control systems, absence of confidence building measures and multiple agencies in the nuclear weapons chain of authority, the possibility of an accidental or maverick usage of nuclear weapons will remain high. Unpredictable elements of risk and reward will impact on decision making processes. The dangers are compounded if the new and aspiring nuclear weapons states have, as is likely to be the case, ongoing inter-state disputes with ideological, territorial, historical – and for all those reasons, strongly emotive – dimensions. 3.3 The transitional period is likely to be most dangerous of all, with the arrival of nuclear weapons tending to be accompanied by sabre rattling and competitive nuclear chauvinism. For example, as between Pakistan and India a degree of stability might have now evolved, but 1998–2002 was a period of disturbingly fragile interstate relations. Command and control and risk management of nuclear weapons takes time to evolve. Military and political leadership in new nuclear-armed states need time to learn and implement credible safety and security systems. The risks of nuclear accidents and the possibility of nuclear action through inadequate crisis control mechanisms are very high in such circumstances. If this is coupled with political instability in such states, the risks escalate again. Where such countries are beset with internal stresses and fundamentalist groups with trans-national agendas, the risk of nuclear weapons or fissile material coming into possession of non‑state actors cannot be ignored. 3.4 The action–reaction cycle of nations on high alerts, of military deployments, threats and counter threats of military action, have all been witnessed in the Korean peninsula with unpredictable behavioural patterns driving interstate relations. The impact of a proliferation breakout in the Middle East would be much wider in scope and make stability management extraordinarily difficult. Whatever the chances of “stable deterrence” prevailing in a Cold War or India–Pakistan setting, the prospects are significantly less in a regional setting with multiple nuclear power centres divided by multiple and cross-cutting sources of conflict.

### Solvency

#### **The EPA restrictions will crush the natural gas industry**

ARI 12 – Advanced Resources International Inc. report for the American Petroleum Institute, "Estimate of Impacts of EPA Proposals to Reduce Air Emissions from Hydraulic Fracturing Operations, February 2012, "www.api.org/~/media/Files/Policy/Hydraulic\_Fracturing/NSPS-OG-ARI-Impacts-of-EPA-Air-Rules-Final-Report.ashx

Depending on the REC-Set Use Rate scenario assumed, the following impacts from base case levels are projected in the first 4 years after the requirements go into effect (through 2015):¶ • Overall **well drilling** for unconventional resources producing natural gas over 2012 - 2015 would be **reduced by** 31% to 52%, amounting to reductions in drilling ranging from 12,700 to 21,400 wells.¶ • 5.8 to 7.0 quadrillion Btu (Quads) of otherwise economic unconventional natural gas would not be developed and produced by 2015, a 9% to **11% reduction**.¶ • 1.0 to 1.8 billion barrels of otherwise economic unconventional liquids would not be developed and produced by 2015, a 21% to 37% reduction.¶ • Federal royalties of $7.0 to $8.5 billion that would otherwise be collected would not be paid in the first 4 years after the requirements go into effect.¶ • State revenues from severance taxes amounting to $1.9 to $2.3 billion would be delayed beyond the first 4 years after the requirements go into effect.¶ Under either scenario of REC equipment availability, a significant slowdown in unconventional resource development **would occur, resulting in less reserve additions, less production, lower royalties to the Federal government and** private landowners, **and l**ower severance tax payments **to state governments**. The **delays in drilling results in delays in production, which result in the delays in** the **economic benefits** associated with that production. This analysis did not attempt to estimate lost jobs associated with reduced drilling, oil and gas supply services, and indirect employment.

#### **Even with the 2015 extension, producers do not have the technology to comply with the restrictions**

Davidson 12 – Mark Davidson is Editorial Director for Platts’ North American natural gas news coverage. Based in Washington, D.C., Mark also has served as Chief Editor of Gas Daily and Managing Editor of Inside FERC’s Gas Market Report. A graduate of the E.W. Scripps School of Journalism at Ohio University, Mark was a general assignment and local government reporter for daily newspapers in Ohio and Virginia for nearly a decade before joining Platts in November 1995. June 20th, 2012, "Flexibility urged on 'green completion' of wells" s3.amazonaws.com/cuttings/cuttingpdfs/18531/075d95107cdd5ed278a19f158843771f.pdf

