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### Advantage 1 is Manufacturing

#### **Natural gas prices are low now---key to economic recovery**

Bloomberg 12 – Jack Kaskey, writer for Bloomberg News, February 29th, 2012, "U.S. Economy Strengthens on Gas 'Tailwind,' Dow CEO Says," [www.bloomberg.com/news/print/2012-02-29/u-s-economy-strengthens-on-natural-gas-tailwind-dow-ceo-says.html](http://www.bloomberg.com/news/print/2012-02-29/u-s-economy-strengthens-on-natural-gas-tailwind-dow-ceo-says.html)

**The U.S. economic** recovery is gathering strength **as cheaper natural gas drives business investment and boosts exports**, according to the chief executive officer of Dow Chemical Co. (DOW), the country’s largest chemicals company.¶ U.S. demand is rising for autos, industrial goods and consumer staples such as packaging, Andrew Liveris said yesterday in an interview at Bloomberg’s headquarters in New York. Dow is running its plants close to capacity because falling gas prices have cut production costs, he said.¶ Liveris is investing $4 billion in the country over five years to build factories that take advantage of gas prices that are at their lowest in a decade. Cheaper gas is doubly advantageous for U.S. chemical makers, who use it to power their plants and as a raw material for **hundreds of products** such as polyethylene plastic.¶ “**There are** tailwinds**, not the least of which is because of the energy competitiveness of this country**,” Liveris said. “We see a stronger U.S. economy. It really started last year and is now firmly into this year.”¶ U.S. gross domestic product rose 3 percent in the fourth quarter, the most since the second quarter of 2010, the Commerce Department said today. U.S. unemployment fell to 8.3 percent in January, the lowest since February 2009. Consumer confidence this month rose to the highest in a year, the Conference Board reported yesterday.

#### **Low gas prices are key to the manufacturing and chemical industry---boosts the overall economy**

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.**

#### 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

#### **Low prices are independently key to US competitiveness**

Institute for Energy Research 12 – Institute for Energy Research, April 19th, 2012, "Abundant Natural Gas Means Low Prices, Increased Trade Potential," www.instituteforenergyresearch.org/2012/04/19/abundant-natural-gas-means-low-prices-trade-potential/

