### 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.

#### Perception of decline causes US lashout – triggers hegemonic wars

Goldstein 7 Professor of Global Politics and International Relations @ University of Pennsylvania “Power transitions, institutions, and China's rise in East Asia: Theoretical expectations and evidence,” Journal of Strategic Studies, Volume 30, Issue 4 & 5 August 2007, pages 639 – 682

Two closely related, though distinct, theoretical arguments focus explicitly on the consequences for international politics of a shift in power between a dominant state and a rising power. In War and Change in World Politics, Robert Gilpin suggested that peace prevails when a dominant state’s capabilities enable it to ‘govern’ an international order that it has shaped. Over time, however, as economic and technological diffusion proceeds during eras of peace and development, other states are empowered. Moreover, the burdens of international governance drain and distract the reigning hegemon, and challengers eventually emerge who seek to rewrite the rules of governance. As the power advantage of the erstwhile hegemon ebbs, **it may become desperate enough to resort to** the ultima ratio of international politics, **force,** to forestall the increasingly urgent demands of a rising challenger. Or as the power of the challenger rises, it may be tempted to press its case with threats to use force. It is the rise and fall of the great powers that creates the circumstances under which major wars, what Gilpin labels ‘hegemonic wars’, break out.13 Gilpin’s argument logically encourages pessimism about the implications of a rising China. It leads to the expectation that international trade, investment, and technology transfer will result in a steady diffusion of American economic power, benefiting the rapidly developing states of the world, including China. As the US simultaneously scurries to put out the many brushfires that threaten its far-flung global interests (i.e., the classic problem of overextension), it will be unable to devote sufficient resources to maintain or restore its former advantage over emerging competitors like China. While the erosion of the once clear American advantage plays itself out, the US will find it ever more difficult to preserve the order in Asia that it created during its era of preponderance. The expectation is an increase in the likelihood for the use of force – either by a Chinese challenger able to field a stronger military in support of its demands for greater influence over international arrangements in Asia, or by a besieged American hegemon desperate to head off further decline. Among the trends that alarm those who would look at Asia through the lens of Gilpin’s theory are China’s expanding share of world trade and wealth (much of it resulting from the gains made possible by the international economic order a dominant US established); its acquisition of technology in key sectors that have both civilian and military applications (e.g., information, communications, and electronics linked with to forestall, and the challenger becomes increasingly determined to realize the transition to a new international order whose contours it will define. the ‘revolution in military affairs’); and an expanding military burden for the US (as it copes with the challenges of its global war on terrorism and especially its struggle in Iraq) that limits the resources it can devote to preserving its interests in East Asia.14 Although similar to Gilpin’s work insofar as it emphasizes the importance of shifts in the capabilities of a dominant state and a rising challenger, the power-transition theory A. F. K. Organski and Jacek Kugler present in The War Ledger focuses more closely on the allegedly dangerous phenomenon of ‘crossover’– the point at which a dissatisfied challenger is about to overtake the established leading state.15 In such cases, when the power gap narrows, the dominant state becomes increasingly desperate. Though suggesting why a rising China may ultimately present grave dangers for international peace when its capabilities make it a peer competitor of America, Organski and Kugler’s power-transition theory is less clear about the dangers while a potential challenger still lags far behind and faces a difficult struggle to catch up. This clarification is important in thinking about the theory’s relevance to interpreting China’s rise because a broad consensus prevails among analysts that Chinese military capabilities are at a minimum two decades from putting it in a league with the US in Asia.16 Their theory, then, points with alarm to trends in China’s growing wealth and power relative to the United States, but especially looks ahead to what it sees as the period of maximum danger – that time when a dissatisfied China could be in a position to overtake the US on dimensions believed crucial for assessing power. Reports beginning in the mid-1990s that offered extrapolations suggesting China’s growth would give it the world’s largest gross domestic product (GDP aggregate, not per capita) sometime in the first few decades of the twentieth century fed these sorts of concerns about a potentially dangerous challenge to American leadership in Asia.17 The huge gap between Chinese and American military capabilities (especially in terms of technological sophistication) has so far discouraged prediction of comparably disquieting trends on this dimension, but inklings of similar concerns may be reflected in occasionally alarmist reports about purchases of advanced Russian air and naval equipment, as well as concern that Chinese espionage may have undermined the American advantage in nuclear and missile technology, and speculation about the potential military purposes of China’s manned space program.18 Moreover, because a dominant state may react to the prospect of a crossover and believe that it is wiser to embrace the logic of **preventive war** and act early to delay a transition while the task is more manageable, Organski and Kugler’s power-transition theory also provides grounds for concern about the period prior to the possible crossover.19 pg. 647-650