Regulators from Western states urged the Environmental Protection Agency on Tuesday to remain flexible with its upcoming rule requiring that all new natural gas wells have “green completions” by 2015 while leaving the bulk of implementation to states.¶ Wyoming and Colorado often require green completions now, officials from those states testified to the US Senate Committee on Environment and Public Works’ clean air subcommittee. And they said the practice has reduced the amount of air pollution in gas production areas such as Colorado’s Wattenberg field and Wyoming’s Jonah-Pinedale field. Green completions take place during the clean-up stage after a well has been hydraulically fractured. During the process, gas is separated from the flowback water and piped away instead, of being flared or otherwise allowed to escape into the atmosphere.¶ Darren Smith, environmental manager for Oklahoma City-based Devon Energy, cautioned senators that EPA’s baseline estimate of how much natural gas is emitted during the completion process is two-thirds higher than indicated by actual experience.¶ That data is driving policy research in **the wrong direction**, Smith told the subcommittee.¶ “This overestimate has allowed EPA to justify the promulgation of new air standards for the natural gas industry,” Smith maintained. “More important, we continue to see new policy research being based on a foundation of this bad data — **guaranteeing that the wrong conclusions are reached.”** Smith singled out Cornell University’s oft-cited 2010 study, which claimed natural gas is as dirty as coal, as “absurd.”¶ Basically, EPA’s estimate is based on the amount of natural gas collected by operators over the first 10 days of a well’s life. In actual experience, Smith said, operators exit the flowback period — when the mixture coming back up the bore is more water than gas — in about 3.5 days.¶ Devon has data from eight other producers to buttress its claim, but EPA has ignored the company’s request to correct its 9,000 Mcf/well estimate of how much methane is escaping new wells, according to Smith.¶ “The error must be corrected now,” he pleaded. “**We have already seen its misuses to justify** air quality **rules for fracking. It will continue to fuel bad public policy** and research that overshadows the benefits of natural gas.” Wyoming Director of Environmental Quality John Corra said EPA’s New Source Performance Standards requiring all completions to be green is modeled after rules Wyoming put in place to combat air pollution problems in the state’s Sublette County.¶ But he cautioned that Wyoming’s rules are flexible and don’t have a onesize- fits-all approach, and he urged EPA to adopt that model.¶ “**Infrastructure and other factors are** not readily available **in order for green completions to be implemented statewide, and we simply require best management practices and flaring in those instances**,” Corra testified. “State regulatory schemes can take these factors into account more readily than a national-level rule.”

#### **And, the restrictions send a signal of uncertainty to investors**

Gerard 12 – Jack Gerard has a degree in political science and a juris doctor from George Washington University, and formerly worked with the U.S. Senate Energy and Natural Resources Committee, now he is the head of the American Petroleum Institute, June 19th, 2012, "Supporting Common-Sense Regulation"energy.nationaljournal.com/2012/06/epas-cleanair-rules-defend-del.php

That said, the oil and natural gas industry supports common-sense environmental regulation. EPA’s current incremental approach, which often **comes with a price tag that dwarfs estimated benefits**, needs to be replaced with one that’s not unnecessarily **burdensome or counter-productive**. EPA seems to have understood this principle in some cases recently. In others, it hasn’t.¶ For example, EPA and the administration appropriately recognized concerns raised by industry and others and pulled back a proposed new standard for ozone. By some estimates the proposal would’ve put 85 percent of the country in non-compliance. Millions of jobs might have been in jeopardy, and the economy could have faced $1 trillion a year in costs.¶ EPA also recognized concerns about a proposed rule on emissions resulting from oil and natural gas development, agreeing to allow companies until 2015 to develop the equipment needed for compliance and to train workers to use it.¶ But in other areas legitimate concern about the cost effectiveness of proposals seemingly has been dismissed. Our industry urged EPA to consider keeping the current standard on fine-particle soot that had lowered concentrations 27 percent between 2000 and 2010 – evidence that this pollution problem is being addressed, that air quality is improving. But the agency released a more stringent standard last week based, we believe, on faulty data and without sufficient correlating benefit. As written it could discourage investment in areas that fail to meet the standard, costing jobs and economic opportunity.¶ The scenario is similar when it comes to EPA’s push for E15 gasoline, which could damage the engines of millions of vehicles now on our roads, and its aggressive mandate to refiners on cellulosic biofuels, basically requiring them to use a fuel that doesn’t exist. In this context it’s not hard to understand why some are concerned about EPA’s forthcoming Utility MACT Rule on emissions from coal-fired power plants and industrial boilers.¶ The larger point is the signal **government is sending to industry and investors with the current approach:** inconsistency and uncertainty**.** Both profoundly **hinder economic activity and job creation.** Coupled with a sense that legitimate cost-benefit analysis isn’t being uniformly conducted, the seeming **disconnect between the regulators and the regulated** isn’t surprising.¶ Our industry supports environmental protection and is constantly striving to improve the safety and efficiency of its operations. But without a common-sense regulatory approach that sees the entire picture, America will continue to create problems for itself in terms of fostering economic growth, creating jobs and, in the case of our industry, generating the energy we need for better lives now and in the future.