Natural gas production in the United States is hitting unprecedented highs, storage tanks are filling, and prices are falling to levels not seen in a decade. American consumers are benefiting from the glut while gas producers are looking toward oil to keep profits from plunging for their stockholders. This leap in natural gas production is caused by American ingenuity applying hydraulic fracturing and horizontal drilling technology to natural gas previously locked in shale formations. Hydraulic fracturing uses water, sand and trace amounts of chemicals to break open shale rock and release natural gas and oil deposits that could not be produced economically with conventional drilling methods. Private industry in the U.S. has, literally, drilled our way to lower natural gas prices, and these lower prices have ignited a new flurry of new proposals for the use of abundant, affordable natural gas supplies.¶ U.S. Natural Gas Production¶ The United States ranks number one in the world in natural gas production, out-producing Russia, who ranks second. In 2011, U.S. natural gas production increased 8 percent to over 23 trillion cubic feet.[i] The increase in natural gas production occurred on private and state lands. In contrast, production of natural gas on federal and Indian lands has been decreasing. Between fiscal years 2003 and 2011, it declined 31 percent .[ii]¶ States with the highest natural gas production levels in 2010 were: Texas ( 6,715 billion cubic feet), Wyoming (2,306 billion cubic feet), Louisiana (2,110 billion cubic feet), Oklahoma (1,807 billion cubic feet), Colorado (1,578 billion cubic feet), New Mexico (1,292 billion cubic feet), Arkansas (927 billion cubic feet) and Pennsylvania (573 billion cubic feet).[iii] Pennsylvania’s entrance into the top 10 natural gas producers in the United States is due to production from the Marcellus shale gas formation that extends from New York to Ohio.¶ U.S. Natural Gas Consumption¶ Natural gas consumption rose 2.5 percent in 2011 due to increased industrial and electric power usage. Natural gas increased its share in the electric generation sector to 25 percent in 2011 from 21 percent in 2008, cutting into the coal generation market, whose share declined from 48 percent in 2008 to 42 percent in 2011.[iv] Natural gas consumption in the industrial sector also increased in 2011, by 9.5 percent since 2009.[v]¶ **Lower natural gas prices are** bringing industry back into the United States for at least two reasons. First, lower natural gas prices reduce energy costs for large industrial users and increase their competitiveness with the rest of the world. Second, chemical companies use natural gas as a feedstock to make petrochemicals, compounds including plastics and fertilizer. Huntsman Corporation, the world’s largest maker of textile dyes, plans to expand chemical production in the United States and may relocate capacity from other countries to take advantage of the low domestic natural gas prices. Dow Chemical Company and Methanex Corporation are also expanding U.S. production due to low natural gas prices. Dow plans to spend $4 billion to increase production of chemicals such as ethylene and propylene in Texas and Louisiana and Methanex plans to move a Chilean methanol plant to Louisiana.[vi]¶ Natural Gas Prices¶ While many companies plan to use more natural gas in the future, consumption is lagging natural gas production. The production increases along with a mild winter has left the United States with more natural gas than it can consume, filling up storage facilities. Natural gas supplies are 61 percent higher than the five-year average. At the end of winter, there is usually about 1.5 trillion cubic feet of gas in storage, but this year, there is 2.5 trillion cubic feet in storage because less was withdrawn for heating due to the mild weather. Storage facilities (underground salt caverns and depleted oil and gas fields) are now at 57.8 percent of capacity with expectations that they will fill by the end of October. The peak storage capacity level historically (98.7 percent) was hit for a short period of time in 2009 before winter usage drew down supplies.[vii]¶ The abundance of domestic natural gas supplies has pushed down the futures price of natural gas by 59 percent since it peaked last summer at $4.85 per thousand cubic feet. Recently, the natural gas futures price dipped below $2 per thousand cubic feet. The last time it went below $2 was January 28, 2002, when it hit $1.91. [viii]¶ Source: Wall Street Journal, April 10, 2012, above.¶

#### **Manufacturing is the basis of economic growth and competitiveness---massive multiplier effects---key to US tech innovation and primacy**

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 betweeninnovation 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

#### The US is key to the global economy

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IN THE aftermath of the G-20 summit, most observers seem to have missed perhaps the most crucial statement of the entire event, made by United States President Barack Obama at his pre-conference meeting with British Prime Minister Gordon Brown: 'The world has become accustomed to the US being a voracious consumer market, **the engine that drives a lot of economic growth worldwide**,' he said. 'If there is going to be renewed growth, it just can't be the US as the engine.' ¶ While superficially sensible, this view is deeply problematic. To begin with, it ignores the fact that the global economy has in fact been 'America-centred' for more than 60 years. **Countries** - China, Japan, Canada, Brazil, Korea, Mexico and so on - **either sell to the US or they sell to countries that sell to the US.** To put it simply, Mr Obama doesn't seem to understand that there is no other engine for the world economy - and hasn't been for the last six decades. **If the US does not drive global economic growth, growth is not going to happen**. Thus, US policies to deal with the current crisis are critical not just domestically, but also to the entire world. ¶ This system has generally been advantageous for all concerned. America gained certain historically unprecedented benefits, but the system also enabled participating countries - first in Western Europe and Japan, and later, many in the Third World - to achieve undreamt-of prosperity. ¶ At the same time, this deep inter-connection between the US and the rest of the world also explains how the collapse of a relatively small sector of the US economy - 'sub-prime' housing, logarithmically exponentialised by Wall Street's ingenious chicanery - has cascaded into the worst global economic crisis since the Great Depression.

