## 1ac plz don’t read ahead yall

### Adv 1

#### Advantage one – Economy

#### Decline causes nuclear war

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

Increased Potential for Global Conflict

Of course, the report encompasses more than economics and indeed believes the future is likely to be the result of a number of intersecting and interlocking forces. With so many possible permutations of outcomes, each with ample opportunity for unintended consequences, there is a growing sense of insecurity. Even so, history may be more instructive than ever. While we continue to believe that the Great Depression is not likely to be repeated, the lessons to be drawn from that period include the harmful effects on fledgling democracies and multiethnic societies (think Central Europe in 1920s and 1930s) and on the sustainability of multilateral institutions (think League of Nations in the same period). There is no reason to think that this would not be true in the twenty-first as much as in the twentieth century. For that reason, the ways in which the potential for greater conflict could grow would seem to be even more apt in a constantly **volatile** economic **environment** as they would be if change would be steadier.

In surveying those risks, the report stressed the likelihood that terrorism and nonproliferation will remain priorities even as resource issues move up on the international agenda. Terrorism’s appeal will decline if economic growth continues in the Middle East and youth unemployment is reduced. For those terrorist groups that remain active in 2025, however, the diffusion of technologies and scientific knowledge will place some of the world’s most dangerous capabilities within their reach. Terrorist groups in 2025 will likely be a combination of descendants of long established groups inheriting organizational structures, command and control processes, and training procedures necessary to conduct sophisticated attacks and newly emergent collections of the angry and disenfranchised that become self-radicalized, particularly in the absence of economic outlets that would become narrower in an economic downturn.

The most dangerous casualty of any economically-induced drawdown of U.S. military presence would almost certainly be the Middle East. Although Iran’s acquisition of nuclear weapons is not inevitable, worries about a nuclear-armed Iran could lead states in the region to develop new security arrangements with external powers, acquire additional weapons, and consider pursuing their own nuclear ambitions. It is not clear that the type of stable deterrent relationship that existed between the great powers for most of the Cold War would emerge naturally in the Middle East with a nuclear Iran. Episodes of low intensity conflict and terrorism taking place under a nuclear umbrella could lead to an unintended escalation and broader conflict if clear red lines between those states involved are not well established. The close proximity of potential nuclear rivals combined with underdeveloped surveillance capabilities and mobile dual-capable Iranian missile systems also will produce inherent difficulties in achieving reliable indications and warning of an impending nuclear attack. The lack of strategic depth in neighboring states like Israel, short warning and missile flight times, and uncertainty of Iranian intentions may place more focus on preemption rather than defense, potentially leading to escalating crises.

Types of conflict that the world continues to experience, such as over resources, could reemerge, particularly if protectionism grows and there is a resort to neo-mercantilist practices. Perceptions of renewed energy scarcity will drive countries to take actions to assure their future access to energy supplies. In the worst case, this could result in interstate conflicts if government leaders deem assured access to energy resources, for example, to be essential for maintaining domestic stability and the survival of their regime. Even actions short of war, however, will have important geopolitical implications. Maritime security concerns are providing a rationale for naval buildups and modernization efforts, such as China’s and India’s development of blue water naval capabilities. If the fiscal stimulus focus for these countries indeed turns inward, one of the most obvious funding targets may be military. Buildup of regional naval capabilities could lead to increased tensions, rivalries, and counterbalancing moves, but it also will create opportunities for multinational cooperation in protecting critical sea lanes. With water also becoming scarcer in Asia and the Middle East, cooperation to manage changing water resources is likely to be increasingly difficult both within and between states in a more dog-eat-dog world.

#### Goes global – strong studies

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. 213-214

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.

#### Status quo natural gas is economically unsustainable – new tech and supply key

Cobb, 13 [January 14th, Kurt Cobb is a founding member of the Association for the Study of Peak Oil and Gas—USA, and he serves on the board of the Arthur Morgan Institute. Natural gas, oil prices: why the long-term forecasts are wrong

<http://www.csmonitor.com/Environment/Energy-Voices/2013/0114/Natural-gas-oil-prices-why-the-long-term-forecasts-are-wrong>]

Here's the short version of why forecasts of **low long-term** oil and natural gas prices **are almost certainly wrong**: It costs more than that to get the stuff out of the ground. Only two things could actually lead to low long-term prices: 1) Somebody could invent and deploy some genuinely brand new technology that makes it really cheap once again to get oil and gas out of the ground or 2) we could have a deep and grinding deflationary depression that brings demand for oil and natural gas down so much that prices collapse. The people who are predicting [$50](http://www.cnbc.com/id/100325210/Energy_Bulls_Bewaremdash50_Oil_Ahead), now [$45 oil](http://www.econmatters.com/2012/12/the-new-era-of-oil-renaissance.html), and [$3](http://www.eia.gov/forecasts/aeo/er/early_prices.cfm), now [$2 natural gas](http://www.econmatters.com/2012/12/the-new-era-of-oil-renaissance.html) (in the [United States](http://www.csmonitor.com/tags/topic/United+States)) for as far as the eye can see believe that such prices will result from the already widespread application of current technology. And yet, the very companies that use that technology to extract these hydrocarbons say that there's no way they can produce them profitably at those prices. [ExxonMobil's CEO said last year, "We are losing our shirts" selling natural gas at such low prices.](http://online.wsj.com/article/SB10001424052702303561504577492501026260464.html) Forecasts for much lower oil prices would also represent losses on new wells for most oil producers. Here's why: The full cost of producing new oil for the 50 largest publicly traded oil companies in the world is [$92 a barrel according to Bernstein Research.](http://www.reuters.com/article/2012/09/11/oil-bernstein-idUSL5E8KB7DL20120911) While average costs are lower because they include previously discovered conventional oil which is cheaper and easier to produce, the Bernstein report challenges the notion that new technologies will lead to cheaper oil. Those technologies including hydraulic fracturing will make it possible to extract previously uneconomic oil resources--but only at very high and rising costs. In fact, the cost of producing the marginal new barrel of oil has been rising at 14 percent per year since 2001, Bernstein says. Finding, developing and producing new oil isn't getting cheaper; it's getting much more expensive. So while oil prices could fall below the cost of producing new barrels for a while, they simply could not stay there unless the world were to become content with ever shrinking supplies of oil. No company will continue to drill for oil when each new well loses money. RECOMMENDED: [Cheapest way to heat your home? Four fuels compared.](http://www.csmonitor.com/Environment/2012/1207/Cheapest-way-to-heat-your-home-Four-fuels-compared/Heating-oil-2-526?nav=612931-csm_blog_post-promoLink) So given that the world will probably continue to seek expanded supplies of oil, prices in the long run below $92 a barrel seem implausible. And, that floor is likely to rise as the oil resources that companies are now forced to pursue become costlier and more difficult to extract. We've already extracted the easy-to-get oil in the first 150 years of the oil age; now comes the hard stuff. The same logic applies to natural gas. The bulk of new U.S. supplies are coming from [so-called shale gas deposits](http://www.eia.gov/analysis/studies/usshalegas/images/shalemap-lg.png). Looking at the actual data, petroleum consultants [Art Berman and Lynn Pittinger found that industry claims of profitability of shale gas production at $4 per thousand cubic feet were based on excluding important costs such as land acquisition](http://www.theoildrum.com/node/8212). Once all the costs are figured in, Berman and Pittinger found that costs for gas wells drilled in the [Fayetteville Shale](http://en.wikipedia.org/wiki/Fayetteville_Shale), the [Haynesville Shale](http://en.wikipedia.org/wiki/Haynesville_Shale), and the [Barnett Shale](http://en.wikipedia.org/wiki/Barnett_Shale) were $8.31, $8.68 and $8.75, respectively. If land acquisition is excluded and only drilling, completion and other variable costs are included, the cost falls to $5.06, $5.63, and $6.80, respectively. Even these lower costs are still far above what some forecasts say will be the long-term U.S. price of natural gas. But, **natural gas drillers will not drill wells indefinitely that lose money.** All of this flies in the face of the current popular meme that the United States and perhaps even the world will enjoy both cheap and plentiful supplies of oil and natural gas for the foreseeable future (whenever that is). Keep in mind that the costs cited above **include the use of the latest technology.** That tells us that depletion is long since winning the contest with technology. Yes, technology has helped to mitigate the damage that constrained energy supplies are inflicting on the world economy. Without it, matters would be much worse. But it is clear now that technology will no longer be able to overcome the fact that we as a species have used up the easy-to-extract hydrocarbons. We are now faced with exploiting ever leaner resources with diminishing returns on ever higher investments. In fact, record investment in finding and developing new oil resources has only just kept the rate of worldwide oil production [on a choppy plateau since 2005](http://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=5&pid=57&aid=1&cid=ww,&syid=2005&eyid=2011&unit=TBPD).

#### Domestic production industry key to growth

Carey, 12/13/12 [Julie M, Julie M. Carey is an energy economist with Navigant Economics who provides consulting and testifying services Navigant’s unconventional oil and gas offerings include advisory services for strategic business decision analysis, construction risk management, economic and antitrust analyses, investment banking and restructuring advisory services, and expert services for disputes and investigations, “How Unconventional Oil And Gas Is Supercharging The U.S. Economy”, http://www.forbes.com/sites/energysource/2012/12/13/how-unconventional-oil-and-gas-is-transforming-the-u-s-economy/]

It’s an exciting time to be in the energy industry in America. The impact of unconventional oil and gas development on the U.S. economy is considerable, with potentially hundreds of billions of dollars in investments, millions of new jobs, and a renaissance of American ingenuity and innovation. In thinking about what is to come, looking back five years helps set the stage. January 2008: The energy sector was facing the great recession, high current and future expected natural gas prices, and job losses to China. There was **a generally poor outlook for the energy industry** and the economy. Few could have predicted the changes that were to come. Unforeseen happenings include the North Dakota oil rush, liquefied natural gas facilities being used as export facilities (instead of as import facilities as originally planned), railroads hauling crude oil, and jobs coming back from China. And, this is just the beginning. The commencement of the crude oil and natural gas revolution can be boiled down to one simple equation: [Surprise Side Effect Of Shale Gas Boom: A Plunge In U.S. Greenhouse Gas Emissions](http://www.forbes.com/sites/energysource/2012/12/07/surprise-side-effect-of-shale-gas-boom-a-plunge-in-u-s-greenhouse-gas-emissions/) Forbes Staff Contributor Abundant resources + cost effective extraction = high production levels of unconventional oil and gas. The net effect is a reshaping of the U.S. energy industry and our economy. Additionally, the country’s increased reliance on natural gas (displacing coal) has already benefited the environment, and will continue to do so in the future. Carbon emissions hit a 20-year low (in the first quarter 2012 according to EIA) and some industry observers believe that the U.S. could meet the Kyoto agreement standards by 2020 (even though the U.S. did not sign it). The emergence of unconventional oil and gas will have tremendous impacts on both the energy industry and the economy. The outlook for unconventional gas is exceptionally bright—with expectations for relatively low future natural gas prices, enough supply to meet domestic needs, and surplus enough to export to other countries. While the unconventional oil story continues to unfold and evolve, an abundance of domestic crude oil is expected. And, thus, an opportunity to not only significantly reduce the country’s dependence on oil imports, but to also increase energy security. Currently, crude oil prices are out of balance as new supply regions are isolated, making it difficult to get crude oil to market. That is expected to change once the necessary infrastructure is built to handle the new-found supply. As a result of these infrastructure needs, and the tremendous opportunities associated with unconventional oil and gas, U.S. economic activity is rising. Rising levels of economic activity can be divided into three distinct but overlapping waves of capital investment. The first wave of capital investment targets new and expanding oil and gas production areas. Sustained investment in the upstream sector – including wellheads, drilling and production – will be required to keep pace with increases in demand for the foreseeable future. The second wave of investment will focus on infrastructure to address new supply locations, delivering the product to market, and capitalizing on the near term opportunities arising from lower energy costs. Billions of dollars of investments specifically targeting capital projects in this wave are being announced weekly. Substantial investment in crude oil, natural gas and natural gas liquids pipelines will be required in order to build, expand, and reverse pipelines to address the new supply source locations. Natural gas processing plants that separate natural gas liquids (NGL) from natural gas will be required to address the growing production levels and new supply regions. In addition, LNG facilities will begin to export natural gas, and there is a potential opportunity for natural gas-to-diesel plants. In addition to these traditional areas of investment, creative market solutions are also emerging, such as rail transportation of crude oil. While railroads may serve primarily as a near to mid-term solution in the wake of long-lead time pipeline solutions, they are nimble competitors with small capital requirements that can be quickly deployed to utilize the country’s far-reaching rail networks. With only a few years needed to recover capital costs on investment, the competitive landscape changes and rail transportation rates could be reduced after pipelines enter the market to keep railroads competitive and still profitable. These factors suggest that railroads could be in the crude oil transportation business for the long haul. During this second wave, **there will be a** manufacturing resurgence, in part because of lower expected energy costs. Other macroeconomic factors will also be at work—including relative improvement in U.S. labor rates as labor markets tighten in China and other countries. Petrochemical plants will become cost effective competitors in the worldwide market and will be a significant component of the manufacturing investment story. Manufacturing facilities will be built to manufacture pipes, drill bits, valves and other required infrastructure materials. In addition, other manufacturing plants will likely be built solely as a play on the expectation of relatively low energy costs into the future. Such suspects could include those whose energy costs are large portion of production costs: semiconductors, plastics, and LCD televisions. The trend includes linking production and energy resources in an efficient manner, and moving production closer to market demand in order to minimize transportation related costs. The last wave of investment – which won’t begin to heat up for a few years – focuses on the consumers segment. In this wave, additional natural gas-fired power plants will be built to replace retiring coal plants and meet future increases in demand. Of course, new gas fired power plants will initially be built in regions with less excess capacity (post coal plant retirement). Another impact of U.S. unconventional oil and gas development will be increased in electricity demand (occurring more dramatically in various localized pockets), directly resulting from investment in waves one and two. New production areas and locations for processing and manufacturing plants will observe higher load growth. For example, localized areas within the Bakken region expect energy demand to double in the next five years. As a result of very specific changes to the economic activity and corresponding energy consumption levels, a more granular analyses will be required than is previously provided by traditional load forecasting methods. This third wave will also see a significant number of new heavy-duty natural gas vehicles, including bus and truck fleets. Greater reliance on natural gas-fueled light duty vehicles is possible but will require more time due to greater infrastructure requirements and technological innovation. Other creative opportunities being explored include natural gas pumps (hooked up to the home) to fuel natural gas vehicles, and light duty vehicles relying on fuel cells (which manufacturers hope to begin building by 2015). While it’s not currently clear who the winners will be, it’s safe to say that positive market forces and ample opportunity will lead to innovative solutions. The near-term outlook for total capital investment (from primarily first and second wave projects) is immense. The table below provides a snapshot analysis of the short term outlook (through 2020) for domestic (lower 48 state) based capital investment. These estimates are conservative and based largely on publicly reported company business plans. For example, Table 1 includes only a portion of expected U.S. LNG projects going forward, as compared to the full list of DOE applications. The estimate also excludes the massive $65 billion proposed Alaska pipeline/export facility project and third wave investments targeting natural gas fired power plants and natural gas vehicles. Even with just a portion of total investment included, the conservative estimate of short term investment reaches more than $300 billion. **Estimate of U.S. Unconventional Oil and Gas Capital Expenditures and Job Creation**  **(Through 2020)** These investments have a huge economic impact on the U.S. economy—impacting jobs, economic growth and energy security. Some studies indicate that the U.S. has avoided retreating into an economic recession as a result of activity in the unconventional oil and gas sector. Production areas for unconventional oil and gas have observed very low unemployment and stronger GDP and tax revenues as compared to the rest of the U.S. As a result of the significant near term investments associated with unconventional oil and gas, it’s possible that up to 3.5 million jobs will be created from the infrastructure build out and related opportunities (including both direct and indirect jobs).