#### This uncertainty causes shortages in future gas supply

Stevens August 2012 – Professor Paul Stevens is Senior Research Fellow for Energy at Chatham House and Emeritus Professor at Dundee University. He taught at the American University of Beirut in Lebanon (1973–79); the University of Surrey (1979–93); and as Professor of Petroleum Policy and Economics at CEPMLP, University of Dundee (1993–2008). He is also Consulting Professor at University College London (Australia), August 2012, "The 'Shale Gas Revolution': Developments and Changes,"www.chathamhouse.org/sites/default/files/public/Research/Energy, Environment and Development/bp0812\_stevens.pdf

There is a real danger that investor uncertainty will inhibit investment in future gas supplies. If the shale gas revolution can be continued and replicated this does not matter. Shale gas can provide abundant supplies of cheap natural gas. However, if it disappoints then, as the 2010 report notes, in five to ten years gas markets could **face** significant shortages **as a result of the very long lead times on upstream gas projects.**

#### And independently, the restrictions destroy independent producers, which are key to the industry

Banerjee 12 – Neela Banerjee, writer for the Los Angeles Times, April 18th, 2012, "New EPA rules target pollution at fracking sites" articles.latimes.com/2012/apr/18/business/la-fi-epa-drilling-20120419

The rules are expected to affect about 11,000 new wells annually that undergo fracking and an additional 1,200 that are re-fracked to boost production. The rules go into effect in 60 days, but the EPA gave the industry a three-year transition period to install technology to capture methane.¶ Most environmentalists welcomed the new rules, although some expressed disappointment over the three-year phase-in of the methane-capturing requirement.¶ "Obviously, this will be an improvement from the status quo," said Frank O'Donnell, president of Clean Air Watch. "But the delays mean a heck of a lot of smog-forming emissions during the next several years. Breathers will pay that price.¶ "Industry groups, however, complained that the rules were still too onerous, especially for smaller companies. They asserted that the EPA's data are faulty, a charge that the EPA denied, and could stunt the growth of natural gas development.¶ Barry Russell, chief executive of the Independent Petroleum Assn. of America, said the effect of the rules on independent oil and natural gas producers, which drill 95% of wells, as well as on the economy and the national security has the "potential to be profound."

#### The restrictions will be used to shut down all production if an accident happens

Cappiello 12 – Dina is an Associated Press writer. “EPA sets natural gas pollution standards,” April 21, <http://theadvocate.com/home/2607063-125/epa-sets-natural-gas-pollution>

Don Briggs, president of the Louisiana Oil and Gas Association, called the regulations an unnecessary intrusion.¶ “The industry already has in place so many of the different things they’re suggesting,” he said. “It’s a continuation of a great deal more control over the oil and gas industry.”¶ Briggs and other industry members fear federal oversight of hydraulic fracturing. The industry worries the EPA will use air quality regulations and the findings of an upcoming report on hydraulic fracturing to restrict the practice, which is what led to the huge increase in domestic natural gas and oil production.¶ “It will only take one accident or mishap for the EPA to step in and halt all hydraulic fracturing in the United States,” Briggs said in a column released Wednesday. “If this were to happen, 85 percent of all wells in the United States would be shut down.”