#### Economic decline leads to global nuclear war

Green and Schrage 9 – Senior Advisor and Japan Chair @ CSIS and Associate Professor @ Georgetown University AND CSIS School Chair in International Business and Former Senior Official with the US Trade Representative’s Office (Michael J. and Steven P., “It’s not just the economy,” State Department and Ways & Means Committee, Asia Times, 3/26, <http://www.atimes.com/atimes/asian_economy/kc26dk01.html>)

Facing the worst economic crisis since the Great Depression, analysts at the World Bank and the US Central Intelligence Agency are just beginning to contemplate the ramifications for international stability if there is not a recovery in the next year. For the most part, the focus has been on fragile states such as some in Eastern Europe.¶ However, the Great Depression taught us that a downward global economic spiral can even have jarring impacts on great powers. It is no mere coincidence that the last great global economic downturn was followed by the most destructive war in human history. ¶ In the 1930s, economic desperation helped fuel autocratic regimes and protectionism in a downward economic-security death spiral that engulfed the world in conflict. This spiral was aided by the preoccupation of the United States and other leading nations with economic troubles at home and insufficient attention to working with other powers to maintain stability abroad. Today's challenges are different, yet 1933's London Economic Conference, which failed to stop the drift toward deeper depression and world war, should be a cautionary tale for leaders heading to next month's London Group of 20 (G-20) meeting. ¶ There is no question the US must urgently act to address banking issues and to restart its economy. But the lessons of the past suggest that we will also have to keep an eye on those fragile threads in the international system that could begin to unravel if the financial crisis is not reversed early in the Barack Obama administration and realize that economics and security are intertwined in most of the critical challenges we face.¶ A disillusioned rising power? Four areas in Asia merit particular attention, although so far the current financial crisis has not changed Asia's fundamental strategic picture. China is not replacing the US as regional hegemon, since the leadership in Beijing is too nervous about the political implications of the financial crisis at home to actually play a leading role in solving it internationally.¶ Predictions that the US will be brought to its knees because China is the leading holder of US debt often miss key points. China's currency controls and full employment/export-oriented growth strategy give Beijing few choices other than buying US Treasury bills or harming its own economy. Rather than creating new rules or institutions in international finance, or reorienting the Chinese economy to generate greater long-term consumer demand at home, Chinese leaders are desperately clinging to the status quo (though Beijing deserves credit for short-term efforts to stimulate economic growth).¶ The greater danger with China is not an eclipsing of US leadership, but instead the kind of shift in strategic orientation that happened to Japan after the Great Depression. Japan was arguably not a revisionist power before 1932 and sought instead to converge with the global economy through open trade and adoption of the gold standard.¶ The worldwide depression and protectionism of the 1930s devastated the newly exposed Japanese economy and contributed directly to militaristic and autarkic policies in Asia as the Japanese people reacted against what counted for globalization at the time. China today is similarly converging with the global economy, and many experts believe China needs at least 8% annual growth to sustain social stability. Realistic growth predictions for 2009 are closer to 5%.¶ Veteran China hands were watching closely when millions of migrant workers returned to work after the Lunar New Year holiday last month to find factories closed and jobs gone. There were pockets of protests, but nationwide unrest seems unlikely this year, and Chinese leaders are working around the clock to ensure that it does not happen next year either. However, the economic slowdown has only just begun and nobody is certain how it will impact the social contract in China between the ruling communist party and the 1.3 billion Chinese who have come to see President Hu Jintao's call for "harmonious society" as inextricably linked to his promise of "peaceful development".¶ If the Japanese example is any precedent, a sustained economic slowdown has the potential to open a dangerous path from economic nationalism to strategic revisionism in China too.¶ Dangerous states¶ It is noteworthy that North Korea, Myanmar and Iran have all intensified their defiance in the wake of the financial crisis, which has distracted the world's leading nations, limited their moral authority and sown potential discord. With Beijing worried about the potential impact of North Korean belligerence or instability on Chinese internal stability, and leaders in Japan and South Korea under siege in parliament because of the collapse of their stock markets, leaders in the North Korean capital of Pyongyang have grown increasingly boisterous about their country's claims to great power status as a nuclear weapons state.¶ The junta in Myanmar has chosen this moment to arrest hundreds of political dissidents and thumb its nose at fellow members of the 10-country Association of Southeast Asian Nations. Iran continues its nuclear program while exploiting differences between the US, UK and France (or the P-3 group) and China and Russia - differences that could become more pronounced if economic friction with Beijing or Russia crowds out cooperation or if Western European governments grow nervous about sanctions as a tool of policy.¶ It is possible that the economic downturn will make these dangerous states more pliable because of falling fuel prices (Iran) and greater need for foreign aid (North Korea and Myanmar), but that may depend on the extent that authoritarian leaders care about the well-being of their people or face internal political pressures linked to the economy. So far, there is little evidence to suggest either and much evidence to suggest these dangerous states see an opportunity to advance their asymmetrical advantages against the international system.¶ Challenges to the democratic model¶ The trend in East Asia has been for developing economies to steadily embrace democracy and the rule of law in order to sustain their national success. But to thrive, new democracies also have to deliver basic economic growth. The economic crisis has hit democracies hard, with Japanese Prime Minister Aso Taro's approval collapsing to single digits in the polls and South Korea's Lee Myung-bak and Taiwan's Ma Ying Jeou doing only a little better (and the collapse in Taiwan's exports - particularly to China - is sure to undermine Ma's argument that a more accommodating stance toward Beijing will bring economic benefits to Taiwan). Thailand's new coalition government has an uncertain future after two years of post-coup drift and now economic crisis.¶ The string of old and new democracies in East Asia has helped to anchor US relations with China and to maintain what former secretary of state Condoleezza Rice once called a "balance of power that favors freedom". A reversal of the democratic expansion of the past two decades would not only impact the global balance of power but also increase the potential number of failed states, with all the attendant risk they bring from harboring terrorists to incubating pandemic diseases and trafficking in persons. It would also undermine the demonstration effect of liberal norms we are urging China to embrace at home.