#### The plan solves – balances gas gaps that tank the economy

Bennett et al, 09 [East Carolina State University Grad Students, Reviewed by Dr. Lauriston King, PHDhttp://www.ecu.edu/org/tcs/Docs/CRM61002009.pdf]

2.3 Economic Perspectives Understanding the economic impact of methane hydrate involves understanding a wide range of variables. Give n the discussion of environmenta l issues that might pertain to the use of methane hydrate as a fuel, negativ e externalities such as seafloor instability will need to be included in cost benefit an alyses. Additionally, positive externalities such as the possible end of U.S. foreign dependence on oil will need to be accounted for. The net social cost or benefit of the use of methane hydrate will need to be used to augment the supply and demand curves for economic analys is. If there is net social cost a tax on suppliers of methane hydrate would help suppl iers internalize the negative externalities and produce at the socially optimum level. If th ere is a net social benefit then a subsidy, as was done with ethanol, might serve to induce the socially optimum outcome (Mankiw 2008). In addition to externalities, chemical processes such as the disassociation rate of methane hydrate and the effects of global warmi ng need to be included into cost benefit analyses. Additionally, the cost of each t ype of technology used to extract methane hydrate needs to be examined and the amount of usable methane hydrate captured - 16 - considered. While the disassociat ion rates and costs of techno logy can be studied to yield an estimate for a cost benefit analysis, variables such as environmental degradation may be harder to estimate and various surveys might be useful. Also, a discount rate should be utilized in the analys is to examine the costs and benef its over the long run. It is also important to note that the market price of substitutes, such as natural gas, will affect the competitiveness of methane hydrate (Bade & Parkin 2009). It is important to understand the possible impacts of methane hydrates on the U.S. economy, given $500 billion of the U.S. economy is spent on energy or fuel. The U.S. is expected to increase its consumption of en ergy by more than 30 percent by 2020 (DOE 1998). The increase in the number of natural gas consumers is indicative of the increase in the demand for energy (Figure 6).The risi ng demand for crude oil is a serious energy problem and the Energy Information Administ ration (EIA) (1998) projects that domestic oil demand will increase by more than 35 pe rcent by 2020. However, decline is projected for U.S. oil production, from 6.5 million barrels per day in 1996 to 4.9 million barrels per day in 2020 (DOE 1998). This decline is ev ident by the downward trend in U.S. field production of crude oil present since the mid-1980s (Figure 7). Many analysts believe that although global energy demand will continue to rise, worldwide production will eventually peak, setting the stage for energy price increases and possible supply disruptions (DOE 1998). In deed, energy price in creases are occurring as is shown by the upward trends in the pr ice paid per million BTU (Figure 8). Also, projections from the EIA **show** a gas gap (Fi gure 9) developing **where the increase in demand has outpaced the production** of conventional and unconventional gasoline sources (2002). Methane hydrate may be a possi ble way to bridge the gap, but in order - 17 - for methane hydrate to be competitive against substitutes, such as natural gas, it needs to be at a similar price level per BTU as othe r energy sources. The prices of different energy sources according to the National Propane Gas Association (NPGA (2007) are listed in Table 1. This suggests that the market price of me thane hydrate would need to be between $12.18/ million BTU, to compete with natural gas, to $31.21/million BTU, to compete with electricity. The NPGA neglects to include ethanol in its repres entative energy costs probably because ethanol and biomass only a ccount for 3.3 percent of the U.S. energy use (EIA, 2009). However, in order to comp ete against U.S. produced ethanol, another emerging technology, methane hydrate would need to be between $12.20, to compete against ethanol produced form wet milling corn, and $41.23, to compete against ethanol produced from raw sugar. This range of prices was estimated using the costs of ethanol per gallon for different production technol ogies provided by USDA (2006) and the BTU per gallon of ethanol. Examining the energy potential of natural gas, propane, and methane hydrate in terms of BTU per cubic f oot, **methane** **hydrate** clearly **contains more BTU** per cubic foot than the other two energy sources (Cogeneration 1999) (Table 2). Given this data, methane hydrate has approxi mately 178 times more BTU per cubic foot than natural gas. One can than deduce that methane hydrate is competitive at a price level that is approximately 178 times greater than the current market price of natural gas. The EIA reports that the price of natural gas was $13.68 per thousand cubic feet in 2008, meaning methane hydrate would be competitive w ith natural gas at a price approximately equal to $2,435.04 per thousand cubic feet. However, the price of na tural gas is on the rise, and even if methane hydrate is not co mpetitive at today’s price it may become - 18 - competitive over time (EIA 2009) (Figure 10). In addition to rising prices being faced by consumers, natural gas producers are facing increasing costs (Figure 11). Natural gas producers are also facing diminishing marginal returns as the depth of the footage drilled increases but the return in terms of production has leveled off (EIA 2009) (Figure 12). In order to produce methane hydrate at a competitive price, it is necessary to **utilize the most economically feasible method of dissociating hydrates** from existing hydrate reserves. In additi on to understanding the appropriate method for producing methane hydrate, it is important to identify which locations are most likely to yield economically attractive production. In a pr eliminary assessment, Milkov and Sassen (2003) examined seven locations in the Gulf of Mexico (Figure 13) and ranked their economic feasibility. In their study, they de termined that location MC -852/853 in Mississippi Canyon was most likely to be ec onomically feasible. Milkov and Sassen determined that large structural gas hydr ate accumulations are more likely to yield economical production than smaller reserves of methane hydrate. They also determined other important variables such as: developm ent and production costs, water depth, and infrastructure (Table 3). A summary of thei r findings shows the characteristics important to economic feasibility and each of the seve n locations economic potential rank (2003). According to the general system of cl assifying energy rese rves as outlined by Rogner (1997) (Figure 14), a resource is only a reserve when it able to be exploited at economic levels and it might be premature to label methane hydrates as reserves given the uncertainty in their geological and ec onomic assurance. These sentiments were echoed by Chairwoman Barbara Cubin who stat ed, “gas hydrates are merely resources, not reserves, because their exploitation is sub-economic at this time” (AGI 2000). It is - 19 - important to note that Chairwoman Barbra Cubin included a time frame reference in her statement as the production of methane hydrate may become economical in the near future (Figure 15) given the possible effect s of changes in technology as was outlined by Rogner (1997). However, the classification of methane hydrate needs further work, as revealed by the speculative nature of the ec onomic feasibly of methane hydrates. (Milkov & Sassen 2002) (Figure 16).

#### Hydrates are viable – commercial tech development key

Morel, 06 [Near Term Energy Potential Realization of Domestic Methane Hydrate Deposits: The Need for Funding and Industry Participation Liz Morel 2006 WISE Intern The University of Kansas August 3, 2006, Sponsored by The American Institute of Chemical Engineers, <http://www.wise-intern.org/journal/2006/Morel-AIChE.pdf>]

3.0 The Importance of Methane Hydrates The US must have energy resources that have secure supply volumes and prices because energy is essential to daily lives and is a driving force behind the US economy. As both US natural gas supplies dwindle to record lows and prices soar at record highs, the U.S. government has to respond with legislation that alleviates the costs to both resident ial and industrial c onsumers. Energy security, therefore, has become a significant issue as US natural gas imports rise to attempt to keep pace with US demand. Policy to encourage energy security attempts to mitigat e the risk of being dependent on fuel sources from remote and unstable regions of the world. Since significant deposits are located domestically, **funding of research and development** for methane hydrates has the potential give the US additional needed energy independence. 3.1 Energy Potential If commercially produced, methane hydr ates may increase energy security because of the volume and location of meth ane hydrate deposits. The volume of domestic methane hydrate **is a about 20,000 times larger than that of conventional gas reserves in the US**. Th is statistic, however, is misleading because, unlike the estimation of the conv entional natural gas reserve, it does not factor in how much of the methane hydr ate deposit is technically recoverable. This is an example of why making an accurate assessment of the domestic methane hydrate deposits is important. Domestic methane hydrate reserves have a mean estimated value of 320,222 tr illion cubic feet and be located under existing drilling and transportation infrastructure 7 in on- and off- shore in Alaska, Washington, Oregon, California, New Jersey, North Carolina, South Carolina (the Outer Continental Shelf (OCS )), and in the Gulf of Mexico (GOM), as shown in Figure 3. 8 Before hydrate will be produced, however, an accurate economic and geologic assessment is necessary. This requires advanced technologies specialized for methane hydr ate detection/production. The Energy Information Administration (E IA), in their Annual Energy Outlook Report, predict a positive correlation between increased in vestment in technology development and increased domestic production. Figur e 3 shows this correlation. If technology was developed and appropriate deposits were located so that only 1% of the domestic gas hydrate reserv es could be technically and economically produced, **the US natural gas reserves would more than double**. This large volume of natural gas would not only increase supply, it would increase a reliable supply of a fuel, cleaner than the dominant domestic fuel source 2 , and therefore increase our energy independence. Maintaining hope that methane hydrate may be a viable source of energy for the US is **not** pie in the sky optimism for two reasons. First, other non-conventional sources of natural gas have become economically viable. For example, coalbed methane (CBM), a relatively unheard of source about 20 years ago, now makes up about 10% of domestic production. CBM research began in the DOE and was originally funded by the government. As the technology developed and demonstration projects were performed, **industry became** **more involved** and took over the project. Second, not only are non-conventi onal sources economical and significant, but the EIA predicts that natural gas from non- conventional sources will increase by about 4 trillion cubic feet by 2030. Past experience and future government projections indicate that there is a high potential for success, but the barriers to methane hydrate energy potential realization may remain too strong for goals to be realized if appropriate support and legislative action are not enacted by Congress and other advisory committees.

### Adv 2

#### Advantage Two – Methane

#### Hydrate blowouts inevitable now – the impact is extinction – only drilling solves

Light,12 [Malcolm P.R. Light, Center for Polar Observation and Modeling, University of London, polar climate modeling and methane hydrates in the permafrost and submarine Arctic, “Charting Mankind’s Arctic Methane Emission Exponential Expressway to Total Extinction in the Next 50 Years,” Arctic News, August 10, 2012]

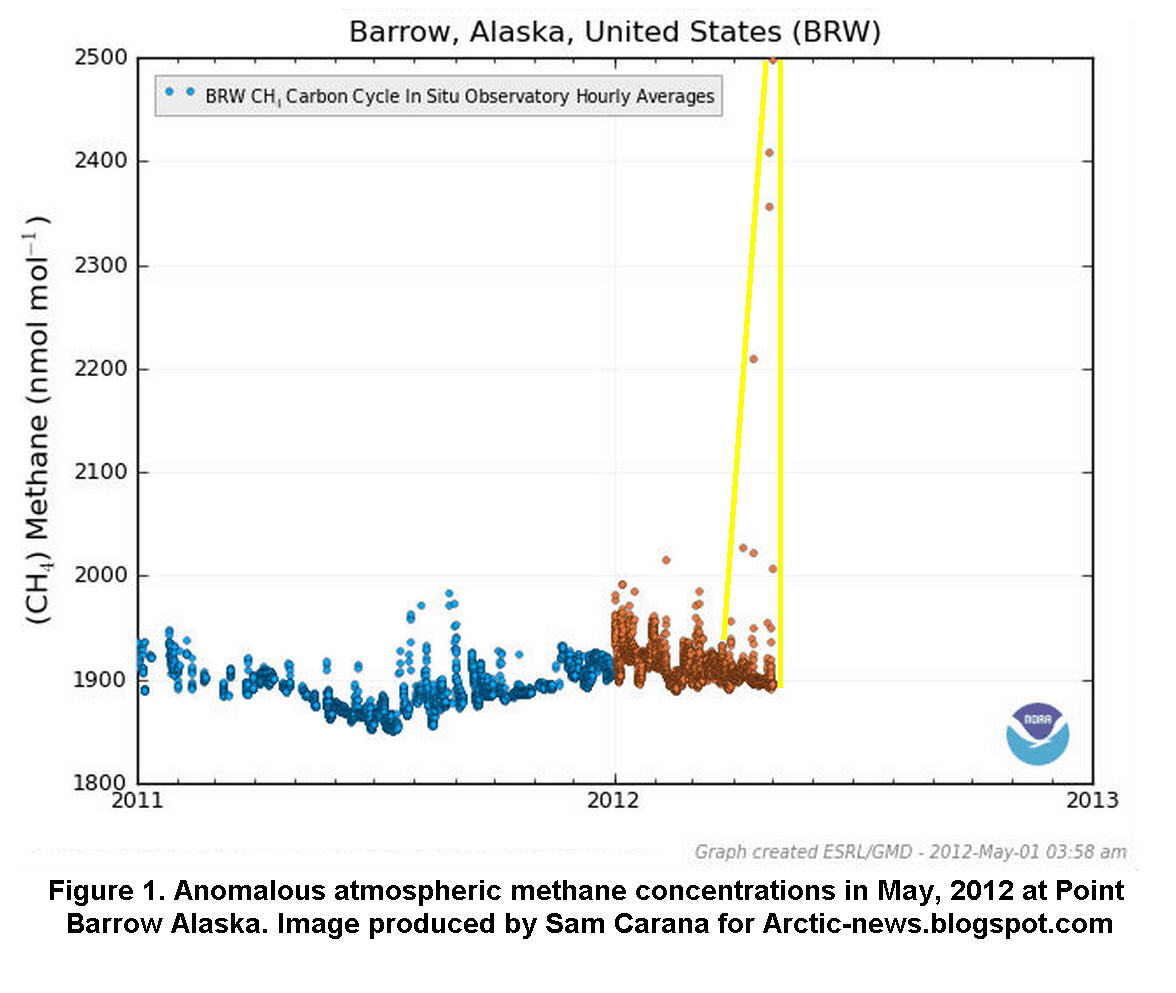
If left alone the subsea Arctic methane hydrates will explosively destabilize on their own due to global warming and produce a massive Arctic wide methane “blowout” that will lead to humanity’s total extinction, probably before the middle of this century (Light 2012 a, b and c). AIRS atmospheric methane concentration data between 2008 and 2012 (Yurganov 2012) show that the Arctic has already entered the early stages of a subsea methane “blowout” so we need to step in as soon as we can (e.g. 2015) to prevent it escalating any further (Light 2012c). The Arctic Natural Gas Extraction, Liquefaction & Sales (ANGELS) Proposal aims to reduce the threat of large, abrupt releases of methane in the Arctic, **by extracting methane from** Arctic methane **hydrates prone to destabilization** (Light, 2012c). After the Arctic sea ice has gone (probably around 2015) we propose that a large consortium of oil and gas companies/governments set up drilling platforms near the regions of maximum subsea methane emissions and drill a whole series of shallow directional production drill holes into the subsea sub permafrost “free methane” reservoir in order to **depressurize it in a controlled manner** (Light 2012c). This methane will be produced to the surface, liquefied, stored and transported on LNG tankers as a “green energy” source to all nations, totally replacing oil and coal as the major energy source (Light 2012c). The subsea methane reserves are so large that they can supply the entire earth’s energy needs for several hundreds of years (Light 2012c). By sufficiently depressurizing the Arctic subsea sub permafrost methane it will be possible to draw down Arctic ocean water through the old eruption sites and fracture systems and destabilize the methane hydrates in a controlled way thus shutting down the entire Arctic **subsea** methane blowout (Light 2012c).

#### Every relevant assessment concurs—Alaska is key—we have graphs

Light, 12 [Malcolm P.R. Light, Center for Polar Observation and Modeling, University of London, polar climate modeling and methane hydrates in the permafrost and submarine Arctic, “Charting Mankind’s Arctic Methane Emission Exponential Expressway to Total Extinction in the Next 50 Years,” Arctic News, August 10, 2012]

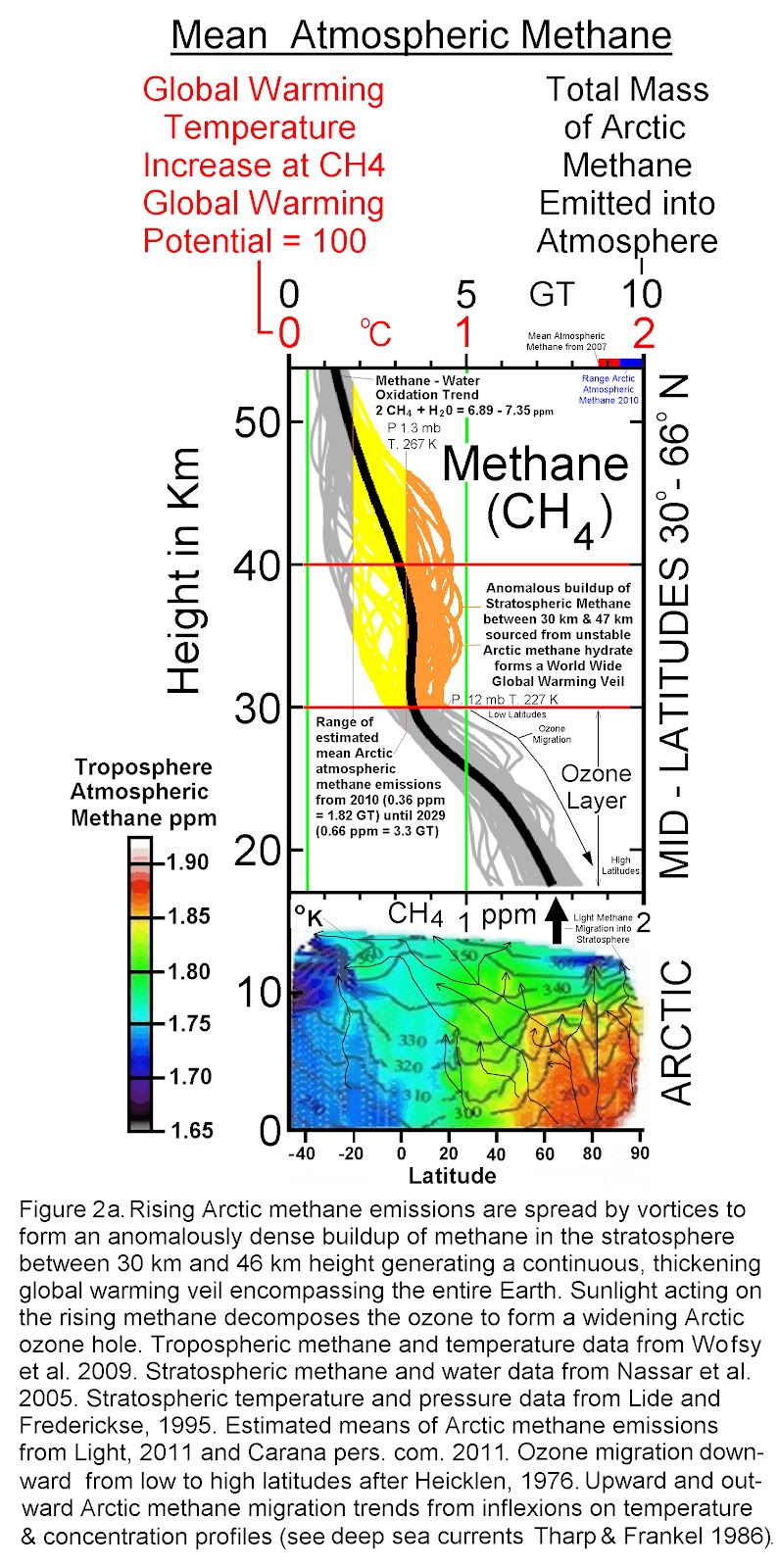
The exponential increase in the Arctic atmospheric methane derived from the destabilization of the subsea Arctic methane hydrates is defined by both the exponential decrease in the volume of Arctic sea ice due to global warming and the exponential decrease in the continent wide reflectivity (albedo) of the Greenland ice cap caused by increasing rates of surface melting which reach minima around 2014, 2015. The high anomalous atmospheric methane contents recorded this year at Barrow Point Alaska (up to 2500 ppb - Carana 2012b) and the fact that the surface atmospheric methane contents may be linked via a stable partial pressure gradient with increased maximum methane contents in the world encompassing global warming veil (estimated at ca 1460 ppb methane) makes it imperative that the Merlin lidar satellite be launched as soon as is feasibly possible. The Merlin lidar satellite will give us a clear idea of how high the Earth’s stratospheric methane concentrations are in this poorly documented giant methane reservoir formed above the ozone layer at 30 km to 50 km altitude (Ehret, 2010). Methane detecting Lidar instruments could also be installed immediately on the International Space Station to give early warning of the methane buildup in the stratosphere and act as a back up in case the Merlin satellite fails. Unless immediate and concerted action is taken by governments and oil companies to depressurize the Arctic subsea methane reserves by extracting the methane, liquefying it and selling it as a green house gas energy source, rising sea levels will breach the Thames Barrier by 2029 flooding London. The base of the Washington Monument (D.C.) will be inundated by 2031. Total global deglaciation will finally cause the sea level to rise up the lower 35% of the Washington Monument by 2051 (68.3 m or 224 feet above present sea level).