### Advantage 2 is Energy Leverage

#### Scenario 1 is Russia

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

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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.

#### **US gas supply frees up non-Russian supplies for Europe and makes them cost competitive**

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.

#### 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.

#### Energy dominance allows Russia to thwart NATO

Blank 9 Stephen - Strategic Studies Institute, US Army War College, September 2009, "Russia’s Energy Weapon and European Security.," www.acus.org/files/StephenBlank-RussiaEnergy.pdf

Similarly abundant evidence exists that **Moscow has used and continues to use energy as an instrument of dominance** in the CIS as a whole **and** of **leverage in Europe,** either by controlling pipelines from Eurasia to Russia and then Europe or by maximizing its control of gas supplies from Russia (including those Central Asian supplies) to Europe.

Moscow’s frequent resort to energy punishments to get its way testifies to its view of energy as a primary lever of policy. This use of punishment does not end at the CIS’ borders even though it is most frequently employed there. Indeed, **it has also regularly been employed against the Baltic States and in Central and Eastern Europe.**

For instance, in the summer of 2008 Moscow cut off gas to the Czech Republic because of its support for the US missile defense plan. So both history and overt Russian statements confirm that **Russia has used and will use energy as a weapon of foreign policy.** Moscow turns this weapon on or off as needed to suit its needs. Right now Moscow’s apparent main goal is to ensure that one of its favored candidates wins the upcoming Ukrainian presidential election in January 2010. Accordingly it is lending Ukraine $2 Billion and allowing it to slash purchases of Russian gas and pay only for what is actually used rather than for the full amount of contracted gas given its depleted treasury due to the current crisis.

 It is doing so to ensure that either Prime Minister Yulia Tymoshenko or opposition leader, Viktor Yanukovych, defeat President Viktor Yushchenko. But it will demand a quid pro quo for its support and that can be expected to be participation in the current EU-Ukraine plan to reform Ukraine’s gas infrastructure with a view to neutralize that program, or control over gas transmission distribution in Ukraine on pain of more shutdowns. And it is quite possible that a new Ukrainian 4 government that comes to power after those elections will not face an immediate crisis in gas supply as the gas company Naftohaz Ukrainy is practically bankrupt so Ukraine may not be able to pay for its gas by mid-winter 2010, leading to a contractually approved Russian shutdown or more coercion to take over its network. **Moscow may also demand an end or at least a very protracted slowdown to the campaign for** Ukrainian **membership in NATO and/or the EU.** Certainly it has made major threats against Ukraine even before President Medvedev sent a vitriolic blog and letter to Yushchenko on August 11, 2009 cataloguing Ukraine’s supposedly “anti-Russian” policies and essentially demanding a change of government in Kyiv.

9 In earlier statements the **Russia**n government **has** also **denied** that Ukraine is a truly sovereign state **and has threatened** it with missiles if it were to join **NATO**. Thus at the NATO summit of April, 2008 in Bucharest President Putin told President Bush, “But, George, don’t you understand that Ukraine is not a state?” Putin further claimed that most of its territory was a Russian gift in the 1950s. Moreover, while Western Ukraine belonged to Eastern Europe, Eastern Ukraine was “ours.” Furthermore, if Ukraine did enter NATO, Russia would then detach Eastern Ukraine (and the Crimea) and graft it onto Russia. Thus Ukraine would cease to exist as a state. 10

**Putin** also **said that Russia regards NATO enlargement as a threat**, so if Georgia received membership, **Moscow would “take adequate measures**” and recognize Abkhazia and South Ossetia to create a buffer between NATO and Russia. 11 So we cannot say that we have not been warned what Moscow wants and what it might do if it so chose.