#### The best statistical support proves

Royal 10 – Jedediah Royal, Director of Cooperative Threat Reduction at the U.S. Department of Defense, 2010, “Economic Integration, Economic Signaling and the Problem of Economic Crises,” in Economics of War and Peace: Economic, Legal and Political Perspectives, ed. Goldsmith and Brauer, p. 213-215

Less intuitive is how periods of economic decline may increase the likelihood of external conflict. Political science literature has contributed a moderate degree of attention to the impact of economic decline and the security and defence behaviour of interdependent states. Research in this vein has been considered at systemic, dyadic and national levels. Several notable contributions follow.¶ First, on the systemic level, Pollins (2008) advances Modelski and Thompson's (1996) work on leadership cycle theory, finding that rhythms in the global economy are associated with the rise and fall of a pre-eminent power and the often bloody transition from one pre-eminent leader to the next. As such, exogenous shocks such as economic crises could usher in a redistribution of relative power (see also Gilpin. 1981) that leads to uncertainty about power balances, increasing the risk of miscalculation (Feaver, 1995). Alternatively, even a relatively certain redistribution of power could lead to a permissive environment for conflict as a rising power may seek to challenge a declining power (Werner. 1999). Separately, Pollins (1996) also shows that global economic cycles combined with parallel leadership cycles impact the likelihood of conflict among major, medium and small powers, although he suggests that the causes and connections between global economic conditions and security conditions remain unknown.¶ Second, on a dyadic level, Copeland's (1996, 2000) theory of trade expectations suggests that 'future expectation of trade' is a significant variable in understanding economic conditions and security behaviour of states. He argues that interdependent states are likely to gain pacific benefits from trade so long as they have an optimistic view of future trade relations. However, if the expectations of future trade decline, particularly for difficult to replace items such as energy resources, the likelihood for conflict increases, as states will be inclined to use force to gain access to those resources. Crises could potentially be the trigger for decreased trade expectations either on its own or because it triggers protectionist moves by interdependent states.4¶ Third, others have considered the link between economic decline and external armed conflict at a national level. Blomberg and Hess (2002) find a strong correlation between internal conflict and external conflict, particularly during periods of economic downturn. They write:¶ The linkages between internal and external conflict and prosperity are strong and mutually reinforcing. Economic conflict tends to spawn internal conflict, which in turn returns the favour. Moreover, the presence of a **recession tends to** amplify the extent **to which international and external conflicts** self-**reinforce each other**. (Blomberg & Hess, 2002. p. 89)¶ Economic decline has also been linked with an increase in the likelihood of terrorism (Blomberg, Hess, & Weerapana, 2004), which has the capacity to spill across borders and lead to external tensions.¶ Furthermore, crises generally reduce the popularity of a sitting government. “Diversionary theory" suggests that, when facing unpopularity arising from economic decline, sitting governments have increased incentives to fabricate external military conflicts to create a 'rally around the flag' effect. Wang (1996), DeRouen (1995). and Blomberg, Hess, and Thacker (2006) find supporting evidence showing that economic decline and use of force are at least indirectly correlated. Gelpi (1997), Miller (1999), and Kisangani and Pickering (2009) suggest that the tendency towards diversionary tactics are greater for democratic states than autocratic states, due to the fact that democratic leaders are generally more susceptible to being removed from office due to lack of domestic support. DeRouen (2000) has provided evidence showing that periods of weak economic performance in the United States, and thus weak Presidential popularity, are statistically linked to an increase in the use of force.¶ In summary, recent economic scholarship positively correlates economic integration with an increase in the frequency of economic crises, whereas political science scholarship links economic decline with external conflict at systemic, dyadic and **national levels.**5 This implied connection between integration, crises and armed conflict has not featured prominently in the economic-security debate and deserves more attention.¶ This observation is not contradictory to other perspectives that link economic interdependence with a decrease in the likelihood of external conflict, such as those mentioned in the first paragraph of this chapter. Those studies tend to focus on dyadic interdependence instead of global interdependence and do not specifically consider the occurrence of and conditions created by economic crises. As such, the view presented here should be considered ancillary to those views.