Figure 1

[](http://3.bp.blogspot.com/-IamKZArPXCE/UCek5oBD4-I/AAAAAAAADog/xPDN6tJreA0/s1600/FIGURE1.JPG)

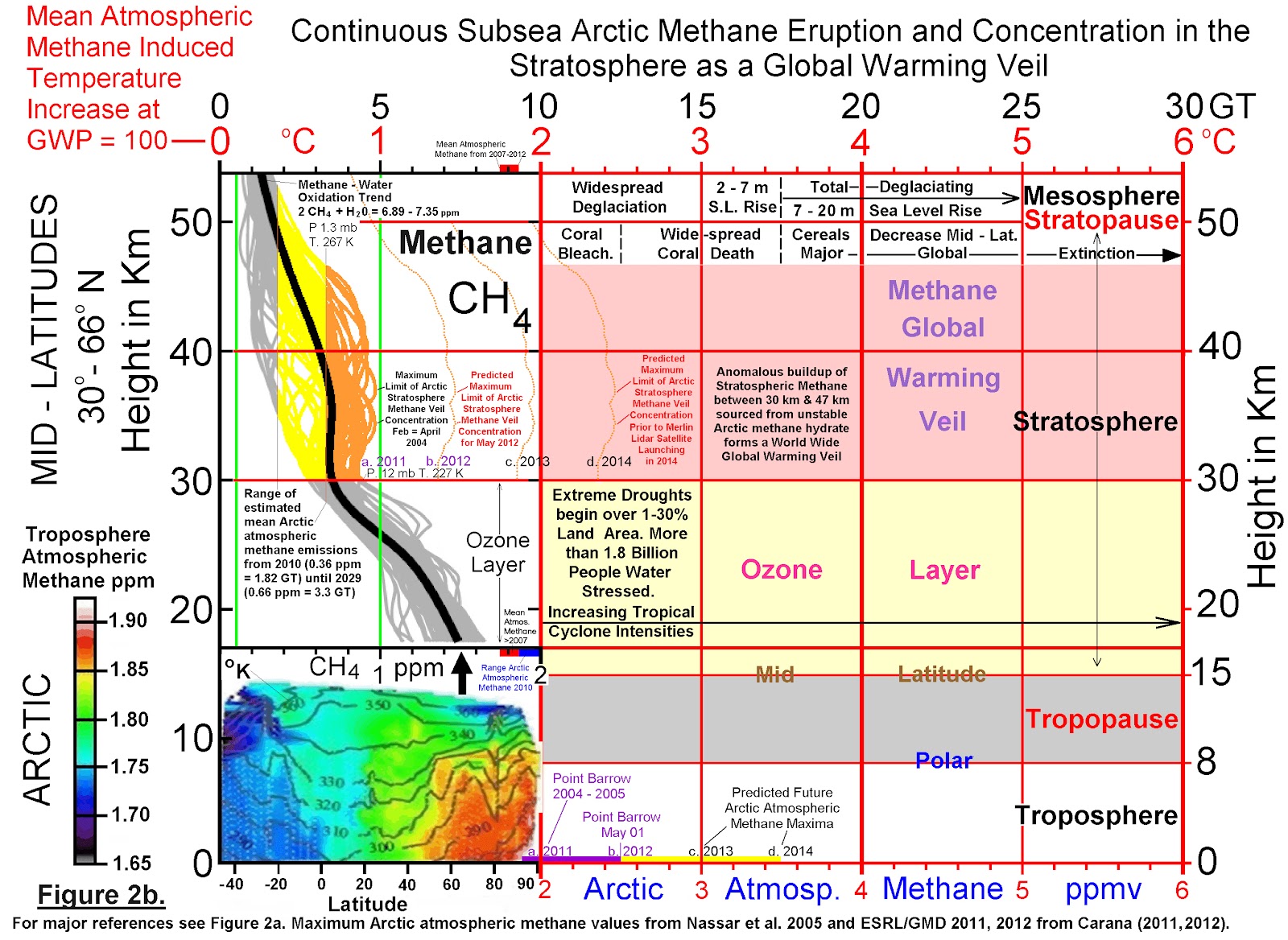
Introduction Recent atmospheric methane observations (May 01, 2012) at Barrow Point Alaska show extreme methane concentrations as high as 2500 ppb (2.5 ppm Methane, Figure 1)(Generated by ESRL/GMD May 01, 2012 from Carana, 2012b). The present atmospheric methane concentration at Point Barrow exceeds all previous measurements in the Arctic and if it represented the mean atmospheric concentration after an extended period of subsea Arctic methane emission (10 to 20 years) at a methane global warming potential (GWP) of 100 (Dessus et al. 2008) it would be equal to a 2.5 degrees C mean global temperature increase and a methane-carbon output of some 6 Gt. This would be equivalent to adding and extra 250 ppm of carbon dioxide to the atmosphere or about 2/3 of the present carbon dioxide content.

Figure 2

[](http://3.bp.blogspot.com/-HaPE6kdnJLE/UCel4GwdZlI/AAAAAAAADoo/ArPs47y2SCQ/s1600/FIGURE2A.JPG)

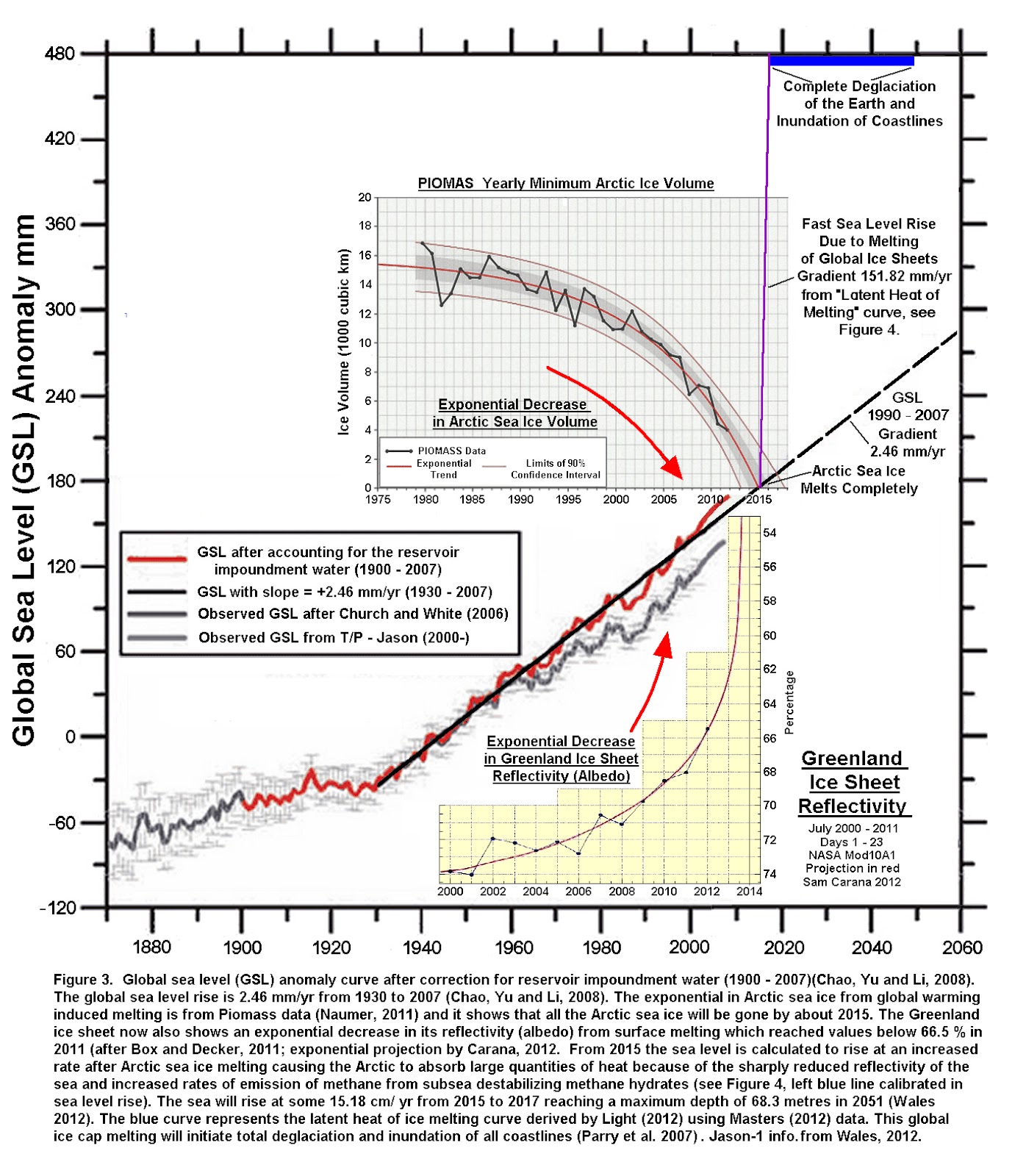
The rising light Arctic methane migration routes have been interpreted on the Hippo profile in Figure 2a (from Wofsy et al. et al. 2009) using the inflexion points on the temperature and methane concentration profiles similar to the system used to identify deep oceanic current trends **using salinity and temperature data** (Tharp and Frankel, 1986). The light Arctic methane is rising almost vertically up to the stratosphere between 60o North and the North Pole. This is consistent with the methane rising in the same way as hydrogen with respect to the cold dry polar air because it has almost half the density of air at STP(Engineering Toolbox, 2011) (methane in wet air may be transported horizontally by storm systems). In addition because methane has a global warming potential of close to 100 during the first 15 to 20 years of its life (Dessus et al. 2001) it will preferentially warm up and expand compared to the other atmospheric gases and thus drop even further in density making it much lighter than the air. This methane rises into the upper stratosphere where it is trapped below the hydrogen against which it has an upper diffuse boundary as shown by the fall off in methane concentration between 40 km and 50 km altitude (Figure 2a after Nassar et al. 2005). It is clear from the flattening of the methane concentration trend in the stratosphere between 30 km and 47 km (Nassar et al. 2005) that this probably represents an expanding, world encompassing methane global warming veil (Figure 2a after Nassar et al. 2005). This stratospheric methane is above the ozone layer and it appears entirely stable between 30 km and 40 km where it shows little change (Figure 2a after Nassar et al. 2005). It is therefore very likely that the methane global warming veil will form a giant reservoir for quickly rising low density methane emitted into the dry Arctic atmosphere by progressive destabilization of subsea Arctic methane hydrates (Light, 2011, 2012) combined with smaller amounts of methane formed by methanogenesis (Allen and Allen, 1990; Lopatin 1971). Much of the dry, light methane is able to bypass the ozone layer unimpeded in a tropospheric - stratospheric circulation system to be discussed later. There is a transition zone from about 60o to 65o North where the methane begins to spiral outwards from the Arctic region towards the mid latitudes and upwards towards the stratosphere to reach the base of the ozone layer where it is being mixed into the stratosphere by giant vortices active at different times (Light 2012; NSIDC 2011a). The continuous vertical motion of the methane in the Arctic region as it rises to the stratosphere between 60o to 65o North which has a lateral motion impressed on it at lower latitudes must set up a methane partial pressure - concentration gradient between the Arctic surface atmospheric methane emissions and the stratospheric methane global warming veil. Therefore any marked increase in the surface methane concentration and partial pressure should be marked by similar increases in the upper stratosphere within the methane global warming veil. A further consequence of the light methane rising like hydrogen into the upper stratosphere where it forms a stable zone beneath the hydrogen between 30 km and 50 km height, is that this methane is never recorded in the mean global warming gas measurements made at Mauna Loa. We therefore have a completely separate high reservoir for methane, which at the moment we only have vague information on and it may contain sufficient methane gas to multiply the Mauna Loa readings by a considerable amount.

Figure 3

[](http://3.bp.blogspot.com/-VJkjqP6y12Y/UCen9Lh6T-I/AAAAAAAADow/tYQntiLtLjA/s1600/FIGURE2B.JPG)

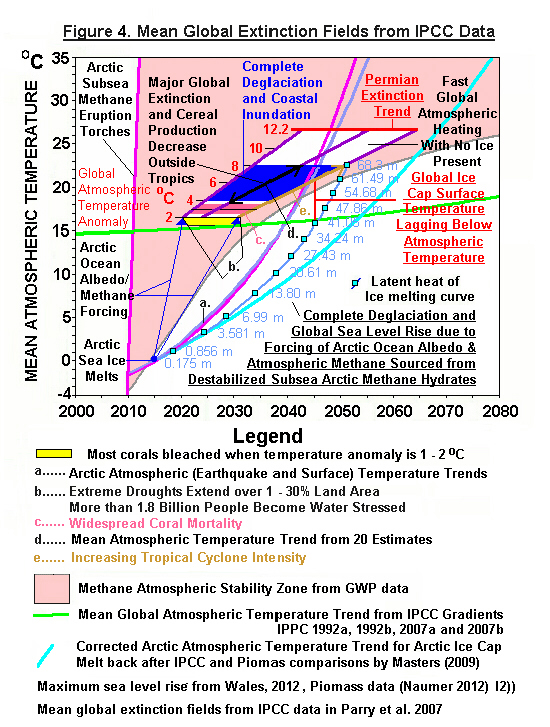
Graphic Display of The Effects of the Methane Warming Veil Figure 2b is a graphic display of the atmosphere from 0 to 55 km altitude versus increasing Arctic atmospheric methane concentration reaching up to 6000 ppb (6 ppmv methane). The troposphere, tropopause, stratosphere, stratopause, mesosphere, and ozone layer are from Heicklen, 1976. The various events related to global warming (droughts, water stress, coral bleaching and death, deglaciation, sea level rise and major global extinction) are from Parry et al. 2007. Figure 2b has been designed to graphically portray the growth of the subsea Arctic atmospheric methane as new observations become available and how this build up strengthens the methane concentration in the stratosphere where it forms a world encompassing methane global warming veil at an altitude of 30 km to 47 km. Figure 2b will be used to progressively chart mankind's Arctic methane emission, exponential expressway to extinction within the next half century. As the light-rising Arctic methane is spread around the world by the Arctic stratospheric vortex system (NSIDC 2011a), it can be expected to lead to more ozone and water vapor in the stratosphere, both of which will add to the greenhouse effect and thus cause temperatures to increase globally. In the Arctic, where there is very little water vapour in the atmosphere, the ozone layer may well be further depleted, because the rising methane behaves like a chloro-fluoro-hydrocarbon (CFC) under the action of sunlight increasing the damaging effects of ultraviolet radiation on the Earth’s surface (Engineering Toolbox, 2011; Anitei, 2007). Large abrupt releases of methane in the Arctic lead to high local concentrations of methane in the atmosphere and hydroxyl depletion, making that methane will persist longer at its highest warming potential, i.e. of over 100 times that of carbon dioxide. (Carana, 2011a). The presence of a large hole in the Arctic ozone layer in 2011 is most likely a result of this same process of ozone depletion caused by a buildup of greenhouse gases from the massive upward transfer of methane from the Arctic emission zones through the lower stratosphere up into the stratospheric veil between 30 km and 47 km height (Science Daily, 2011). Anomalous Arctic Atmospheric Methane Concentrations The extremely high content of atmospheric methane measured in May 2012 at Barrow Point Alaska (2500 ppb) represents a very dangerous turn of events in the Arctic and further substantiates the claim that the whole Arctic has now become a latent subsea methane hydrate sourced blowout zone which will require immediate remedial action if there is any faint hope of containing the now fast increasing (exponential!) rates of methane eruptions into the atmosphere (Light 2012c - Angels proposal; see end of this text). The exponential increase in the Arctic atmospheric methane content from the destabilization of the subsea methane hydrates is defined by the exponential decrease in the volume of Arctic sea ice caused by the resulting global warming due to the build up of the atmospheric methane (Carana, 2012d). The exponential increase in the Arctic atmospheric methane is also implied by an exponential decrease in the continent wide reflectivity (albedo) of the Greenland ice cap caused by increasing rates of surface melting (Figure 3; NASA Mod 10A1 data, from Carana, 2012c).