#### NATO prevents global nuclear war

Zbigniew Brzezinski 9, former U.S. National Security Advisor, the Robert E. Osgood Professor of American Foreign Policy at Johns Hopkins University's School of Advanced International Studies, September/October 2009, “An Agenda for NATO,” Foreign Affairs

And yet, it is fair to ask: Is NATO living up to its extraordinary potential? NATO today is without a doubt the most powerful military and political alliance in the world. Its 28 members come from the globe’s two most productive, technologically advanced, socially modern, economically prosperous, and politically democratic regions. Its member states’ 900 million people account for only 13 percent of the world’s population but 45 percent of global GDP.

NATO’s potential is not primarily military. Although NATO is a collective-security alliance, its actual military power comes predominantly from the United States, and that reality is not likely to change anytime soon. NATO’s real power derives from the fact that it combines the United States’ military capabilities and economic power with Europe’s collective political and economic weight (and occasionally some limited European military forces). Together, that combination **makes NATO globally significant.** It must therefore remain sensitive to the importance of safeguarding the geopolitical bond between the United States and Europe as it addresses new tasks.

The basic challenge that NATO now confronts is that there are **historically unprecedented risks to global security**. Today’s world is threatened neither by the militant fanaticism of a territorially rapacious nationalist state nor by the coercive aspiration of a globally pretentious ideology embraced by an expansive imperial power. The paradox of our time is that the world, increasingly connected and economically interdependent for the first time in its entire history, is experiencing **intensifying popular unrest** made all the more menacing by the growing accessibility of weapons of mass destruction - not just to states but also, potentially, to extremist religious and political movements. Yet there is **no effective global security mechanism** for coping with the growing threat of violent political chaos stemming from humanity’s recent political awakening.

The three great political contests of the twentieth century (the two world wars and the Cold War) accelerated the political awakening of mankind, which was initially unleashed in Europe by the French Revolution. Within a century of that revolution, spontaneous populist political activism had spread from Europe to East Asia. On their return home after World Wars I and II, the South Asians and the North Africans who had been conscripted by the British and French imperial armies propagated a new awareness of anticolonial nationalist and religious political identity among hitherto passive and pliant populations. The spread of literacy during the twentieth century and the wide-ranging impact of radio, television, and the Internet accelerated and intensified this mass global political awakening.

In its early stages, such new political awareness tends to be expressed as a fanatical embrace of the most extreme ethnic or fundamentalist religious passions, with beliefs and resentments universalized in Manichaean categories. Unfortunately, in significant parts of the developing world, bitter memories of European colonialism and of more recent U.S. intrusion have given such newly aroused passions a distinctively anti-Western cast. Today, the most acute example of this phenomenon is found in an area that stretches from Egypt to India. This area, inhabited by more than 500 million politically and religiously aroused peoples, is where NATO is becoming more deeply embroiled.

Additionally complicating is the fact that the dramatic rise of China and India and the quick recovery of Japan within the last 50 years have signaled that the global center of political and economic gravity is shifting away from the North Atlantic toward Asia and the Pacific. And of the currently leading global powers—the United States, the EU, China, Japan, Russia, and India—at least two, or perhaps even **three, are revisionist** in their orientation. Whether they are “rising peacefully” (a self-confident China), truculently (an imperially nostalgic Russia) or boastfully (an assertive India, despite its internal multiethnic and religious vulnerabilities), they all desire a change in the global pecking order. The future conduct of and relationship among these three still relatively cautious revisionist powers will further **intensify** the **strategic uncertainty**.

Visible on the horizon but not as powerful are the emerging regional rebels, with some of them defiantly **reaching for nuclear weapons**. North Korea has openly flouted the international community by producing (apparently successfully) its own nuclear weapons - and also by profiting from their dissemination. At some point, its unpredictability could precipitate the first use of nuclear weapons in anger since 1945. Iran, in contrast, has proclaimed that its nuclear program is entirely for peaceful purposes but so far has been unwilling to consider consensual arrangements with the international community that would provide credible assurances regarding these intentions. In nuclear-armed Pakistan, an extremist anti-Western religious movement is threatening the country’s political stability.