#### 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---key to primacy

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 heg

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.

#### Extinction

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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 will cause the US to 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

#### Decline of US manufacturing triggers unchecked Chinese rise and South China Sea conflict

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The ruthless mercantilism practiced by the CCP is thus a form of economic warfare. China's rulers seek to move as much of the world's manufacturing base to their country as possible, thus increasing the PRC's ''comprehensive national strength'' at the same time that **it undermines U.S. national security by hollowing out America's industrial base** in general and key defense-related sectors of the economy in particular. China will not lightly abandon this policy, which strengthens China as it weakens the U.S., and is an integral part of China's drive for Hegemony.¶ CHINA IS ACQUIRING THE MEANS TO PROJECT FORCE FAR BEYOND TAIWAN.¶ Many of China's military modernization efforts—supersonic anti-ship cruise missiles, stealthy submarines, theater based missiles with terminal guidance systems—are aimed specifically at U.S. forces and bases. By is acquiring weapons designed to exploit U.S. vulnerabilities, the PRC is clearly preparing for a contest with the United States.¶ Beijing is interested in deterring, delaying, or complicating U.S. assistance to Taiwan in the event of an invasion, so as to force a quick capitulation by the democratically elected Taiwan government. But while the near-term focus is Taiwan, many of China's new lethal capabilities are applicable to a wide range of potential operations beyond the Taiwan Strait. As the 2005 Report to Congress of the USCC report notes, ''China is in the midst of an extensive force modernization program aimed at increasing its force projection capabilities and confronting U.S. and allied forces in the region.''(see footnote 20)¶ The rapid growth in China's military power not only threatens Taiwan—and by implication the U.S.—but U.S. allies throughout the Asian Pacific region. China possesses regional, even global ambitions, and is building a first-rate military to realize those ambitions. It is naive to view the PRC's military build-up as ''merely'' part of the preparations for an invasion of Taiwan in which American military assets in the Asian-Pacific will have to be neutralized.¶ China's construction of naval bases in the Indian Ocean, and its aggressive pursuit of territorial claims in the East and South China Seas point to its wider ambitions.¶ Finally, even a cursory reading of China's 2004 Defense White Paper suggests that it views U.S. power and military presence throughout the world with a jaundiced eye, and that it seeks to become, over the mid-term, the dominant power in Asia. This goal necessarily brings it into **potential conflict with the U.S**. and its allies, chiefly Japan.¶ CHINA IS PURSUING TERRITORIAL CLAIMS OTHER THAN TAIWAN.¶ Additional evidence that China's territorial ambitions go well beyond Taiwan comes from its aggressive pursuit of territorial claims in the East China and South China seas.(see footnote 21)¶ Since the early 1970s, Beijing has claimed the Japanese-controlled Senkaku Islands (or Tiaoyutai in Chinese) and the continental shelf that extends into Japanese territorial waters. China's increasingly aggressive intrusions into Japanese airspace and Japanese territorial waters has raise d eyebrows in Tokyo and Washington. In November 2004, for example, the Japanese navy chased a Han-class nuclear submarine away from the waters off Okinawa.¶ China also orchestrated the removal of U.S. logistics forces from the Central Asian republics, demonstrating that its commitment to fighting terrorism was less important that its desire to reduce U.S. influence and presence in the region.