Figure 4

[](http://2.bp.blogspot.com/-qrOSSRscumY/UCepKMer3tI/AAAAAAAADo8/uLup_UsXsR8/s1600/FIGURE3.JPG)

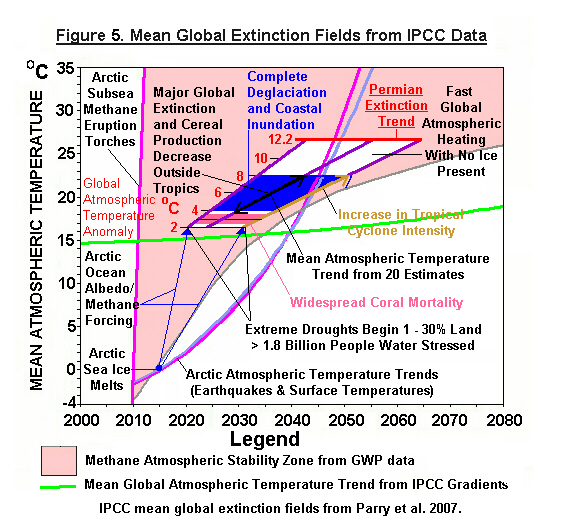
Albedo data for Greenland shows that it will become free of a continuous snow cover by about 2014, so that the underlying old ice cover which has low reflectivity will be totally exposed to the sun in the summer (Carana, 2012c). This darker material will become a major heat absorber after 2014 starting the fast melt down of the Greenland ice cap and this process will probably affect the older ice in the floating Arctic sea ice fields. The Arctic ocean will also become free of sea ice by 2015 exposing the low reflectivity ocean water directly to the sun, causing a high rate of temperature rise in Arctic waters and the consequent destabilization of shelf and slope methane hydrates releasing large volumes of methane into the atmosphere (Carana, 2012d; AIRS data Yurganov, 2012). As a consequence, the enhanced global warming will melt the global ice sheets at a fast increasing rate causing the sea level to begin rising at 15.182 cm/yr in the first few years after 2015 giving an accurate way of gauging the worldwide continental ice loss (Figure 3). This sudden increase in the rate of sea level rise will mark the last moment mankind will have to take control of the Arctic wide blowout of methane into the atmosphere and a massive effort must be made by governments and oil companies to stem the flow of the erupting subsea methane in the Arctic before this time. The loss of complete snow cover in Greenland precedes the loss of the sea ice cap in the Arctic by a year which may be due to the more extreme weather conditions that usually prevail over continents than over the sea which moderates the weather. Methane and Ozone Circulation The components of the atmosphere undergo diffusion by a number of processes. The mean speed of horizontal displacement of the stratosphere around the Earth is known to be about 120 km/hr from the Krakatoa eruption in 1883 (Heicklen, 1976). Winds also transfer material northward and southward in the stratosphere in quite a different pattern to that of the tropospheric wind flows (Heicklen, 1976). Mean wind velocities within the global methane warming veil and above it (36 km to 91 km altitude) are some 48 m/sec during the day and 56 m/sec at night (Olivier 1942, 1948). Large latitudinal variations in the atmospheric density at 100 km altitude require meridional flows of 10 to 50 m/sec (Heicklen, 1976). At subarctic latitudes at the height of the global methane warming veil (30 km to 50 km altitude) the ozone concentration lies between 1.7 to 1.9\*10^12 molecules/cc to 5.4\*10^10 molecules/cc and does not vary during the day (Heicklen, 1976). The sub-arctic ozone reaches a maximum in the lower stratosphere in winter at an altitude of 17 km to 19 km (7.7\*10^12 molecules/cc) and in summer at an altitude of 18 km to 19 km (5.1\*10^12 molecules/cc)(Heicklen, 1976). The seasonal variation of ozone in the stratosphere in Arctic latitudes is caused by a circulation transfer system which moves ozone from the upper stratosphere in equatorial and mid-latitudes to the Arctic lower stratosphere during the winter (Heicklen, 1976). The stored Arctic lower stratospheric ozone is lost in the summer by chemical dissociation when it moves downwards or by photosynthetic destruction if it moves upwards (Heicklen, 1976). The Hippo methane concentration and temperature profiles shown in Figures 2a and 2b extend from the surface to some 14.4 km altitude and from the North Pole southwards across the Equator to a latitude of -40o south (Wofsy et al. 2009). As already described the methane flow trends on Hippo methane concentration and temperature profiles have been interpreted in detail using a similar system to that used by the Meteor expedition in determining deep ocean circulation patterns from salinity and temperature data (Figure 2a - see Tharp and Frankel, 1986). Methane erupted from destabilizing methane hydrates in the subsea Arctic and of methanogenic origin has almost half the density of air at STP in dry Arctic conditions and is seen to be rising vertically to the top of the Troposphere between 70o North and the North Pole on the Hippo methane concentration profiles (Engineering Toolbox, 2011; Wofsy et al. 2009 ). On the Hippo data, at latitudes less than 70o North, the rising methane clouds are being spun out and laterally spread in the middle and upper troposphere and upper stratosphere by stratospheric vortices (NSIDC, 2011a). The methane appears to be entering the lower stratosphere in the low latitudes between 25o North and the equator which it then overlaps and is carried into the Southern Hemisphere to almost -40o South (Figure 2a)(Light 2011c). In the equatorial regions the growth of the methane global warming veil will amplify the effects of El Nino in the Pacific further enhancing its deleterious effects on the climate. As this vertically and laterally migrating methane enters the stratosphere in equatorial and mid-latitude positions it is helping to displace the equatorial and mid-latitude ozone which migrates downwards and northwards towards the north pole (Heicklen, 1976) to complete the cycle. The methane may be partly drawn up into the lower and upper stratosphere by a global pressure differential set up by the poleward and downward motion of the ozone (Heicklen, 1976) Once the methane has entered the stratosphere and has helped to displace some of the ozone, it is able to accumulate in the upper stratosphere beneath the hydrogen as a continuous stable layer between 30 and 47 km forming a world wide global warming veil (Figures 2a and 2b; Light 2011c). In the Arctic region methane has been shown to rise nearly vertically and is locally charging the global warming veil in addition to methane that has diffused from mid latitude and equatorial regions. There must therefore exist a partial pressure gradient between the Arctic surface methane anomalies and the upper stratosphere methane global warming veil such that any increase of the surface methane concentration and partial pressure should lead to a transfer of methane into the upper stratosphere and to a similar increase in the partial pressure and concentration of the methane there. The methane partial pressure gradient that exists between the anomalous Arctic ocean surface methane emissions and the stratospheric methane global warming veil at 30 km to 47 km height is partly controlled by the complex motions and reactions of the Arctic ozone layer which separates the troposphere from the upper stratosphere and shows little variation in the day or between summer and winter (Heicklen, 1976). Consequently the concentration of the methane in the upper stratospheric global warming veil should track the increase of Arctic atmospheric methane to some degree and knowledge of the latter can allow absolute maximum estimates to be made on the magnitude of the former. This will give a rough estimate of what the highest value the methane concentration is likely to reach within the global warming veil within the Arctic area. This is a worst case scenario which has to be assumed in order to prevent Murphy’s law being operative (i.e. if anything can go wrong, it will go wrong in estimating the maximum methane value). An alternative is to view this solution of the methane concentration in the global warming veil as German over-engineering in order to eliminate any possible errors in the estimate of the maximum value. My Father, a Saxon would have commended me on this approach. This is precisely what mainstream world climatologists have failed to do in their modeling of the effects of Arctic methane hydrate emissions on the mean heat balance of the atmosphere and why we are now facing such a severe climatic catastrophe from which we may very likely not escape. Let us hope and pray that the Merlin Lidar methane detection satellite does not find methane magnitudes in the Arctic global warming methane veil (30 km – 47 km altitude) at the levels predicted in this paper, when it is launched in 2014. The maximum global methane veil concentration in the mid latitudes (30o to 60o North) between 30 km and 40 km altitude was estimated by occultation at some 0.97 ppmv methane (970 ppb) between February to April, 2004 (Nassar et al. 2005). In 2004 - 2005 the Arctic atmosphere at Point Barrow, Alaska reached an anomalous maximum of some 2.014 ppmv methane (2014 ppb)(Carana, 2012e). This means that the most extreme methane concentration anomalies in the Arctic (Point Barrow) are leading the maximum concentration in the global warming methane veil by some 1.044 ppmv methane (1044 ppb). Consequently as a first rule of thumb assuming that the vertical methane partial pressure gradient has remained relatively unchanged, we can estimate the maximum methane concentration within the Arctic methane global warming veil between 30 km and 47 km height by subtracting 1.044 ppmv methane (1044 ppb) from measured surface Arctic atmospheric value at the same time. High methane concentrations of 2 ppmv (2000 ppb) were being reached in the Arctic in 2011 (position a. in Figure 2b) similar to those recorded in 2004 – 2005 at Point Barrow Alaska (Carana, 2012e). It is therefore likely that by 2011 that the maximum concentration of methane in the methane global warming veil had remained relatively unchanged since 2004. This is consistent with the start of major methane emissions in the Arctic in August 2010 as recorded at the Svalbard station and in the East Siberian Shelf in 2011 which would not have given the emitted gases sufficient time to reach the upper stratosphere(Light, 2012a, Shakova et al. 2010a, b and c). On May 01, 2012 an atmospheric methane concentration of 2.5 ppmv (2500 ppb) was recorded at Point Barrow indicating an increase in the maximum methane concentration anomaly of 0.5 ppmv methane (500 ppb) in one year (yellow spike on Figure 1; position b. in Figure 2b)(ESRL/GMO graph from Carana 2012b). We can therefore predict conservatively that the maximum concentration of the methane in the Arctic stratospheric methane global warming veil between 30 km and 47 km altitude may be as high as 1.456 ppmv methane (1456 ppb) (= 2500 -1044 ppmv) (position b. in Figure 2b)(ESRL/GMO graph from Carana 2012b). Assuming that the maximum Arctic surface atmospheric methane content continues to increase now at a rate of 0.5 ppmv (500 ppb) each year we can roughly predict that by 2013 it will have reached 3 ppmv (3000 ppb) and by 2014, 3.5 ppmv (3500 ppb) which is when the Merlin Lidar methane detection satellite will be launched (Ehret, 2010). Using the previous method of predicting the maximum likely methane content in the Arctic methane global warming veil between 30 km and 47 km altitude, the maximum for 2013 is 1.956 ppmv methane (1956 ppb)(position c. in Figure 2b) and for 2014 is 2.456 ppmv methane (2456 ppb) (position d. in Figure 2b). This means that by the time the Merlin Lidar satellite is launched the Arctic Ocean will have emited sufficient methane to have surpassed the 2oC anomaly limit. Once the entire atmospheric mean exceeds a 2oC temperature increase it will precipitate fast deglaciation, the start of widespread inundation of worldwide coastlines, extensive droughts and water stress for billions of people (Figure 2b)(after Parry et al. 2007). This high predicted concentration of methane in the Arctic methane global warming veil in 2014 is consistent with the exponentially falling albedo data for the Greenland ice cap which suggests that major melting will begin in 2014 (Carana, 2012c). The exponential reduction in volume of the Arctic sea ice to zero in 2015 (Carana, 2012d) will precipitate a massive increase in the release of Arctic subsea methane from destabilization of the methane hydrates as the dark ice free Arctic ocean absorbs large quantities of heat from the sun (Light, 2012a). MERLIN Lidar Satellite The MERLIN lidar satellite (Methane Remote Sensing Lidar Mission) , which is a joint collaboration between France and Germany will orbit the Earth at 650 km altitude and will be able to detect the methane concentration in the atmosphere from 50 km altitude to the surface of the Earth (Ehret, 2010). The Lidar methane detection instrument was jointly developed by DLR (Deutches Zentrum für Luft –und Raumfahrt), ADLARES GmBH and E. ON Ruhrgas AG (Ehret, 2010). This satellite is scheduled to be launched sometime in 2014 (Ehret, 2010) and will be the first time that real time data will be able to detect the concentration of methane within the world encompassing methane global warming veil between 30 km and 47 km altitude and give us the first detailed picture of the size of the beast we are dealing with. Previous indications of this layer in the mid latitudes was made using occultation (Nassar et al. 2005) The high anomalous atmospheric methane contents recorded this year (May 01) at Barrow Point Alaska (see Figure 2b, Carana 2012b) and the fact that they may be linked via a stable partial pressure gradient with increased maximum methane contents in the world encompassing global warming veil (estimated at ca 1456 ppb methane) makes it imperative that the Merlin lidar satellite be launched as soon as is feasibly possible so we can get a clear idea of how high the Earth’s stratospheric methane concentrations are. The Merlin satellite will continuously give us real time information on the size of the stratospheric methane global warming veil that is gathering its strength in the upper atmosphere. This information shows how extremely serious the Arctic methane emission problem is and how urgently we need to measure the status of the Arctic stratospheric methane global warming veil between 30 km and 47 km height. An early warning of high methane contents in the methane global warming veil will give humanity time to react to the existing and new threats that are developing in the Arctic. Methane detecting Lidar instruments could also be installed immediately on the International Space Station to give us early warning of the methane build up in the stratosphere and act as a back up in case the Merlin satellite fails.

Figure 5

[](http://4.bp.blogspot.com/-y1nrJKPiDTw/UCepx7ta9BI/AAAAAAAADpE/XJu1_88j9kg/s1600/FIGURE4.JPG)

Sea Level Rise The progressive rise in sea level from 2015 is shown on Figures 3, 4 and 5. Figures 4 and 5 are simplified versions of Figures 7, 8 and 9 in Light 2012a and Figures 12 and 13 in Light 2012c. The various events related to global warming (droughts, water stress, coral bleaching and death, deglaciation, sea level rise and major global extinction) are from Parry et al. 2007. At the time of total worldwide deglaciation, the sea level is estimated to rise some 68.3 metres (224 feet) (Wales, 2012) The maximum time of inundation of various coastal cities, coastlines and coastal barriers is shown on Table 1 (after Hillen et al. 2010; Hargraves, 2012). Rising sea levels will breach the Thames Barrier by 2029 flooding London. The base of the Washington Monument (D.C.) will be inundated by 2031. Total global deglaciation > will cause the sea level to rise up the lower 35% of the Washington Monument by 2051 (68.3 m or 224 feet above present sea level). Because of the massive increase in the strength of the storm systems and waves, high rise buildings in many of the coastal city centers will suffer irreparable damage and collapse so that the core zones of the cities will be represented by a massive pile of wave pulverised debris. Unfortunately by that time a large portion of **sea life will be extinct** and the city debris fields will not form a haven for coral reefs. The seas will probably still be occupied by the long lasting giant jellyfish (such as are now fished off Japan), rays and sharks (living respectively since 670, 415 and 380 million years ago) and the sea floor by coeolocanths (living since 400 million years ago)(Calder, 1984). The city rubble zones will probably be occupied by predatory fish (living since 425 million years ago)(Calder 1984). Life will also continue in the vicinity of oceanic black smokers so long as the oceans remain below boiling point.