#### Scenario 2 is India

#### US gas supply prevents Iranian pipelines that would destroy US-India 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](file:///C%3A%5CUsers%5CPei%5CDesktop%5CROGERS%20HOUSE%5CJuly%202011%2C%20%22Shale%20Gas%20and%20U.S.%20National%20Security%2C)

¶ 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

#### **That’s key to stability in Asia**

Burns 10 – R. Nicholas Burns, Professor of the Practice of Diplomacy and International Politics, Harvard Kennedy School. October 20th, 2010, "Natural Allies: A Blueprint for the Future of U.S.-India Relations,"belfercenter.ksg.harvard.edu/publication/20446/natural\_allies.html?breadcrumb=/

The U.S. relationship with India should be rooted in shared interests and values and should not be simply transactional or limited to occasional collaboration. India’s rise to global power is, we believe, in America’s strategic interest. As a result, the United States should not only seek a closer relationship with India, but actively assist its further emergence as a great power.¶ U.S. interests in a closer relationship with India include:¶ • Ensuring a stable Asian and global balance of power.¶ • Strengthening an open global trading system.¶ • Protecting and preserving access to the global commons (air, sea, space, and cyber realms).¶ • Countering terrorism and violent extremism.¶ • Ensuring access to secure global energy resources.¶ • Bolstering the international nonproliferation regime.¶ • Promoting democracy and human rights.¶ • **Fostering greater stability, security and economic prosperity in South Asia, including in Pakistan, Afghanistan, Nepal, Bangladesh and Sri Lanka.¶** **A strong U.S.-India strategic partnership will prove** indispensable to the region’s **continued** peace **and prosperity**. Both India and the United States have a vital interest in maintaining a stable balance of power in Asia. Neither seeks containment of China, but the likelihood of a peaceful Chinese rise increases if it ascends in a region where the great democratic powers are also strong. Growing U.S.-India strategic ties will **ensure that Asia will not have a vacuum of power and will make it easier for both Washington and New Delhi to have** productive relations with Beijing**.** In addition, a strengthened relationship with India, a natural democratic partner, will **signal that the** U**nited** S**tates remains committed to a strong and enduring presence in Asia.**

#### Global nuclear war – highest magnitude and probability

Landay 2k (Jonathon, National Security and Intelligence Correspondent with 15 Years of Experience for Knight Ridder, “Top administration officials warn stakes for US are high in Asian conflicts,” March 11th, Lexis)

Few if any experts think China and Taiwan, North Korea and South Korea, or India and Pakistan are spoiling to fight. But even a **minor miscalculation** by any of them could destabilize Asia, jolt the global economy and even start a nuclear war. India, Pakistan and China all have nuclear weapons, and North Korea may have a few, too. Asia lacks the kinds of organizations, negotiations and diplomatic relationships that helped keep an uneasy peace for five decades in Cold War Europe. "**Nowhere else on Earth are the stakes as high** and relationships so fragile," said Bates Gill, director of northeast Asian policy studies at the Brookings Institution, a Washington think tank. "We see the convergence of great power interest overlaid with lingering confrontations with no institutionalized security mechanism in place. **There are elements for** potential disaster."

### Advantage 3 is New

#### **Low natural gas prices are key to declining coal demand in the US – newest studies prove EPA coal regulations have no effect**

Palmer 10-18 – Dr. Karen Palmer has a Ph.D. in economics from Boston College, and specializes in Environmental Regulation and Electricity Economics, is Research Director and Senior Fellow at Resources for the Future. October 18th, 2012, "Cheap Gas - Not EPA Regs - Driving Coal's Decline," thebreakthrough.org/index.php/programs/energy-and-climate/more-gas-less-coal-cheaper-power/