#### Status quo state regulations are sufficient – the EPA restrictions tank production and drive up costs

Loris 8-29 – Nicolas D. Loris is the Herbert and Joyce Morgan Fellow in the Thomas A. Roe Institute for Economic Policy Studies at The Heritage Foundation, August 29th, 2012, "Hydraulic Fracturing: Critical for Energy Production, Jobs, and Economic Growth," [www.thecuttingedgenews.com/index.php?article=75622&pageid=&pagename](http://www.thecuttingedgenews.com/index.php?article=75622&pageid=&pagename)=

One of the reasons why hydraulic fracturing has been so successful in promoting oil and gas development, while maintaining a strong environmental record, is the state regulatory regime. States in which fracturing takes place each have comprehensive regulation that ensures that oil and gas companies operate safely and in an environmentally sensible manner, and administer fines and implement punitive measures to correct any wrongdoing. In November 2011, the EPA’s Lisa Jackson acknowledged the states' role: “**States are stepping up and doing a good job. It doesn’t have to be EPA that regulates the 10,000 wells that might go in.”** But states are not just now stepping up—states have effectively regulated oil and gas production and hydraulic fracturing for decades. In Pennsylvania, fracking has been taking place since the 1960s with nearly 100,000 oil and gas wells fracked and no instances of contamination of groundwater. The same clean record is true for Ohio, where over 70,000 oil and gas wells have been fracked since the 1960s. The Interstate Oil and Gas Compact Commission has compiled statistics for all 50 states, each of which has a flawless record when it comes to fracking and groundwater protection. Detailed in the appendix of this paper is an overview of each state’s regulations regarding chemical disclosure, groundwater protection, and wastewater management, as well as links to each state’s statutes and regulations that pertain to oil and gas operations.¶ Despite the states' effectiveness in regulating hydraulic fracturing and despite Jackson’s comments, the EPA is pursuing **onerous and duplicative regulations with weak scientific support.** Many activities of oil and gas production are already subject to a number of major federal regulations, including the Clean Air Act (emissions), the Clean Water Act (surface water discharge), the Safe Drinking Water Act (wastewater management), the Emergency Planning and Community Right-to-Know Act (chemical disclosure for emergency responders), and the National Environmental Policy Act (production on federal lands), among others.¶ While many of these statutes are in need of serious reform, the White House’s recently proposed fracking rules are unneeded and duplicative. The Department of the Interior released a draft rule on public disclosure of chemicals on federal lands despite the fact that states have successfully managed chemical disclosure. Congress has also introduced legislation that would regulate fracking fluids under the Safe Drinking Water Act (SDWA) despite the fact that the 2005 Energy Policy Act codified that Congress never intended to regulate fracking (except when using diesel oil in the fracking process under SDWA). Hydraulic fracturing had been safely regulated for a quarter century before Congress even enacted SDWA in 1974.¶ In April 2012, the EPA announced its first air-emission rules for hydraulic fracturing. Rather than being aimed at fracking itself, this is a backdoor global warming regulation: The rule highlights the supposed environmental benefits of reducing emission of methane, a greenhouse gas. The EPA’s rule miserably fails the cost-benefit test; the agency’s own analysis projects $745 million in annual costs and just $11 million to $19 million in environmental benefits. Moreover, the EPA has grossly overestimated methane emissions from the wells. The rule also fails to quantify any benefits from reducing volatile organic compounds (VOC) and hazardous air pollutants (HAP). While the rule asserts that benefits exist, the draft also says that “with the data available, we [the EPA] are not able to provide credible health benefit estimates for the reduction in exposure to [hazardous air pollutants], ozone and [particulate matter] (2.5 microns and less) (PM2.5) for these rules.”¶ Congress: Prevent Federal Overreach on Fracking¶ The states' effective regulation underscores the need for Members of Congress to prevent **federal intervention** **that would** unnecessarily stall the oil and gas boom and drive up costs for producers (and thus consumers). The states with tremendous oil and natural gas reserves have the most to gain economically, and have the greatest incentive to protect their environments. States have qualified experts to handle the regulatory requirements surrounding hydraulic fracturing. To that end, Congress should:¶ Prevent any federal agency from adding new regulations to hydraulic fracturing. The proposed federal regulations are unnecessary and duplicative.¶ Prohibit federal regulators from using any statute to regulate greenhouse gas emissions. Greenhouse gas regulations would drive up the cost of energy for no meaningful change in the Earth’s temperature.¶ Reaffirm the states’ authority and effectiveness in regulating hydraulic fracturing. The states have effectively handled the disclosure of chemicals used in the fracking process and have effectively protected drinking water for decades.¶ Fracking: It’s Important¶ Hydraulic fracturing and horizontal drilling should be celebrated as important technological progress that has opened new opportunities for the safe development of affordable, reliable energy. The facts and history of hydraulic fracturing indicate that many of the fears associated with the process are **exaggerated or unsubstantiated**. Entrepreneurs created an energy boom and state regulators have been ensuring that energy production occurs in an environmentally sensible way. Congress should keep it that way.