Figure6

[](http://2.bp.blogspot.com/-GBYItPLg_CM/UCeqSD9eQkI/AAAAAAAADpM/W2ONUOD2PO8/s1600/FIGURE5.JPG)

#### It’s unique to the region—plan prevents geochemical tipping points that cause extinction—generic defense doesn’t apply

Light, 11 [Stratospheric Methane Global Warming Veil, Originally by Light, M.P.R., October 21, 2011, edited by Carana, S]

\*We don’t endorse the gendered language in this card\*\*

What does not bode well for our future survival as a species in that even by 2004, the mean stratospheric methane concentration between 30 km and 40 km altitude had already exceeded the predicted mean atmospheric 0.66 ppm atmospheric methane concentration (3.3 GT of methane emission) predicted for 2029, while the maximum stratospheric methane concentration (1 ppm atmospheric methane concentration = 5 GT of Arctic methane emission) had reached values almost 1.5 times times as high as the 2029 value by 2004 (Figure 1). The present day rate of expulsion of methane into the atmosphere from the Arctic region (1.87 to 2 ppm methane = 9.35 to 10 GT of Arctic methane expelled) is equivalent to a mean worldwide temperature rise of some 1.87 to 2°C (Light, 2011; Blasing, 2011). If this was the mean atmospheric methane concentration it would represent the final tipping point after which (hu)mankind will lose all control of the now fast accelerating and self-sustaining global warming system. As the light-rising Arctic methane is spread around the world by the Arctic stratospheric vortex system (NSIDC 2011a), it can be expected to lead to more ozone and water vapor in the stratosphere, both of which will add to the greenhouse effect and thus cause temperatures to increase globally. In the Arctic, where there is very little water vapour in the atmosphere, **the ozone layer** maywell be further depleted, because the rising methane behaves like a chloro-fluoro-hydrocarbon (CFC) under the action of sunlight increasing the damaging effects of ultraviolet radiation on the Earth’s surface (Engineering Toolbox, 2011; Anitei, 2007). **Large abrupt releases** of methane **in the Arctic lead to** high local concentrations of methane in the atmosphere and **hydroxyl depletion, making** that **methane** will **persist longer at its highest warming potential**, i.e. of over 100 times that of carbon dioxide. (Carana, S., 2011a). The presence of a large hole in the Arctic ozone layer in 2011 is most likely a result of this same process of ozone depletion caused by a buildup of greenhouse gases from the massive upward transfer of methane from the Arctic emission zones through the lower stratosphere up into the stratospheric veil between 30 km and 47 km height (Science Daily, 2011). The stratospheric methane veil between 30 km and 47 km will continue to increase in concentration and depth causing further catastrophic global warming. The combined dangers of the lack of the ozone shield (as polar ozone holes grow) and of the extremely high and rising temperatures may **lead to the widespread extinction affecting all species of life on Earth.**

#### The plan solves—drilling shuts down and reverses the danger zones—we create incentives for safe production

Light, 12 [Malcolm P.R. Light, Center for Polar Observation and Modeling, University of London, polar climate modeling and methane hydrates in the permafrost and submarine Arctic, “Charting Mankind’s Arctic Methane Emission Exponential Expressway to Total Extinction in the Next 50 Years,” Arctic News, August 10, 2012]

After 2015, when the Arctic Ocean becomes navigable (Figure 5 above, Carana 2012b) it will be possible to set up a whole series of drilling platforms adjacent to, but at least 1 km away from the high volume methane eruption zones and to directionally drill inclined wells down to **intersect the free methane** below the sealing methane hydrate permafrost cap within the underlying fault network (Figure 18 above). High volume methane extraction from below the subsea methane hydrates using directional drilling from platforms situated in the stable areas between the talik/fault zones will **reverse** the methane and seawater flow in the taliks and shut down the uncontrolled methane sea water eruptions (Figure18 above). The controlled access of globally warmed sea water drawn down through the taliks to the base of the methane hydrate - permafrost cap will gradually destabilize the underlying methane hydrate and allows complete extraction of all the gas from the methane hydrate reserve (Figure18 above). The methane extraction boreholes can be progressively opened at shallower and shallower levels as the subterranean methane hydrate decomposes allowing the complete extraction of the sub permafrost reserve (Figure18 above). The methane and seawater will be produced to the surface where the separated methane will be processed in Floating Liquefied Natural Gas (FLNG) facilities and stored in LNG tankers for sale to customers as a subsidised green alternative to coal and oil for power generation, air and ground transport, for home heating and cooking and the manufacture of hydrogen, fertilizers, fabrics, glass, steel, plastics, paint and other products. Where the trapped methane is sufficiently geopressured within the fault system network underlying the Arctic subsea permafrost and is partially dissolved in the water (Light, 1985; Tyler, Light and Ewing, 1984; Ewing, Light and Tyler, 1984) it may be possible to coproduce it with the seawater which would then be disposed of after the methane had be separated from it for storage (Jackson, Light and Ayers, 1987; Anderson et al., 1984; Randolph and Rogers, 1984; Chesney et al., 1982). Many methane eruption zones occur along the narrow fault bound channels separating the complex island archipelago of Arctic Canada (Figure 6 and 9). In these regions drilling rigs could be located on shore or offshore and drill inclined wells to intersect the free methane zones at depth beneath the methane hydrates, while the atmospheric methane clouds could be partly eliminated by using a beamed interfering radio transmission system (Lucy Project) (Light 2011a). A similar set of onshore drilling rigs could tap subpermafrost methane along the east coast of Novaya Zemlya (Figure 6 below and 9 above). Methane is a high energy fuel, with more energy than other comparable fossil fuels (Wales 2012). As a liquid natural gas it can be used for aircraft and road transport and rocket fuel and produces little pollution compared to coal, gasoline and other hydrocarbon fuels. Support should be sought from the United nations, World Bank, national governments and other interested parties for a subsidy (such as a tax rebate) of some 5% to 15% of the market price on Arctic permafrost methane and its derivatives to make it the most attractive LNG for sale compared to LNG from other sources. This will guarantee that all the Arctic gas recovered from the Arctic methane hydrate reservoirs and stockpiled, will immediately be sold to consumers and converted into safer byproducts**.** This will also act as an incentiveto oil companies to **produce** **methane** in large quantities from the Arctic methane hydrate reserves. In this way the Arctic methane hydrate reservoirs will be continuously reduced in a safe controlled way over the next 200 to 300 years supplying an abundant "Green LNG" energy source to humanity.

#### US leadership key – international safety norms

Schneider 12 [Michael, Advocacy Director, Clean Air Task Force, “Curb Methane Emissions,” National Journal, <http://energy.nationaljournal.com/2012/07/is-arctic-oil-drilling-ready-f.php?comments=expandall#comments>]

For several weeks now the public and the media have cast increasing attention on Arctic oil and gas drilling, specifically regarding the plans of Shell to explore in the Arctic waters off the coast of Alaska. This is, pardon the pun, only the tip of the iceberg when it comes to Arctic oil and gas development. Around the Arctic, efforts are ramping up in Russia, Norway, Greenland and Canada to stake a claim to one of the last great reserves of **undiscovered** oil and **gas**. According to the United States Geological Survey, the Arctic holds one-fifth of the world’s undiscovered, recoverable oil and natural gas; 90 billion barrels of oil and 1,669 trillion cubic feet of natural gas. With Shell’s imminent entrance into Arctic waters, the debate is turning from “if we drill in the Arctic,” to “how and where we drill in the Arctic.” The discussion to date has primarily revolved around the key questions of oil spills and impacts to marine ecosystems. However, it is also critically important to remember that this debate starts and ends with climate change. The melting of the Arctic due to global warming is what set off the race for Arctic oil and gas. Now, it is incumbent upon the countries and the companies that intend to develop the Arctic to make sure that it is done in the least damaging way possible, and this includes paying very close attention to the global warming pollutants coming from the production: methane, black carbon and carbon dioxide. Pointing the way forward in a new report: ([www.catf.us/resources/publications/view/170](http://www.catf.us/resources/publications/view/170)), Clean Air Task Force has laid out the primary climate risks and mitigation strategies of drilling in the Arctic. Here is a summary of some of the key findings of that report: While oil production is the primary focus of current exploration and production activities due to high oil prices, natural gas is almost always produced along with oil, posing the problem of what to do with it. Crude oil usually contains some amount of “associated” natural gas that is dissolved in the oil or exists as a cap of free gas above the oil in the geological formation. In some cases, this represents a large volume of gas. For example, nearly 3 trillion cubic feet (Tcf) per year of gas is produced in association with oil in Alaska. The largest (but by no means only) potential source of methane pollution is from the leaks or outright venting of this “associated” natural gas. Flaring, the typical way to dispose of this “stranded” gas, is much better than venting, but it releases a tremendous amount of CO2. Worldwide, about 5 trillion cubic feet of gas is flared each year. That’s about 25 percent of the US’s annual natural gas consumption. This leads to the release of about 400 million tons of CO2 per year globally, the equivalent to the annual emissions from over 70 million cars. Black carbon is also emitted from flares, although measurements are lacking to fully understand the potential burden from flaring. What we do know is that the black carbon that flaring will release in the Arctic is particularly harmful, since it is so likely to settle out on snow or ice, where the dark pollutant rapidly warms the white frozen surface. Many technologies and best practices exist to reduce the impact of oil and gas production both to the Arctic and the global climate. If we are going to extract the oil from the Arctic, we need to do it in a way that does not exacerbate the very real problem that climate change is already posing there. In order to do so, the US must take the lead in ensuring that only the best practices are acceptable when it comes to Arctic exploration and drilling. **The technologies and practices below can dramatically reduce the emissions associated wit**h oil and **natural gas**, in some cases by almost 100%.

### Adv 3

#### Advantage Three – Diplomacy

#### Credible energy diplomacy cements cooperative norms for South China Sea conflict and Arctic ecosystems

Clinton, 12 [Energy Diplomacy in the 21st Century Remarks Hillary Rodham Clinton Secretary of State Georgetown University Washington, DC October 18, 2012. <http://www.state.gov/secretary/rm/2012/10/199330.htm>]

But let me start with the basics. Energy matters to America’s foreign policy for three fundamental reasons. First, it rests at the core ofgeopolitics, because fundamentally, energy is an issue of wealth and power, which means it can be both a source of conflict and cooperation. The United States has an interest in resolving disputes over energy, keeping energy supplies and markets stable through all manner of global crises, ensuring that countries don’t use their energy resources or proximity to shipping routes to force others to bend to their will or forgive their bad behavior, and above all, making sure that the American people’s access to energy is secure, reliable, affordable, and sustainable. Second, energy is essential to how we will power our economy and manage our environment in the 21st century. We therefore have an interest in promoting new technologies and sources of energy – especially including renewables – to reduce pollution, to diversify the global energy supply, to create jobs, and to address the very real threat of climate change. And third, energy is key to economic development and political stability. And we have an interest in helping the 1.3 billion people worldwide who don’t have access to energy. We believe the more they can access power, the better their chances of starting businesses, educating their children, increasing their incomes, joining the global economy – all of which is good for them and for us. And because corruption is often a factor in energy poverty as well as political instability, we have an interest in supporting leaders who invest their nations’ energy wealth back into their economies instead of hoarding it for themselves. So these are the issues that I want to talk with you about today. But before I do, I will quickly add that many of you, especially students of history, note that these challenges are not new. Countries have been fighting over resources for centuries. Humankind has always been on the hunt for new and better sources of energy. And yet this is a moment of profound change and one that raises complex questions about the direction we are heading. Right now, for example, in a dramatic reversal, developing countries are consuming more of the world’s energy than developed countries. China and India’s energy needs are growing rapidly along with their economies. Demand is also rising across Central Asia and South America too. There’s been a surge in the global supply of natural gas, creating new opportunities for gas producers and lessening the world’s dependence on oil. And technology has developed to the point where we can drill for oil and gas in places like the Arctic and the South China Sea, opening up new opportunities but also raising questions about our environment and catalyzing sources of tension. Now, who will benefit from these changes? Where will we get the energy to meet the world’s growing needs? How can we make sure that the institutions that kept global energy markets well supplied in the 20th century, like the International Energy Agency, which the United States helped to create after the oil crisis in the 1970s, continue to be relevant and effective in the 21st century? And then of course, there are changes here at home that affect the international energy outlook. Many Americans don’t yet realize the gains that the United States has made. Our use of renewable wind and solar power has doubled in the past four years. Our oil and natural gas production is surging. New auto standards will double how far we drive on a gallon of gas. And for the first time, we’ve introduced fuel efficiency standards for heavy trucks, vans, and buses, all of which will cut costs. That means we are less reliant on imported energy, which strengthens our global political and economic standing and the world’s energy marketplace. Now we all know that energy sparks a great deal of debate in our country, but from my vantage point as the Secretary of State, outside of the domestic debate, the important thing to keep in mind is our country is not and cannot be an island when it comes to energy markets. Oil markets are global and natural gas markets are moving in that direction, many power grids span national boundaries. Even when Americans are using oil produced entirely within the United States, the price of that oil is largely determined by the global marketplace. So protecting our own energy security calls for us to make progress at home and abroad. And that requires American leadership. One year ago this week, after a major strategic review of our nation’s diplomacy and development efforts, the State Department opened a new bureau. It’s called the Bureau of Energy Resources, and it’s led, as Dean Lancaster said, by my Special Envoy and Coordinator for International Energy Affairs, Ambassador Carlos Pascual, who is here today. The bureau is charged with leading the State Department’s diplomatic efforts on energy. And in the coming weeks, I will be sending policy guidance to every U.S. embassy worldwide, instructing them to elevate their reporting on energy issues and pursue more outreach to private sector energy partners. Now, make no mistake: In the past, the State Department obviously conducted energy-related diplomacy – sometimes a great deal of it when specific crises arose. But we did not have a team of experts dedicated full-time to thinking creatively about how we can solve challenges and seize opportunities. And now we do. That, in and of itself, is a signal of a broader commitment by the United States to lead in shaping the global energy future. And by the way, Dean Lancaster, six members of the State Department’s energy team are graduates of Georgetown University and they’re here with me today as well. So thank you, Georgetown. (Applause.) That’s a shameless pitch for the Foreign Service and the State Department. (Laughter.) Now we are working in partnership with the Department of Energy, which helps to shape domestic energy policies and works closely with energy ministries around the world. The Energy Department’s National Labs are at the cutting edge of innovation, and it has a great deal of technical expertise, which it brings to bear globally. Its work at home and abroad is critical because the stronger our domestic energy policies, and the more we advance science and deliver technical help to our partners, the better positioned we are as a government, and certainly, the role that the State Department plays to help chart a long-term path to stability, prosperity, and peace. Let me speak just briefly about the three pillars of our global energy strategy. First, regarding the geopolitics of energy, we’re focused on energy diplomacy. Now some of our energy diplomacy is related to issues in the headlines. You may have read about heated disputes over territorial claims in the South China Sea. Well, why do you think that’s happening? There are potentially significant quantities of oil and gas resources right next door to countries with fast-growing energy needs. And you can see why at times the situation is becoming quite tense. We are supporting efforts by the parties themselves to adopt a clear code of conduct to manage those potential resources without conflict. Now some of our energy diplomacy is focused on remote areas like the Arctic, a frontier of unexplored oil and gas deposits, and a potential environmental catastrophe. The melting icecaps are opening new drilling opportunities as well as new maritime routes, so it’s critical that we now act to set rules of the road to avoid conflict over those resources, and protect the Arctic’s fragile ecosystem. We’re working to strengthen the Arctic Council, which includes all eight Arctic nations, including the United States, so it can promote effective cooperation. Last summer I went up to Tromso, above the Arctic Circle, in Norway, to where the new Secretariat of the Arctic Council will be based, in order to discuss these issues, which four years ago didn’t have much currency, but today are being seen as increasingly important.

#### Security architecture for territorial disputes prevents conflict from snowballing

Chakraborty 10 Tuhin Subhro, Research Associate at Rajiv Gandhi Institute for Contemporary Studies (RGICS), his primary area of work is centered on East Asia and International Relations. His recent work includes finding an alternative to the existing security dilemma in East Asia and the Pacific and Geo Political implications of the ‘Rise of China’. Prior to joining RGICS, he was associated with the Centre for Strategic Studies and Simulation, United Service Institution of India (USI) where he examined the role of India in securing Asia Pacific. He has coordinated conferences and workshops on United Nation Peacekeeping Visions and on China’s Quest for Global Dominance. He has written commentaries on issues relating to ASEAN, Asia Pacific Security Dilemma and US China relations. He also contributed in carrying out simulation exercise on the ‘Afghanistan Scenario’ for the Foreign Service Institute (FSI). Tuhin interned at the Indian Council of World Affairs (ICWA), Sapru House, wherein he worked on the Rise of People’s Liberation Army (PLA) military budget and its impact on India. He graduated from St. Stephen’s College, Delhi and thereafter he undertook his masters in East Asian Studies from University of Delhi. His areas of interest include China, India-Japan bilateral relations, ASEAN, Asia Pacific security dynamics and Nuclear Issues, The United States Service Institution of India, 2010, “The Initiation & Outlook of ASEAN Defence Ministers Meeting (ADMM) Plus Eight”, <http://www.usiofindia.org/Article/?pub=Strategic%20Perspective&pubno=20&ano=739>

The first ASEAN Defence Ministers Meeting Plus Eight (China, India, Japan, South Korea, Australia, New Zealand, Russia and the USA) was held on the 12th of October. When this frame work of ADMM Plus Eight came into news for the first time it was seen as a development which could be the initiating step to a much needed security architecture in the Asia Pacific. Asia Pacific is fast emerging as the economic center of the world, consequently securing of vulnerable economic assets has become mandatory. The source of threat to economic assets is basically unconventional in nature like natural disasters, terrorism and maritime piracy. This coupled with the conventional security threats and flashpoints based on territorial disputes and political differences are very much a part of the region posing a major security challenge. As mentioned ADMM Plus Eight can be seen as the first initiative on such a large scale where the security concerns of the region can be discussed and areas of cooperation can be explored to keep the threats at bay. The defence ministers of the ten ASEAN nations and the eight extra regional countries (Plus Eight) during the meeting have committed to cooperation and dialogue to counter insecurity in the region. One of the major reasons for initiation of such a framework has been the new face of threat which is non-conventional and transnational which makes it very difficult for an actor to deal with it in isolation. Threats related to violent extremism, maritime security, vulnerability of SLOCs, transnational crimes have a direct and indirect bearing on the path of economic growth. Apart from this the existence of territorial disputes especially on the maritime front plus the issues related to political differences, rise of China and dispute on the Korean Peninsula has aggravated the security dilemma in the region giving rise to areas of potential conflict. This can be seen as a more of a conventional threat to the region. The question here is that how far this ADMM Plus Eight can go to address the conventional security threats or is it an initiative which would be confined to meetings and passing resolution and playing second fiddle to the ASEAN summit. It is very important to realize that when one is talking about effective security architecture for the Asia Pacific one has to talk in terms of addressing the conventional issues like the territorial and political disputes. These issues serve as bigger flashpoint which can snowball into a major conflict which has the possibility of turning into a nuclear conflict.