Brad Plumer at the Washington Post wrote this week that coal power generation in the U.S. is in sharp decline — but market forces, not environmental regulation, are driving the recent trend according to analysis in a new Brattle Group report. The primary reason is natural gas prices. RFF research generally bears this out — and indicates that it should lead to lower electricity prices and lower carbon emissions. There is one important difference: the Brattle report is primarily about how much coal generation is permanently retired, while this post on RFF’s work is mostly about dispatch — that is, how much different plants actually run and generate electricity. But the overall story is similar.¶ According to the US Energy Information Administration, in March of this year U.S. coal electricity generation dropped to 34 percent of net electricity supply, its lowest level since EIA started collecting monthly data on the mix of fuels used to produce electricity in January of 1973. While electricity demand has declined somewhat due to the recession and improved efficiency, **much of coal’s loss of market share has been made up by an increase in electricity production from natural gas.** Last month, EIA reported that estimated shipments of natural gas to power plants were up by 25 percent through mid-August of this year, compared to the same period in 2011.¶ What is driving the shift from coal to natural gas? The most important factor is the development of horizontal drilling and hydraulic fracturing technology that can extract natural gas from shale deposits. The expanded use of this technology has dramatically increased supplies of natural gas and reduced its price, both absolutely and relative to the price of coal. A lot of gas-fired generating capacity was built up in the 1990s in response to the advent of greater competition in electricity markets that previously operated at less than full capacity, and this excess gas generation capacity is now being ramped up while coal plants are running less.¶ Looking forward into the future, RFF researchers find in a recent paper that **reductions in expected future natural gas prices result in a ten percent reduction in electricity generation from coal through 2020.** Moreover, **this market-driven decline in coal** is 5 or 6 times greater **than the drop in coal use that is likely to be attributable to new EPA air regulations** such as the Mercury and Air Toxics Standard, also known as MATS (note that the Brattle study includes these regulations in its estimate).¶ Coal’s loss may be electricity consumers’ gain. While regions of the country, such as the Ohio Valley and parts of the Southeast, that rely to a large extent on coal have typically been those regions with lower than average electricity prices, **abundant natural gas is lowering electricity prices in other parts of the country and on average nationwide.** In a recent issue brief, RFF researchers find that under recent predictions of natural gas prices in 2020, (35 percent lower than similar predictions in 2009), national average electricity price in 2020 is expected to be roughly 5.7 percent lower than prior forecasts predicted. In those parts of the country where electricity markets have been deregulated, which also tend to be regions that have historically been less dependent on coal, the effect is even more dramatic, with electricity prices predicted to be 9.6 percent lower than forecasts based on supply assumptions from prior to the recent gas boom.¶ The switch from coal to natural gas is also **having beneficial effects on emissions of CO2 from the electric power industry that are expected to extend into the future**. RFF researchers recently found that downward revisions in expected natural gas prices over the past few years in combination with slower rates of anticipate electricity demand growth reduce expected emissions of CO2 from the electricity sector by roughly 9 percent in 2020 and by even greater percentages in later years.

#### Decreased US coal demand leads to exports

AP 12 (The Associated Press, Kevin Begos, 17 August 2012, “Coal-to-gas switch causes CO2 to drop,” http://shale.sites.post-gazette.com/index.php/news/155-business/24750-coal-to-gas-switch-causes-co2-to-drop)

"Coal is going to be here for a long time**. Our export markets are growing. Demand is going up around the world.** Even if we decide not to use it, everybody else wants it," Mr. Hayes said.¶ He also said **the industry expects new coal-fired power plants to be built as pollution-control technology advances: "The industry will meet the challenge"** of the EPA regulations.¶ UQ

#### Low natural gas is the strongest internal link to coal exports

AP 12 (Associated Press, “Exports of coal and fuels on track to set record” August 15, 2012, http://www.businessweek.com/ap/2012-08-15/exports-of-coal-and-fuels-on-track-to-set-record)