#### **Unchecked Chinese rise causes great power nuclear war**

Walton 7 – C. Dale Walton, Lecturer in International Relations and Strategic Studies at the University of Reading, 2007, Geopolitics and the Great Powers in the 21st Century, p. 49

Obviously, it is of vital importance to the United States that the PRC does not become the hegemon of Eastern Eurasia. As noted above, however, regardless of what Washington does, China's success in such an endeavor is not as easily attainable as pessimists might assume. The PRC appears to be on track to be a very great power indeed, but geopolitical conditions are not favorable for any Chinese effort to establish sole hegemony; a robust multipolar system should suffice to keep China in check, even with only minimal American intervention in local squabbles. The more worrisome danger is that Beijing will cooperate with a great power partner, establishing a very muscular axis. Such an entity would present a critical danger to the balance of power, thus both necessitating very **active American intervention** in Eastern Eurasia and **creating the** underlying **conditions for a massive**, and probably **nuclear, great power war**. Absent such a "super-threat," however, the demands on American leaders will be far more subtle: creating the conditions for Washington's gentle decline from playing the role of unipolar quasi-hegemon to being "merely" the greatest of the world's powers, while aiding in the creation of a healthy multipolar system that is not marked by close great power alliances.

#### South China Sea conflict goes nuclear

Wittner 11 (Lawrence S. Wittner, Emeritus Professor of History at the State University of New York/Albany, Wittner is the author of eight books, the editor or co-editor of another four, and the author of over 250 published articles and book reviews. From 1984 to 1987, he edited Peace & Change, a journal of peace research., 11/28/2011, "Is a Nuclear War With China Possible?", [www.huntingtonnews.net/14446](http://www.huntingtonnews.net/14446))