#### SCS conflict uniquely escalates

Rudd 2013 – Australian Minister for Foreign Affairs, former PM (1/30, Kevin, Foreign Policy, “A Maritime Balkans of the 21st Century?”, <http://www.foreignpolicy.com/articles/2013/01/30/a_maritime_balkans_of_the_21st_century_east_asia>)

These are no ordinary times in East Asia. With tensions rising from conflicting territorial claims in the East China and South China seas, the region increasingly resembles a 21st-century maritime redux of the Balkans a century ago -- a tinderbox on water. Nationalist sentiment is surging across the region, reducing the domestic political space for less confrontational approaches. Relations between China and Japan have now fallen to their lowest ebb since diplomatic normalization in 1972, significantly reducing bilateral trade and investment volumes and causing regional governments to monitor developments with growing alarm. Relations between China and Vietnam, and between China and the Philippines, have also deteriorated significantly, while key regional institutions such as the Association of Southeast Asian Nations (ASEAN) have become increasingly polarized. In security terms, the region is more brittle than at any time since the fall of Saigon in 1975.¶ In Beijing, current problems with Tokyo, Hanoi, and Manila are top of mind. They dominate both the official media and the social media, and the latter have become particularly vitriolic. They also dominate discussions between Chinese officials and foreign visitors. The relationship with Japan in particular is front and center in virtually every official conversation as Chinese interlocutors probe what they identify as a profound change in both the tenor of Japanese domestic politics and the centrality of China within the Japanese debate. Beijing does not desire armed conflict with Japan over territorial disputes, but nonetheless makes clear that it has its own red lines that cannot be crossed for its own domestic reasons, and that it is prepared for any contingency.¶ Like the Balkans a century ago, riven by overlapping alliances, loyalties, and hatreds, the strategic environment in East Asia is complex. At least six states or political entities are engaged in territorial disputes with China, three of which are close strategic partners of the United States. And there are multiple agencies involved from individual states: In China, for example, the International Crisis Group has calculated that eight different agencies are engaged in the South China Sea alone. Furthermore, these territorial claims -- and the minerals, energy, and marine resources at stake -- are vast. And while the United States remains mostly neutral, the intersection between the narrower interests of claimant states and the broader strategic competition between the United States and China is significant and not automatically containable.¶ Complicating matters, East Asia increasingly finds itself being pulled in radically different directions. On the one hand, the forces of globalization are bringing its peoples, economies, and countries closer together than at any other time in history, as reflected in intraregional trade, which is now approaching 60 percent of total East Asian trade. On the other hand, the forces of primitive, almost atavistic nationalisms are at the same time threatening to pull the region apart. As a result, the idea of armed conflict, which seems contrary to every element of rational self-interest for any nation-state enjoying the benefits of such unprecedented regional economic dynamism, has now become a terrifying, almost normal part of the regional conversation, driven by recent territorial disputes, but animated by deep-rooted cultural and historical resentments. Contemporary East Asia is a tale of these two very different worlds.¶ The most worrying fault lines run between China and Japan, and between China and Vietnam. In September 2012, the Japanese government purchased from a private owner three islands in the Senkakus, a small chain of islands claimed by both countries (the Chinese call the islands the Diaoyu). This caused China to conclude that Japan, which had exercised de facto administrative control over the islands for most of the last century, was now moving toward a more de jure exercise of sovereignty. In response, Beijing launched a series of what it called "combination punches": economic retaliation, the dispatch of Chinese maritime patrol vessels to the disputed areas, joint combat drills among the branches of its military, and widespread, occasionally violent public protests against Japanese diplomatic and commercial targets across China. As a result, Japanese exports to China contracted rapidly in the fourth quarter of 2012, and because Japan had already become China's largest trading partner, sliding exports alone are likely to be a significant contributive factor in what is projected to be a large contraction in overall Japanese economic growth in the same period.¶ In mid-December, Japan claimed that Chinese aircraft intruded over Japanese airspace above the disputed islands for the first time since 1958. After a subsequent incident, Japan dispatched eight F-15 fighter planes to the islands. While both sides have avoided deploying naval assets, there is a growing concern of creeping **militarization** as military capabilities are transferred to coast guard-type vessels.¶ While the "static" in Japanese military circles regarding China-related contingency planning has become increasingly audible, Prime Minister Shinzo Abe, who took office in mid-December, has sought to moderate his public language on China, apparently to send a diplomatic message that he wishes to restore stability to the relationship. This was reinforced by a conciliatory letter sent from Abe to Xi Jinping, China's new leader, on Jan. 25 during a visit to Beijing by the leader of New Komeito, the ruling Liberal Democratic Party's coalition partner. This has been publicly and privately welcomed in Beijing, as reflected in Xi's public remarks the following day. Beijing's position is that while it wants Japan to formally recognize the existence of a territorial dispute in order to fortify China's political and legal position on the future of the islands, it also wishes to see the Senkaku/Diaoyu dispute managed in a manner that does not threaten regional security, which would undermine the stability necessary to complete its core task of economic reform and growth.¶ There may therefore be some softening in the China-Japan relationship for the immediate period ahead. But diplomatic and strategic realities appear to remain largely unchanged. The intensity of Abe and Japanese Foreign Minister Fumio Kishida's unprecedented mid-January diplomatic offensive involving visits to seven East Asian states demonstrates that the temperature between Beijing and Tokyo remains high -- just as the late January statement from Tokyo on the establishment of a special Japanese Coast Guard force of 12 enhanced vessels and 600 servicemen specifically dedicated to the Senkaku theater underlines the nature of the challenges lying ahead. The problem is that **neither side can afford domestically to be seen as retreating** from current positions. China believes that Japan has altered the status quo; Japan believes it has no need to budge because there is no sovereignty issue in the first place. All of this means that both sides remain captive to events on the high seas and in the air -- events that could quickly spiral out of control.¶ To prevent this from happening, both sides will obviously need to maintain their public political positions for domestic reasons, while both will need gradually and reciprocally to de-escalate the deployment of maritime and air assets. This would need to be done according to a schedule negotiated by an intermediary or though their own back channels. If such back-channel negotiations are not already under way (and there is some evidence they may be), then it's in the interests of both sides to get the ball rolling. Japan should not install any equipment or station any personnel on the islands, as has been discussed from time to time in Tokyo, as this would inevitably result in further retaliatory action from Beijing, with every prospect of generating a further crisis. If these steps could be taken and the situation then stabilized, perhaps longer-term consideration could be given to inviting an appropriate international environmental agency to exercise environmental management responsibilities on and around the islands, where, by informal agreement, national vessels would not go.¶ By contrast, territorial claims in the South China Sea are even more complex. According to U.S. agencies, Chinese officials have claimed that the sea contains proven oil reserves as high as 213 billion barrels (10 times U.S. reserves, though American scientists are more skeptical) and 25 trillion cubic meters of gas reserves (roughly the total proven reserves of Qatar). The South China Sea also accounts for some 10 percent of the world's annual fisheries catch. The region is already the scene of deeply disputed exploratory activities for deep-sea energy resources. Fisheries are also already the subject of multiple physical confrontations between vessels. Furthermore, unlike the Senkaku/Diaoyu, many islands in the South China Sea are already occupied, garrisoned, and home to naval bases.¶ Six states plus Taiwan have disputed territorial claims in the area, though the largest overlap by far is between China and Vietnam. The two states have already skirmished over their conflicting claims, in 1974 and 1988; they also fought a major border war in 1979. One senior Vietnamese neatly described the Sino-Vietnamese relationship in May 2011 by saying, "The two countries are old friends and old enemies." It is also clear that the Chinese today possess considerable economic leverage over Vietnam, to the extent that one senior Vietnamese official candidly remarked recently that China could simply wreck the Vietnamese economy if it so chose. It would be wrong, however, given ancient resentments, that economic dependency would automatically constrain Vietnamese diplomatic or even military action in relation to the South China Sea.¶ The China-Vietnam relationship has soured since Chinese ships severed the seismic cables of Vietnamese exploratory vessels in May 2011 and again in December 2012. According to Reuters, Vietnam subsequently stated that as of January 2013 it would deploy civilian vessels supported by marine police to stop foreign vessels from violating its waters, while India, Vietnam's partner in some of the explorations, indicated it would consider sending naval vessels to the South China Sea to protect its interests. Meanwhile, China's Hainan province announced that starting in 2013, provincial maritime surveillance vessels would begin intercepting, searching, and repelling foreign vessels violating Chinese territorial seas, including the disputed territory. These various statements concerning new and radically conflicting procedures for the interception of foreign vessels set the stage for significant confrontation in the year ahead. Vietnam and China appear to have set themselves on a collision course, and those who monitor this relationship closely fear a repeat of those earlier armed conflicts.¶ To prevent further escalation, Beijing and Hanoi need now to step back from the edge. They should agree to prioritize development of, and agreement on, the long-awaited code of conduct between ASEAN and China on the South China Sea, including the joint development of energy projects. Both governments should identify a single project in an area where both sides claim sovereignty and begin the practical negotiation of a joint development regime. If this is too difficult, then both sides could consider the development of a joint fisheries project in a single defined area, as this would further sidestep sensitive sovereignty issues more acutely connected with resource extraction regimes. In other words, rather than wait for the conclusion of a complex diplomatic negotiation over the final text of the code of conduct, start to build trust by cooperating on a real project. If this approach succeeds with China and Vietnam, similar joint development projects could be developed with the other claimant states.¶ None of this might work. Nationalism might prevail. Policymakers could simply allow events to run their course, like they did a century ago. In his recent book, The Sleepwalkers: How Europe Went to War in 1914, historian Christopher Clark recounts how the petty nationalisms of the Balkans combusted with the great-power politics and failed statesmanship of the time to produce the industrial-scale carnage of World War I. **This was a time when economic globalization was even deeper than it is today,** and when the governments of Europe, right up until 1914, had concluded that a pan-European war was irrational and, therefore, impossible. I believe a pan-Asian war is extremely unlikely. Nonetheless, for those of us who live in this region, facing escalating confrontations in the East China and South China seas, Europe is a cautionary tale very much worthy of reflection.

#### Diversifying extraction techniques, meeting production targets, and increasing energy production investment sustain diplomacy—also solves soft power and Japan relations

McHugh, 12 [Jesse, “Energy Diplomacy to be a key feature of Obama Administration”, Liam McHugh, Research Manager Northern Australia & Energy Security Research Programme, <http://www.futuredirections.org.au/publications/energy-security/27-energy-security-swa/760-energy-diplomacy-to-be-key-feature-of-obama-administration.html>]

Building allies’ capacity, countering energy challenges and fostering economic growth will be key features in a potential second-term Democrat Presidency. In mid-October, Secretary of State, Hillary Clinton, suggested that, if successful in their re-election bid, the Obama Administration will aim to capitalise on US energy production. In reality, this will translate to increasing US soft power and changing the dynamics in strategic relationships. If successful in the November election, the **Obama** Administration **will make energy a centerpiece of** US **foreign policy**. While energy has always been central to US diplomacy, recent discoveries and technological developments have reversed Washington’s long-term vulnerability. As a result, a government led by President Obama will exploit the forecast hydrocarbon export potential as a diplomatic tool. If production targets are realised, US soft power influence may change the global dynamics, approach and commitment of Washington’s foreign policy for decades to come. In a speech at Georgetown University in Washington, Secretary of State, Hillary Clinton, detailed how America’s newly acquired energy influence would promote global opportunities. Ms Clinton’s speech was founded on three broad themes: building capacity among allies; countering challenges to Washington’s global interests; and fostering economic growth. Ms Clinton suggested the US hydrocarbon expansion had international benefits. Referring to petroleum products, the Secretary of State, argued that gas production was in danger of monopolisation. US exports of liquefied natural gas may weaken the strength of the major hydrocarbon exporters and their influence over energy-poor states. While not mentioned specifically, it is likely Ms Clinton was referring to Russia and its dominance over Europe. American natural gas could change European energy dynamics, reducing Moscow’s ability to influence policy within the continent, particularly among former Warsaw Pact states. Given the disruptions to gas flows from Russia in recent years, it is likely that Europe will welcome improved gas opportunities. While Russia will continue to provide a significant share of the continent’s gas, its influence over European policy may become increasingly marginalised During increasing rationalisation of American spending and its presence overseas, energy could prove to be an important tool in promoting US interests. Ms Clinton suggested US production would promote its role in energy dialogues. Citing the South China Sea and the Arctic, she argued that the US could work as a partner to resolve tensions. This should not be perceived as a statement of international commitment, however. Rather Ms Clinton’s speech suggests that the US will use its position to stabilise the present volatility in the energy market, moderating shocks and sensitivities. In reality, however, achievement of this aim is unlikely. While US production is forecast to be significant, the hydrocarbon sector is globalised and interdependent. Oil and gas prices and supplies will continue to fluctuate, depending on trends in the international system. Analysts have also commented that the speech suggested a shift of focus away from the Middle East. They suggest that as US energy dependence decreases, so too will the predominance of the Middle East in world affairs. Yet this hypothesis ignores basic realities. The prominence of the region in American strategic affairs is multi-dimensional. Israel and proliferation issues will remain as concerns in regional and global security, regardless of Middle Eastern production levels. Equally, looking ahead the US will remain the guarantor of the global commons, regardless of temporary budgetary constraints. Given the Middle East’s current and projected export ratios, the region will continue to be a key area of focus for any future administration. Higher US production will also stabilise energy prices, decreasing opportunities for authoritarianism in supplier states. Governance and improving democratic outcomes in developing states with newly discovered resources will be a policy priority for the Obama Administration. Accordingly, a Democrat Presidency will place a greater emphasis on the transparency of finances in supplier states. West and Central African emerging oil producers may particularly benefit from such measures, ensuring that they are not added to the list of regional states afflicted by the ‘resource curse’. Ms Clinton’s final theme, economic growth, can largely be interpreted as a run against the portrayal of the US as declining economic power. The shale boom of recent years has been a rare growth industry in the anaemic recovery of the US. The presentation of shale as proof of continued American economic power was likely intended for both the domestic and international audiences. While improved revenue and investment are vital, particularly at this stage of economic recovery, the Democrat policy lacks strategic vision. Ms Clinton failed to articulate the long-term commercial opportunities of shale. **Europe and Asia both hold significant reserves and may seek synergies with the US, particularly in the area of expertise**. For this to occur, however, the US requires a diverse repertoire of extraction techniques. The framework for this will require investment and commitment to educational and scientific infrastructure. Failure would represent a lost economic opportunity, especially among states with a natural commercial affinity for the US, such as Japan.

#### Effective diplomacy prevents extinction

Stanley 7 [Elizabeth Stanley, Ph.D. is an Assistant Professor of Security Studies in the Edmund A. Walsh School of Foreign Service and the Department of Government, 7 “International Perceptions of US Nuclear Policy” Sandia Report,<http://www.prod.sandia.gov/cgi-bin/techlib/access-control.pl/2007/070903.pdf> ]

How important is soft power, anyway? Given its vast conventional military power, does the United States even need soft power? Some analysts argue that US military predominance is both possible and desirable over the long term, and thus soft power is not important. But a growing consensus disagrees. These analysts argue that soft power is critical for four reasons. First, soft power is invaluable for keeping potential adversaries from gaining international support, for “winning the peace” in Afghanistan and Iraq, and for convincing moderates to refrain from supporting extremist terrorist groups. Second, soft power helps influence neutral and developing states to support US global leadership. Third, soft power is also important for convincing allies and partners to share the international security burden.14 Finally, and perhaps most importantly, given the increasing interdependence and globalization of the world system, soft power is critical for addressing most security threats the United States faces today. Most global security threats are impossible to be countered by a single state alone. Terrorism, weapons of mass destruction (WMD) proliferation, failed and failing states, conflicts over access to resources, are not confined to any one state. In addition, disease, demographic shifts, environmental degradation and global warming will have negative security implications as well.15 All of these potential threats share four traits: (1) they are best addressed proactively, rather than after they develop into full-blown crises; (2) they require multi-lateral approaches, often under the umbrella of an international institution; (3) they are not candidates for a quick fix, but rather require multi-year, or multi-decade solutions; and, (4) they are “wicked” problems. Given these four traits, soft power is critical for helping to secure the international, multi-lateral cooperation that will be necessary to address such threats effectively.