U.S. exports of coal and fuels such as gasoline and diesel continue to soar. Both categories are on track to set new annual records, according to government data.¶ **Coal shipments are rising because U.S. demand for coal is falling as electric utilities burn more natural gas,** which has plummeted in price, instead of coal. At the same time, demand for coal is rising in developing countries such as China and India as those countries work to bring electricity to millions who don't have it.¶ On Thursday Kentucky Gov. Steve Beshear announced a 25-year, $7 billion agreement between India's Abhijeet Group and Kentucky-based Booth Energy Group and River Trading Co. that could send 9 million tons of coal a year to India from West Virginia and Kentucky. That would represent 8 percent of last year's record 107 million tons.¶ Exports of gasoline, diesel and other fuels are rising because U.S. refiners are able to make the fuels cheaper than almost anywhere in the world. That's because they have been able to access some of the cheapest crude oil. North American crude supplies are rising thanks to booming oil production in Canada, North Dakota, Texas and elsewhere. Also refiners that burn natural gas to help cook the crude into gasoline, diesel, jet fuel and heating oil are enjoying some of the cheapest natural gas prices in the world.¶ Exports of petroleum products, which set an annual record last year and were the single biggest export by value, are up 11 percent compared with a year ago. Much of the fuels that are exported are made with imported oil, and the U.S. remains the world's biggest oil importer.¶ The Census Bureau reported last week that coal shipments set a record in June of 12.8 million tons. Through the first half of the year, shipments are 24 percent higher than a year ago. The share of U.S. electricity that comes from coal is lower than it has been since the government began collecting data in 1949. That's because electric utilities are instead burning natural gas, which earlier this year fell to a 10-year low as increasing domestic production and a historically warm winter led to a supply glut.¶ **Coal companies** were forced to close or idle mines and lay off workers, but **have vowed to look abroad for new markets.** The U.S. has the world's largest reserves of coal.

#### Coal exports are key to Asian and Brazilian economies and prevent deforestation

Quinn 12 – Hal P. Quinn 12, President of the National Mining Association, April 13, 2012, “WHAT SHOULD U.S. POLICY BE ON ENERGY EXPORTS?,” online: <http://www.nma.org/pdf/041312_quinn_nj_blog.pdf>

The United States has an unrivalled self-interest in serving international markets that urgently need coal to grow their economies and improve the livelihoods of their people. In fact, increasing our coal exports is an unusually clear example of how unfettered trade benefits both exporting and importing countries.¶ With the world’s largest coal reserves, the U.S. finds itself in the enviable position of having more of what the fastest-growing countries of the world need. China and India are lifting hundreds of millions of people out of poverty by building vast electricity grids that bring coal-generated power to homes and workplaces. Coal is the only fuel for electricity generation that is sufficiently affordable and abundant to literally bring this power to the people. It is also a vital ingredient **for the steelmaking plants in Asia and Brazil that are laying foundations for a 21 st century industrial revolution**. American metallurgical coal is a building block of this progress much as it is for our own industrial progress. ¶ The benefits of U.S. coal exports are reciprocal. The U.S. has a 265-year coal supply, more than enough to serve its domestic needs. Far from depriving Americans of opportunities, coal exports provide them –high-wage jobs in coal country from Appalachia to the Powder River Basin, in the rail industry that transports coal to ports and in export terminals that exist or are envisioned for the Gulf and both coasts. The $16 billion worth of U.S. coal exported last year also delivered revenue to hardpressed communities across the U.S. heartland.¶ Some critics are blinded by their wealthy lifestyles to the powerful evidence that coal-based generation has greatly improved the lives of millions abroad who are less fortunate. For the 1.4 billion people worldwide who have no access to electricity, efficient coal-based generation provides a healthier and better life. It often offsets the demands for heat and light that heretofore have been met with fuels derived from deforestation, animal wastes and uncontrolled in-home use of kerosene and other fuels.

#### Asian economic collapse causes nuclear war

Auslin 9 – resident scholar at AEI (Michael “Averting Disaster”, The Daily Standard, 2/6, http://www.aei.org/article/100044