While nuclear weapons exist, there remains a danger that they will be used. After all, for centuries national conflicts have led to wars, with nations employing their deadliest weapons. The current deterioration of U.S. relations with China might end up providing us with yet another example of this phenomenon. The gathering tension between the United States and China is clear enough. Disturbed by China’s growing economic and military strength, the U.S. government recently challenged China’s claims in the South China Sea, increased the U.S. military presence in Australia, and deepened U.S. military ties with other nations in the Pacific region. According to Secretary of State Hillary Clinton, the United States was “asserting our own position as a Pacific power.” But need this lead to nuclear war? Not necessarily. And yet, there are signs that it could. After all, both the United States and China possess large numbers of nuclear weapons. The U.S. government threatened to attack China with nuclear weapons during the Korean War and, later, during the conflict over the future of China’s offshore islands, Quemoy and Matsu. In the midst of the latter confrontation, President Dwight Eisenhower declared publicly, and chillingly, that U.S. nuclear weapons would “be used just exactly as you would use a bullet or anything else.” Of course, China didn’t have nuclear weapons then. Now that it does, perhaps the behavior of national leaders will be more temperate. But the loose nuclear threats of U.S. and Soviet government officials during the Cold War, when both nations had vast nuclear arsenals, should convince us that, even as the military ante is raised, nuclear saber-rattling persists. Some pundits argue that nuclear weapons prevent wars between nuclear-armed nations; and, admittedly, there haven’t been very many—at least not yet. But the Kargil War of 1999, between nuclear-armed India and nuclear-armed Pakistan, should convince us that such wars can occur. Indeed, in that case, the conflict almost slipped into a nuclear war. Pakistan’s foreign secretary threatened that, if the war escalated, his country felt free to use “any weapon” in its arsenal. During the conflict, Pakistan did move nuclear weapons toward its border, while India, it is claimed, readied its own nuclear missiles for an attack on Pakistan. At the least, though, don’t nuclear weapons deter a nuclear attack? Do they? Obviously, NATO leaders didn’t feel deterred, for, throughout the Cold War, NATO’s strategy was to respond to a Soviet conventional military attack on Western Europe by launching a Western nuclear attack on the nuclear-armed Soviet Union. Furthermore, if U.S. government officials really believed that nuclear deterrence worked, they would not have resorted to championing “Star Wars” and its modern variant, national missile defense. Why are these vastly expensive—and probably unworkable—military defense systems needed if other nuclear powers are deterred from attacking by U.S. nuclear might? Of course, the bottom line for those Americans convinced that nuclear weapons safeguard them from a Chinese nuclear attack might be that the U.S. nuclear arsenal is far greater than its Chinese counterpart. Today, it is estimated that the U.S. government possesses over five thousand nuclear warheads, while the Chinese government has a total inventory of roughly three hundred. Moreover, only about forty of these Chinese nuclear weapons can reach the United States. Surely the United States would “win” any nuclear war with China. But what would that “victory” entail? A nuclear attack by China would immediately slaughter at least 10 million Americans in a great storm of blast and fire, while leaving many more dying horribly of sickness and radiation poisoning. The Chinese death toll in a nuclear war would be far higher. Both nations would be reduced to smoldering, radioactive wastelands. Also, radioactive debris sent aloft by the nuclear explosions would blot out the sun and bring on a “nuclear winter” around the globe—destroying agriculture, creating worldwide famine, and generating chaos and destruction. Moreover, in another decade the extent of this catastrophe would be far worse. The Chinese government is currently expanding its nuclear arsenal, and by the year 2020 it is expected to more than double its number of nuclear weapons that can hit the United States. The U.S. government, in turn, has plans to spend hundreds of billions of dollars “modernizing” its nuclear weapons and nuclear production facilities over the next decade. To avert the enormous disaster of a U.S.-China nuclear war, there are two obvious actions that can be taken. The first is to get rid of nuclear weapons, as the nuclear powers have agreed to do but thus far have resisted doing. The second, conducted while the nuclear disarmament process is occurring, is to improve U.S.-China relations. If the American and Chinese people are interested in ensuring their survival and that of the world, they should be working to encourage these policies.

### Advantage 2 is Energy Leverage

#### **There’s a large natural gas supply now and production is high**

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

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

#### **Scenario 1 is Russia**

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

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

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

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

#### The plan solves for Russian gas leverage – displaces gas from the US market and encourages European development

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

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

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

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

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

#### Russian aggression causes nuclear war

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

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

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

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

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

#### Scenario 2 is Iran

#### US gas supply is preventing Iranian gas leverage now – it’s key to international cooperation to curb Iranian influence and solve a nuclear Iran through sanctions

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

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

#### Iranian influence causes nuclear war

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

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

#### International cooperation on sanctions is key to preventing nuclearization – it’s effective now

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

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

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

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

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

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

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

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

### 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.

### Solvency

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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