#### Methane key

Nye, 12 [Joseph, The Soft Power Dude, The U.S.-Japan Alliance anchoring stability in asia, <http://csis.org/files/publication/120810_Armitage_USJapanAlliance_Web.pdf>]

Methane Hydrates: A Potentially Transformational Opportunity Deserving Enhanced Energy Cooperation Another promising but more uncertain and longer-term area of bilateral cooperation is methane hydrates. Methane hydrates are natural gas crystals trapped in deeply buried ice formations. If significant economic and technological hurdles can be overcome, methane hydrate reserves would dwarf those of current conventional and unconventional gas. Methane hydrate deposits off south-central Japan are estimated at 10 years’ worth of domestic consumption of natural gas, and globally the resource has been estimated to be as high as 700,000 trillion cubic feet,5well over 100 times the current proven reserves of natural gas. Methane hydrates are distributed widely onshore and offshore, especially in polar regions and outer continental shelves.6Even if, as experts expect, only a small portion of methane hydrates could be developed, they would likely still greatly exceed estimates of current natural gas reserves. Japan and the United States cooperate closely in research and development of potential large-scale methane hydrate production. In May, a U.S.-Japan field trial on Alaska’s north slope successfully extracted methane hydrates by pumping in and sequestering CO2, demonstrating both energy supply and environmental benefits. In light of the transformational potential of eventual large-scale methane hydrate production, we recommend that the United States and Japan accelerate progress on researching and developing cost-effective and environmentally responsible production of methane hydrates. Moreover, the United States and Japan should commit to research and development of alternative energy technologies.

#### Especially for Japan—US investment is lagging

Diehl, 13 [Japan Increases Support for Science Research; US May Pull Back, <http://biotech.about.com/b/2013/01/22/japan-increases-support-for-science-research-us-may-pull-back.htm>]

After two decades of economic lethargy, the government of Japan approved a $116 billion [economic stimulus](http://news.sciencemag.org/scienceinsider/2013/01/japan-stimulus-to-boost-science.html) package that included [$11 billion](http://news.sciencemag.org/scienceinsider/2013/01/japans-stimulus-propels-science-.html) for science and technology. Approximately $3 million of this funding is dedicated to upgrade research infrastructure and promote collaborations between university and industrial laboratories. Almost $360 million is also specifically targeted for medical research to develop new drugs and treatments--with two-thirds slated for stem cell and related regenerative technologies. This initiative pushes Japan's public science support to its highest ever at $57 billion. In comparison, the US federal government spent [just over $85 billion](http://news.sciencemag.org/scienceinsider/budget_2013/) last year supporting scientific research and development. In contrast to Japan's pending investment increase in science, however, there is concern the US may pull back its own effort on this front.

#### High-level DOE program key to effective collaboration

Johnson, 3/05/13 [Rep. Eddie Bernice Johnson (D-Texas) - 03/05/13, “Capturing global energy leadership”, <http://thehill.com/special-reports/energy-march-2013-/286403-capturing-global-energy-leadership>]

Washington must get beyond the stale debates about picking energy winners and losers. It is a waste of time to argue over the rules of a game that our competitors are not even playing. They recognize the opportunities and promise in clean-energy technologies, and are willing to go to far greater lengths to give their own, often state-supported, industries advantages in the global energy marketplace. Meanwhile, the U.S. risks starving our innovation pipeline by short-funding our R&D enterprise and politicizing certain technology areas because they might someday compete with incumbent industries. We can’t afford to be that short-sighted. Unfortunately, while our competitors are surging ahead with investments in clean-energy technologies, we in the U.S. are preparing to deal with the impacts of ill-advised cuts due to the sequester that went into effect last Friday. We have to do better than this. I urge all parties involved to take action to avert the awful consequences that are sure to follow these cuts to critical investments in R&D and innovation. By most metrics, we are still the most innovative country in the world. To leverage our hard-won advantages in emerging energy technologies, we first have to acknowledge that we need a more level playing field and take into account the range of market barriers that energy technologies face. Conventional energy sectors like nuclear, coal, oil and gas have been given preferential treatment for decades with government-backed research, subsidies, defense spending and infrastructure expansion. For instance, the current boom in natural gas is a product of a public-private R&D partnership funded through the Department of Energy (DOE). These conventional resources power our economy today, but the one thing we know is that they will not last forever, and relying on them often exposes us to unacceptable economic volatility, and environmental and security risks. Now is the time to give emerging clean- and advanced-energy technologies a fair shake, and provide them with the same or similar treatment that incumbent sectors have had for, in some cases, more than a century. There is a diversity of roles the federal government can play in the energy innovation space. Our DOE National Laboratory system, as well as the university researchers DOE supports, is simply unmatched in the world of basic and applied research and technology development. **Federal programs** can likewise serve as conveners to give innovators, investors and companies a space to collaborate; as a first-adopter when the initial costs are high; and as a **compiler of data** where no incentive to do so yet exists in the market. Finally, programs such as the Advanced Research Projects Agency – Energy (ARPA-E) and the Energy Innovation Hubs show us that government programs can be innovative not only in the research activities they support, but also in how they do business. By constantly reevaluating and, where necessary, reinventing the role of government in the clean-energy space, we can assure leadership in the global market and be confident that we’re getting the most bang for the taxpayer’s dollar. To do so, we must be willing to take risks, **commit to** long-term, consistent policies, make the investments that encourage innovation and new competition and agree that bureaucracy and partisanship have no place in this effort. If we do these things, we will pass on a cleaner environment and stronger economy to our children and grandchildren.

#### Anemic energy partnership with Japan causes Chinese adventurism—methane hydrates solve

Weitz, 12 [Richard Weitz is a senior fellow at the Hudson Institute and a World Politics Review senior editor. His weekly WPR column, [Global Insights](http://www.worldpoliticsreview.com/globalinsights), appears every Tuesday. Global Insights: Moving U.S.-Japan Relations From Drift to Progress, <http://www.worldpoliticsreview.com/articles/12300/global-insights-moving-u-s-japan-relations-from-drift-to-progress>]

The study group set out to provide guidance on how Washington and Tokyo can work to prevent Japan’s continued “drift into tier-two status,” which the authors fear would harm not only Japan’s interests, but also those of other Asian countries. The report, as well as two previous ones co-chaired by Nye and Armitage, stresses the importance of a strong U.S.-Japan relationship as an anchor for Washington’s broader policy in East Asia. In particular, the authors argue that a strong U.S.-Japan alliance will help manage China’s rising power **by discouraging adventurism on the part of Beijing.** By contrast, a weak Japanese-American partnership would invite China to try to exploit its fissures or even **divide the two long-standing allies.** One reason for Japan’s declining global influence is its stagnating economy. In this area, the authors applaud the government’s cautious but determined efforts to revive Japan’s nuclear energy industry as essential for the country’s economic recovery as well as for global energy and climate security. They call for greater U.S. exports of liquid natural gas to Japan as well as enhanced bilateral collaboration in exploiting methane hydrates as a vast new source of natural gas.

#### Shale reliance is inadequate—new methods are key to moderate PLA Naval expansion

Itoh, 13 [March, Senior Analyst, Strategy Research Unit, The Institute of Energy Economics, Japan (IEEJ); CNAPS Visiting Fellow, 2009

Energy Security in Northeast Asia: A Pivotal Moment for the U.S.-Japan Alliance , <http://www.brookings.edu/research/opinions/2013/03/12-energy-security-itoh>]

Against the background of the shale revolution, there are rising expectations about “energy independence” in the United States, which is thought not only to boost the domestic economy with cheap energy prices and reduce vulnerability to international oil prices, but also to increase policy options for U.S. diplomacy. The ongoing debate about diplomatic implications of U.S. energy independence within the next decade by and large tends to focus on the question of how it would affect the U.S. military presence in the Middle East. However, a blueprint for placing energy independence in the context of the so-called U.S. “pivot to Asia” has yet to emerge. New roles and functions for the U.S.-Japan alliance should be designed in the context of U.S. energy independence. Today in Northeast Asia, the energy security environment is rapidly changing with impending new challenges for the U.S.-Japan alliance to tackle. First, the rise of China with its surging energy demand has raised concerns about its impact on the global energy market. According to estimates published by the International Energy Agency in its November 2012 World Energy Outlook 2012, China is forecasted to account for more than half of increases in global oil demand by 2030; its dependence on imported oil will increase from 54 percent in 2011 to 77 percent in 2030. Likewise, China is projected to account for about 28 percent of increases in global demand for natural gas with its import dependence to rise from 14 percent in 2010 to 44 percent in 2030. Its impact on global oil prices and thus on the growth of the world economy would be considerable. Furthermore, Beijing’s anxiety about ensuring stable access to energy resources may stimulate the expansion of Peoples’ Liberation Army Navy’s power projection capabilities, as a means to increase and secure access to overseas oil and natural gas supplies.

#### Collapses Asian security with respect to SLOCs

Westhead 12 Rick, Writer for Foreign Affairs, staff writer/South Asia Bureau Chief for the Toronto Star, The Star, 7/14, “Battle for the Pacific: Naval arms race in the China Sea”, http://www.thestar.com/news/world/article/1225396--battle-for-the-pacific-naval-arms-race-in-the-china-sea

A 21st-century Great Game is unfolding in the Asia Pacific, a region that accounts for more than half the world’s population and many emerging powers. Some, such as China, India, Pakistan and North Korea, are nuclear-armed rivals who have battled before. As these regional rivals vie for control of trade routes, fishing stocks and rich, untapped oil and gas deposits, they are expanding and modernizing their maritime forces, conducting war games and opening naval bases in what has become the most perilous arms race in the world. At the same time, the U.S. is trying to reestablish a dominant presence in the region, strengthening ties to some countries, including the Philippines and Australia, and trying to warm relations with others, such as Burma (Myanmar). With the U.S. pledging to send more troops and ships to the Asia Pacific, regional neighbours want to coax China to be more open at the negotiating table. Ten Southeast Asian nations this week agreed on a code of conduct to prevent disputes over the South China Sea from escalating into open conflict. China has refused to sign the pact. “The more militarized the region becomes the harder it is to resolve conflicts,” says Stephanie Kleine-Ahlbradt, a China analyst with the International Crisis Group, which works to defuse conflicts. “You have increasing harassment of fishermen in disputed waters, which becomes a proxy for bigger issues of claimed territory,” she says. “It can easily **spiral into a security dilemma**, especially when **nationalist sentiments** in the region are increasing. There’s a real pressure in these countries not to cave in on disputes, and when you’ve been telling people for 50 years that you have a claim, it’s hard to agree to go to an international tribunal and live with its decisions.” **China is the pacesetter**. It is said to be spending $106 billion this year alone on its military, up from $14 billion in 2000. It recently began sea trials on its first aircraft carrier, the Shi Lang, and is developing an anti-ship ballistic missile that can penetrate the defences of U.S. aircraft carriers, according to its military. India — whose first prime minister, Jawaharlal Nehru, once wrote, “to be secure on land we must be supreme at sea” — bought a Russian-built attack submarine, the Chakra, in January. It’s the first nuclear-powered sub India has operated in 20 years. India’s first locally built aircraft carriers, the Vikramaditya and Vikrant, are scheduled to join the navy in 2013 and 2014. South Korea last year began construction on a $970-million naval base for 20 warships, including submarines. Australia, which has signalled it will build a sub fleet after construction is finished on three destroyers, recently agreed to allow the U.S. navy to station 2,500 marines in Darwin, while the Philippines is in talks with the U.S. about expanding an American military presence there. Half a world away, the U.S. looms over the islands, straits and channels of the Indian Ocean and South China Sea, a region U.S. Secretary of State Hillary Clinton has called a “national interest.” In January, President Barack Obama said the U.S. would “pivot” and “rebalance” its global military forces toward the Asia-Pacific region. The U.S. is concerned about China’s sweeping claims of sovereignty, such as its directive to foreign oil companies not to help Vietnam develop oilfields in the South China Sea. While the U.S. Defence Department has been ordered to pare spending by $487 billion over the next 10 years, Obama has mostly spared the navy from cuts. In June, Defence Secretary Leon Panetta told a conference in Singapore that by 2020, 60 per cent of U.S. warships, including six aircraft-carrier groups, would be stationed in the Asia-Pacific. Mitt Romney, the Republican nominee in November’s presidential election, has pledged to increase the naval fleet from 285 warships to 346. “In many respects, the broader Pacific will be the most dynamic and significant part of the world for American interests for many decades to come,” U.S. Deputy Secretary of State William J. Burns said in November. The U.S. announced last year it would develop long-range nuclear-capable bombers and better electronic jammers for the navy. The military contractors General Dynamics and Northrop Grumman are also building a new stealth destroyer. The ship, known as the DDG-1000, will cost as much as $3.3 billion and feature a new type of radar that offers improved scanning in shallow coastlines, a wave-piercing hull that leaves a minimal wake, and an electromagnetic rail gun, which employs a magnetic field and electric current to shoot a projectile at several times the speed of sound. While the navy originally wanted 32 of the DDG-1000s, its order has been trimmed to three. But Chinese Rear Admiral Zhang Zhaozhong, a professor at China’s National Defence University, said the DDG-1000’s high-tech design wouldn’t protect it from a group of fishing boats packed with explosives. If enough fishing boats could be mobilized, the DDG-1000 “would be a goner,” Zhaozhong said recently on CCTV, China’s public broadcaster. History would seem to support Zhaozhong. During the Falklands War in 1982, Argentina used a single $200,000 air-to-surface missile to sink a $50-million destroyer, HMS Sheffield. And in 1967, an Egyptian vessel used several guided missiles to sink an Israeli destroyer. Meanwhile, Indonesia, Malaysia, Pakistan, Thailand, Taiwan, Vietnam and Bangladesh have either acquired submarines or plan to buy them. Japan is increasing its 18-sub fleet to 24. And China has more than 68 subs, three nuclear-powered, according to The Military Balance in Asia, a May 2011 report by the Center for Strategic and International Studies. “For most countries, it’s not about a fight, it’s about the ability to dispatch to preserve your quarter,” says Mike Hennessy, a professor of naval history at the Royal Military College of Canada. “It’s about being able to intimidate so your claims go unchallenged.” Throughout the sprawling Asia Pacific region, there is no shortage of maritime claims. The biggest dispute is over the Spratly Islands, a barren patch of 750 islets, coral reefs and outcroppings in the South China Sea about 350 kilometres southeast of Vietnam and 900 kilometres southeast of China. For more than 50 years, China, Vietnam, the Philippines, Malaysia and Brunei have fought for control of the archipelago. In 1956, a Filipino businessman named Tomas Clomas arrived at the islands and declared an independent country, Freedomland. Manila rejected the suggestion but claimed the islands, occupying some with armed troops since 1968. Last year, Vietnam announced that six monks who belong to the government-sanctioned wing of the Buddhist church would set up temples and live on several islands in the Spratlys chain, presumably to establish Vietnam’s claim. In April, the Philippines and Vietnam said they would hold soccer and basketball matches in the Spratlys, the same day a Chinese cruise ship completed a voyage to the disputed territory. At first glance, the Spratlys seem to hold scarce value. Some of the islands actually disappear below the water at high tide. But, the Spratlys offer a prime location to monitor the shipping lanes of the South China Sea. More important, the seabed is believed to contain as much as 225 billion barrels worth oil and natural gas — enough to fuel Canada for 280 years, based on current consumption of about 2.2 million barrels per day. (The Athabasca oilsands formation, by contrast, is estimated to contain 1.7 billion barrels of recoverable oil.) It’s no wonder China covets the Spratlys. The world’s fastest-growing economy, China uses five times as much oil and gas as Canada, but its supply of hydroelectricity declined by 40 per cent last year because of a prolonged drought. When the Philippines announced recently that it would work with a U.K. company to explore for deposits near the Spratlys, China’s government-owned Global Times newspaper wrote an editorial that China should strike first. “Everything will be burned to the ground should a military conflict break out,” the paper argued. “We shouldn’t waste the opportunity to launch some tiny-scale battles that could deter provocateurs from going further.” Oil and gas are only one reason for the naval buildup. **The Persian Gulf, Indian Ocean and** the Strait of **Malacca** off Indonesia **combine to form a crucial trade route**. At least 40 per cent of the world’s oil is carried aboard tankers that travel these waters. An estimated 700 million people live near the South China Sea and depend on the rich fishing stocks for their livelihoods, as well as 80 per cent of their diets. Vietnam, for instance, estimates its population of 87 million will surge by 25 per cent by 2050 and it will need additional food and fish. This spring, on April 8, China and the Philippines quarrelled in a stretch known as the Scarborough Shoal after the Philippine Navy discovered coral, giant clams and live sharks on a Chinese boat. The Philippines announced the Chinese fishermen would be arrested for poaching. The showdown, some 200 kilometres west of the Philippine island of Luzon, simmered for more than two months. Then, on June 17, the Philippines ordered its two ships to withdraw. The day before they left, China had seven large ships and as many as 26 fishing boats stationed at the shoal, the Philippine Daily Inquirer reported. China has alienated and antagonized its regional neighbours during the past two few years over a string of incidents, pushing them “into a coalition and toward the Americans,” says M. Taylor Fravel, a political scientist at the Massachusetts Institute of Technology, who has written a book about China’s territorial issues. Last year, a boat owned by PetroVietnam was surveying the ocean floor about 120 kilometres south of Vietnam and 600 kilometres from China’s Hainan Island. Three Chinese patrol vessels intercepted the Vietnamese ship and cut its cables to the seabed. China’s foreign ministry blamed Vietnam for the clash, claiming its oil and gas operations “undermined China’s interests and jurisdictional rights.” That incident came 10 months after the U.S. and Vietnam began joint naval exercises in the South China Sea. “I think China has realized the open hostility has been a mistake and you’re seeing it take a more moderate approach now,” Fravel says. “It’s unarmed or lightly armed vessels, the Chinese version of the coast guard, who are responding to conflicts, not its navy.” Fravel says China is also becoming better at international diplomacy, using civilian maritime law agencies to press its claims in conjunction with its navy, which is becoming formidable. In 1990, China’s navy amounted to two Soviet-era destroyers. By 2011, China had 71 frigates and destroyers and 71 submarines, as well as its first aircraft carrier.