As they deal with a collapsing world economy, policymakers in Washington and around the globe must not forget that when a depression strikes, war can follow. **Nowhere is this truer than in Asia**, the most heavily armed region on earth and riven with ancient hatreds and territorial rivalries. Collapsing trade flows can lead to political tension, nationalist outbursts, growing distrust, and ultimately, military miscalculation. The result would be disaster on top of an already dire situation. No one should think that Asia is on the verge of conflict. But it is also important to remember what has helped keep the peace in this region for so long. Phenomenal growth rates in Japan, South Korea, Hong Kong, Singapore, China and elsewhere since the 1960s have naturally turned national attention inward, to development and stability. This has gradually led to increased political confidence, diplomatic initiatives, and in many nations the move toward more democratic systems. America has directly benefited as well, and not merely from years of lower consumer prices, but also from the general conditions of peace in Asia. Yet policymakers need to remember that even during these decades of growth, moments of economic shock, such as the 1973 Oil Crisis, led to instability and bursts of terrorist activity in Japan, while the uneven pace of growth in China has led to tens of thousands of armed clashes in the poor interior of the country. Now imagine such instability multiplied region-wide. The economic collapse Japan is facing, and China's potential slowdown, dwarfs any previous economic troubles, including the 1998 Asian Currency Crisis. Newly urbanized workers rioting for jobs or living wages, conflict over natural resources, further saber-rattling from North Korea, all can take on lives of their own. This is the nightmare of governments in the region, and particularly of democracies from newer ones like Thailand and Mongolia to established states like Japan and South Korea. How will overburdened political leaders react to internal unrest? What happens if Chinese shopkeepers in Indonesia are attacked, or a Japanese naval ship collides with a Korean fishing vessel? Quite simply, Asia's political infrastructure may not be strong enough to resist the slide towards confrontation and conflict. This would be a political and humanitarian disaster turning the clock back decades in Asia. It would almost certainly drag America in at some point, as well. First of all, we have alliance responsibilities to Japan, South Korea, Australia, and the Philippines should any of them come under armed attack. Failure on our part to live up to those responsibilities could mean the end of America's credibility in Asia. Secondly, peace in Asia has been kept in good measure by the continued U.S. military presence since World War II. There have been terrible localized conflicts, of course, but nothing approaching a systemic conflagration like the 1940s. Today, such a conflict would be far more bloody, and it is unclear if the American military, already stretched too thin by wars in Afghanistan and Iraq, could contain the crisis. Nor is it clear that the American people, worn out from war and economic distress, would be willing to shed even more blood and treasure for lands across the ocean. The result could be a historic changing of the geopolitical map in the world's most populous region. Perhaps China would emerge as the undisputed hegemon. Possibly democracies like Japan and South Korea would link up to oppose any aggressor. India might decide it could move into the vacuum. All of this is guess-work, of course, but it has happened repeatedly throughout history. There is no reason to believe we are immune from the same types of miscalculation and greed that have destroyed international systems in the past.

#### Amazon deforestation causes extinction

Takacs 96—Takacs, David, 1996 Philosophies of Paradise, The Johns Hopkins Univ. Pr., Baltimore.

"Habitat destruction and conversion are eliminating species at such a frightening pace that extinction of many contemporary species and the systems they live in and support ... may lead to ecological disaster and severe alteration of the evolutionary process," Terry Erwin writes." And E. 0. Wilson notes: "The question I am asked most frequently about the diversity of life: if enough species are extinguished, will the ecosystem collapse, and will the extinction of most other species follow soon afterward? The only answer anyone can give is: possibly. By the time we find out, however, it might be too late. One planet, one experiment."" So biodiversity keeps the world running. It has value in and for itself, as well as for us. Raven, Erwin, and Wilson oblige us to think about the value of biodiversity for our own lives. The Ehrlichs' rivet-popper trope makes this same point; by eliminating rivets, we play Russian roulette with global ecology and human futures: "It is likely that destruction of the rich complex of species in the **Amazon basin could** trigger rapid changes in global climate patterns. Agriculture remains heavily dependent on **stable climate**, and human beings remain heavily dependent on food. By the end of the century the **extinction** of perhaps a million species in the Amazon basin could have entrained famines in which a billion human beings perished. And if our species is very unlucky, the famines could **lead to a** thermonuclear war, which could **extinguish civilization.""**

#### Deforestation causes disease spread – causes extinction

Butler 6--Rhett, BS from UCSD, founder of Mongabay.com, speaker at Stanford University, UC Berkeley, UCSC, participant in the US State Department Speakers Program in Indonesia, “LOSS OF SPECIES FOR FOREST REGENERATION,” rainforests.mongabay.com/0904.htm

The emergence of tropical diseases and outbreaks of new diseases, including nasty hemorrhagic fevers like ebola and lassa fever, are a subtle but serious impact of deforestation. With increased human presence in the rainforest, and exploiters pushing into deeper areas, man is encountering "new" microorganisms with behaviors unlike those previously known. As the primary hosts of these pathogens are eliminated or reduced through forest disturbance and degradation, disease can break out among humans. Although not unleashed yet, someday **one of these microscopic killers could lead to a** massive human die-off as deadly for our species as we have been for the species of the rainforest. Until then, local populations will continue to be menaced by mosquito-borne diseases like dengue fever, Rift Valley fever, and malaria, and water-borne diseases like cholera. Many emergent and resurgent diseases are directly linked to land alterations which bring humans in closer contact with such pathogens. For example, malaria and snailborne schistosomiasis have escalated because of the creation of artificial pools of water like dams, rice paddies, drainage ditches, irrigation canals, and puddles created by tractor treads. Malaria is a particular problem in deforested and degraded areas, though not in forested zones where there are few stagnant ground pools for mosquito breeding. These pools are most abundant in cleared regions and areas where tractors tear gashes in the earth. Malaria is already a major threat to indigenous peoples who have developed no resistance to the disease nor any access to antimalarial drugs. Malaria alone is cited as being responsible for killing an estimated 20 percent of the Yanomani in Brazil and Venezuela. Malaria—caused by unicelluar parasites transferred in the saliva of mosquitoes when they bite—is an especially frightening disease for its drug-resistant forms. Thanks to poor prescribing techniques on the part of doctors, there are now strains in Southeast Asia reputed to be resistant to more than 20 anti-malarial drugs. There is serious concern that global climate change will affect the distribution of malaria, which currently infects roughly 270 million people worldwide and kills 1-2 million a year— 430,000-680,000 children in sub-Saharan Africa alone.¶ The outbreak of disease in the tropics does not affect only the people of those countries, since virtually **any disease can be incubated for enough time to allow penetration into** the temperate **developed countries**. For example, any Central African doctor infected with the ebola virus from a patient can board a plane and land in London within 10 hours. The virus could quickly spread, especially if airborne, among the city's population of 8 million. Additionally, every person at the airport who is exposed can unknowingly carry the pathogen home to their native countries around the world.

### 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.”

#### **The air emission rules create regulatory uncertainty and will lead to further regulation**

Mack et al. 12 – Joel Mack is a partner in Latham & Watkins' Houston office. Davon Collins is an associate in the firm's New York office. Sara Orr and Ben Lawless\* are associates in the Washington, D.C., office. May 11th, 2012, “A 1st for Fracking: EPA’s Air Emissions Regulations,” www.lw.com/thoughtLeadership/a-first-for-fracking

Notably, although the rule does not regulate methane directly, there are indications that methane — a potent greenhouse gas — may have been the true target of the new regulations. This might explain why the EPA **declined to grant any exemptions from green completion requirements for wells with demonstrated low or de minimis VOC emissions**.The EPA claimed that, given VOC variability among gas wells, such an exemption would be “inappropriate” due to implementation concerns.[34] In addition, the EPA has noted in its supporting comments for the rule that it intends “to continue to evaluate the appropriateness of regulating methane with an **eye toward taking additional steps if appropriate**.”[35] Thus, the rule is likely a harbinger of further greenhouse gas regulation of the upstream and midstream oil and gas industries. Additionally, the rule may reflect the EPA’s increasing scrutiny of hydraulic fracturing as the EPA assesses the scope of its statutory authority to regulate hydraulic fracturing under the Safe Drinking Water Act’s Underground Injection Control program.[36] Therefore, as the oil and gas industry begins to comply with this rule and the greenhouse gas reporting rule issued by the EPA in November 2010, **companies should closely evaluate** their greenhouse gas emissions and hydraulic fracturing **operations for likely regulatory targets and be prepared to engage in future rulemaking processes.**

#### 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.