#### Goes nuclear

**Campbell et al 8** (Kurt M, Assistant Secretary of State for East Asian and Pacific Affairs, Dr. Campbell served in several capacities in government, including as Deputy Assistant Secretary of Defense for Asia and the Pacific, Director on theNational Security Council Staff, previously the Chief Executive Officer and co-founder of the Center for a New American Security (CNAS), served as Director of the Aspen Strategy Group and the Chairman of the Editorial Board of the Washington Quarterly, and was the founder and Principal of StratAsia, a strategic advisory company focused on Asia, rior to co-founding CNAS, he served as Senior Vice President, Director of the International Security Program, and the Henry A. Kissinger Chair in National Security Policy at the Center for Strategic and International Studies, doctorate in International Relation Theory from Oxford, former associate professor of public policy and international relations at the John F. Kennedy School of Government and Assistant Director of the Center for Science and International Affairs at Harvard University, member of Council on Foreign Relations and  International Institute for Strategic Studies, “The Power of Balance: America in iAsia” June 2008, <http://www.cnas.org/files/documents/publications/CampbellPatelSingh_iAsia_June08.pdf>)

Asian *investment* is also at record levels. Asian countries lead the world with unprecedented infra­structure projects. With over $3 trillion in foreign currency reserves, Asian nations and businesses are starting to shape global economic activity. Indian firms are purchasing industrial giants such as Arcelor Steel, as well as iconic brands of its once-colonial ruler, such as Jaguar and Range Rover. China’s Lenovo bought IBM’s personal computer We call the transformations across the Asia-Pacific the emergence of “iAsia” to reflect the adoption by countries across Asia of fundamentally new stra­tegic approaches to their neighbors and the world. Asian nations are pursuing their interests with real power in a period of both tremendous potential and great uncertainty. iAsia is: *Integrating:* iAsia includes increasing economic interdependence and a flowering of multinational forums to deal with trade, cultural exchange, and, to some degree, security. *Innovating:* iAsia boasts the world’s most successful manufacturing and technology sectors and could start taking the lead in everything from finance to nanotech to green tech. *Investing:* Asian nations are developing infrastruc­ture and human capital at unprecedented rates. But the continent remains plagued by: Insecurity: Great-power rivalry is alive in Asia. Massive military investments along with historic suspicions and contemporary territorial and other conflicts make war in Asia plausible. Instability: From environmental degradation to violent extremism to trafficking in drugs, people, and weapons, Asian nations have much to worry about. *Inequality:* Within nations and between them, inequality in Asia is more stark than anywhere else in the world. Impoverished minorities in countries like India and China, and the gap in governance and capacity within countries, whether as back­ward as Burma or as advanced as Singapore, present unique challenges. A traditional approach to Asia will not suffice if the United States is to both protect American interests and help iAsia realize its potential and avoid pitfalls. business and the Chinese government, along with other Asian financial players, injected billions in capital to help steady U.S. investment banks such as Merrill Lynch as the American subprime mortgage collapse unfolded. Chinese investment funds regional industrialization, which in turn creates new markets for global products. Asia now accounts for over 40 percent of global consumption of steel 4 and China is consuming almost half of world’s available concrete. 5 Natural resources from soy to copper to oil are being used by China and India at astonishing rates, driving up commodity prices and setting off alarm bells in Washington and other Western capitals. Yet Asia is not a theater at peace. On average, between 15 and 50 people die every day from causes tied to conflict, and suspicions rooted in rivalry and nationalism run deep. The continent harbors every traditional and non-traditional challenge of our age: it is a cauldron of religious and ethnic tension; a source of terror and extrem­ism; an accelerating driver of the insatiable global appetite for energy; the place where the most people will suffer the adverse effects of global climate change; the primary source of nuclear proliferation; and the most likely theater on Earth for a major conventional confrontation and even a nuclear conflict. Coexisting with the optimism of iAsia are the ingredients for internal strife, non-traditional threats like terrorism, and traditional interstate conflict, which are all magnified by the risk of miscalculation or poor decision-making.

### Solvency

#### Solvency!

#### Federal spending is key to all three advantages

Sloan, et al, 08 [BNL-82182-2009-CP Four Critical Needs to Change the Hydrate Energy Paridigm from Assessment to Production: The 2007 Report to Congress by the U.S. Federal Methane Hydrate Advisory Committee D. Sloan, P. Brewer, N. Dutta, A. Johnson, E. Jones, K. Juenger, M. Kastner, D. Mahajan, S. Masu tani, R. Swenson, J. Whelan, S. Wilson, R. Woolsey Presented at Offshore Technology Conference 2008 May 2008 Energy Science and Technology Department/Energy Resources Division Brookhaven National Laboratory P.O. Box 5000 Upton, NY 11973-5000 , http://www.bnl.gov/isd/documents/44202.pdf]

There are, however, several reasons why the Federal government should take the lead in this endeavor: 1. The science is new, and the occurrences of natural hydrates are complex and not yet well understood, leading to the need for substantial investments in basic science, data gathering, and theoretical validation—areas an industry focused on short-term returns is unlikely to finance; 2. Research in gas hydrate science requires specialized technologies, both to recr eate hydrates in th e laboratory and to study them in arctic or deepwater marine envi ronments, and these technologies are expensive; 3. While the ultimate outcome of these investments is uncertain, the long-term potential benefit to the Nation is enormous, exactly the sort of high-risk/high-reward R&D where Federal funding has historically generated large public benefits. This Committee believes that hydrate research and development investments now will generate significant benefits in future domestic energy supply. **As leaders of the** **world’s tech**nological **community**, and as an energy-dependent nation, **it is incumbent on the United States to** increase funding for the development of this long-range energy source. 4 [ OTC-19519-PP ] State-of-the-Art, and the Shor tfalls in Hydrate Science Hydrate developmental strategy is influenced by two facts: 1. The total amount of hydrates in the marine sediments is several orders of magnitude greater than the amount of hydrates in permafrost. 2. Hydrates in the permafrost often have the advantage of occurring in higher concentrations than in seafloor sediments and in several readily-accessible U.S. locations. As a consequence, U.S. hydrates are fi rst being accessed for exploration and produc tion testing in the North Slope, Alaska, region permafrost. Technology transfer will then extend fro m these permafrost hydrates to the development of marine hydrates. The first U.S.-led effort to te st hydrate exploration technology at Miln e Point on Alaska’s North Slope took place early in 2007. However, the lead in hydrate science and technology is rapidly being taken by pioneers such as India and Japan, which are rapidly being followed by China and South Korea. Unless the United States increases its investment in hydrates, it will have to be satisfied with an “early-settler” role, rather than as a pioneer—hoping that knowledge developed by other countries will be made available. This “wait-and-adopt” strategy also relegates the United States to second place status in the pursuit of potentially valuable technology patents, and **precludes the United States from establishing early standards** to ensure that hydrate resources are accessed in a safe and environmentally responsible manner. For example, Japan sponsored the first pr oof-of-concept hydrate energy recovery wells in the Canadian Arctic (the Mallik project). This project began in 1998 and culminated in a production test. Japanese hydrate R&D expenditures were in excess of US$100 million in 2003, and US$68.5 million was spent on research in the Sea of Kumano off Japan alone during 2006- 2007. The Japanese government has set a goal of commercial methane gas production from hydrates by 2017. It is estimated that Japan’s production test well program at Mallik will cost in excess of Can$75 million. Beyond Japan’s aggressive program, a 113-day Indian hydrate ocean expedition was undertak en during 2006 at a cost of US$36million. India’s plans include a commitment for a production test well by 2009. In contrast, Federal government hydrate research expenditures have averaged ~$10 million per year since 2001, and the first U.S. exploratory test well (an arctic test rather than a marine test) was drilled in February 2007. If funding levels are not increased, as recommended by this Committee, U.S. ocean hydrate production will not occur until substantially after production is realized in India and Japan. The Committee has identified four principal R&D shortfalls related to hydrate development. 1. A Long-Term Production Test Well for Arctic Hydrate Assessment For an understanding of the potential of permafrost hydrates, a long-term production test well is needed to enable the testing of various recovery strategies and to provide for modeling verification. Currently, there is no commercially proven way to recover methane gas from hydrates in permafrost, the most easily accessible location where hydrate is found. The gas from these hydrates is potentially producible today, given a pipeline or nearby commercial use for the gas. The Japanese performed a three-week well test at the Mallik site in Canada during the winter of 2006-2007, and DOE plans a similar production test on the Alaskan North Slope during the winter of 2007-2008, assuming sufficient funding. Computer reservoir models are critical tools for the economic development of any conventional gas field. Hydrate reservoir models exist (e.g. TOUGH+Hydrate, STOMP, CMG-STARS, etc.), and they are currently being tested against each other to assess their reproducibility in the simulation of methane pro duction from idealized hydrate reservoirs. However, the accuracy of these models can be verified only against data from a long-range, quasi-steady- state production test, with a minimum of the transient phenomena that can obscure observations of true reservoir behavior. Hydrates can be decomposed to release tr apped methane by reducing the ambient pr essure, by heating to raise the ambient temperature, or by exposure to freezing -point reducers (anti-freezes) such as meth anol. While there is no standard, proven method of hydrated gas production, it is believed that simple depressurization may cost less than thermal stimulation or inhibitor injection strategies. Prudent combinations of two or more of these approaches may be needed. In addition, other [ OTC-19519-PP ] 5 innovative techniques, such as geothermal stimulation or controlled oxidation, have yet to be attempted. A long-term, Alaskan Arctic testing facility could be constructed relatively in expensively at a gravel pad on the North Slope of Alaska and would provide an opportunity to explore recovery techniques suitable for the permafrost. The results of such tests of permafrost technology (e.g., hydraulics, geomechanics, heat transfer, etc.) might then be transferable to inform the development of marine hydrate recovery techniques. 2. Assessment of the Economic Vi ability of Marine Hydrate Deposits Because most of the US hydrate deposit is in the ocean, there is a need for th e assessment of the economic viability of hydrate production. A principal need to a ssess the amount of marine hydrates is a requirement for rmote sensing tools that can reliably locate and characterize gas hydrate deposits, as in tegral steps to assess the economic viability of the marine hydrate energy resource. An early remote sensing approach—using geophysics to search for what was believed to be seismic indicators of hydrate accumulations (botto m simulating reflectors, or BSRs)—has pr oven unreliable. A BSR is a subsurface reflection that appears on seismic cross-sections and parallels the sea bottom while crossing sedimentary boundaries, as an accumulation of hydrate might do. Some large-scale hydrates discoveries have been made without any evidence of a BSR, and at the same time BSRs have been located, tested, and found to be devoid of hydrates. Two illust rations confirm this point. While the 113-day Indian hydrate expedition in 2006 drilled 22 sites where BSRs were detected, at one site off the west coast of India it was discovered that th e BSR was in fact caused by a calcium car bonate deposit rather than hydrates. 1 Another example is the group of giant hydrate mounds found on the seafloor in Barkley Canyon west of Vancouver, BC. Here, seismic signals indicated that these hydrate deposits, with thin sediment cover, appeared geophysically equivalent to ocean bottom sand. 2 In the future the BSR will likely be coup led with a suite of remote detection me thods, as has been noted by Mahajan and Somasundaran: “A thorough and cost-effect ive preliminary survey site protocol needs to be developed to include geochemical, heat flow, and electromagnetic characterization of deepwater-sediment hydrate beds. These data will be coupled with seismic surveys to determine deep drilling locations. 3 The program is currently pursuing a number of other hydrate detection technologies, some of which were validated by the successful drilling of the Mt. Elbert test well in Alaska during February 2007. Howe ver, the need for remote sensing hydrate tools that can reliably locate gas hy drate deposits is a critical one. 3. Understanding the Role of Hydrates in the Environment The exact nature of what appears to be a dynamic relations hip between methane hydrates and the environment remains a significant unknown. The most recent revi ew of hydrate in the environment states , “The methane contribution from hydrate decomposition is an important unknown in the global methane budget.” 4 In their controversial book, Methane Hydrates and Quaternary Climate Change: The Clathrate Gun Hypothesis , Kennett, et al., suggest that as recently as the Late Quaternary Period (15,000 years ago) hydrates contributed to the greenhouse warming effect. 5 There is a scientific community consensus that this hypothesis, reviewed in this Committee’s 2004 Report to Congress, requires substantial verification via research before it can advan ce to the state of being a reliable theory. There is substantial evidence within the isotopic fossil record of massive methane release, probably from hydrates 5 million years ago, at the Last Paleocene Thermal Maximum, whic h caused warming of the earth by as much as 8 °C. 6 Verifying the role of methane hydrates in global clim ate change is critical because of the f act that methane has a greenhouse warming potential 21 times that of CO 2 . A better understanding of the pivotal role that hydrates might play in the global climate could influence U.S. policy choices related to global warming mitigation decisions. A second important aspect of the relationship between hydrates and the environment concerns seafloor stability. In the last few decades, energy companies have grown increasingly con cerned about the impact of hydrates on seafloor stability, particularly as development activities have ventured further in to deeper waters. Destabilization of hydrates in seafloor 6 [ OTC-19519-PP ] sediments may cause underwater landslides or sediment fluidi zation that can jeopardize offshore oil production facilities. A possible example of this is shown in Figure 2, which displays a seismic cross-section from the Blake-Bahama Ridge off the southeastern coast of the United States. In this example, the se ismic line reflection that is app ears parallel to (but is deepe r than) the mudline—the so-called BSR—is seen to be absent u nder the area exhibiting evidence of disrupted sediment. This could be interpreted as providing evidence of methane evolution from a hydrate accumulation and an associated disruption of the sediments above as methane is released into the ocean. Figure 2. Hydrate disruption below the seafloor at the Blake-Bahama Ridge (Dillon, et al., Natural Gas Hydrates: Occurrence, Distribution and Detection , Dillon and Paull, eds., American Geophysical Union, p. 218, 2001). The bottom image is a cartoon of the seismic section. Note the disruption in the middle of the diagram, between the mudline and the BSR, indicating gas evolution. 4.Enhancing International Cooperation Because (a) many nations will benefit, and (b) the exploration of this resource is so expensive, international cooperation rather than competition should advance our understanding and exploration of hydrates in nature. The combination of knowledge, experience, resources, and motivation are all cent ral to this effort. Two recent examples of successful international cooperation are the Mallik2002 well and the 2006 Indian Natural Gas Hydrate Expedition. The two major accomplishments of Mallik 2002 were: 1.Gas was immediately pr oduced from hydrates via controlled depressurization and thermal stimulation te sts, without question regarding the gas source and 2) data were obtained to calibrate well logs and gas hydrate production simulators. The above two accomplishments provide a hall mark in the knowledge development of hy drates in nature. It is now beyond question that gas can be produced from hydrates, and that data from such production can be accurately modeled. However, because only a few days were spent proving the concept, the transient results prevented the unambiguous long-term modeling of hydrate production, as shown in the sections which follow. As one result of this work, it appears to be important to provide a longer production test, to enable the long-term projection of gas production from hydrates. Similarly, international cooperation was a hallmark of the 20 06 Indian Natural Gas Hydrate Expedition, which discovered and sampled the richest marine hydrate accumulation to date. In addition to the technical accomplishments in the Indian cruise, over 40 hydrate scientists were trained for future study of hydrates in nature. This expedition is a principal exemplar of the combination of motivation, resources, knowledge, and experience to bring a large project to a timely and successful conclusion.

#### That’s directly linked to production efforts—DOE Methane R&D program is key

Morel, 06 [Near Term Energy Potential Realization of Domestic Methane Hydrate Deposits: The Need for Funding and Industry Participation Liz Morel 2006 WISE Intern The University of Kansas August 3, 2006, Sponsored by The American Institute of Chemical Engineers, <http://www.wise-intern.org/journal/2006/Morel-AIChE.pdf>]

“The overriding focus of the DOE Methane Hydrate R&D Program in the future should be on the potential importance of hydrate as a future energy resource for the nation and the world... At this time, commercial interest in drilling and production of methane hydrate is low. Therefore, the DOE Methane Hydrate R&D Program’s continued support of research is a key component of evaluating the nation’s ability to produce energy from gas hydrate in the future.” - National Research Council “Charting the Future of Methane Hydrate Research” 1.0 Introduction To realize the energy potential of domestic methane hydrate deposits, the government must encourage **focused** research **goals pertaining to domestic methane** hydrate technology development, assessment, and production. Energy security is a serious concern as US natural gas imports are estimated to increase 32% by the year 2030. 1 In the United Stat es natural gas is an essential fuel for electricity generati on, home heating, and as a feedstock for producing household and industrial products from fertilizers to paints. The US, however, is sitting on a tremendous untapped resource that could go a long way to solving the problem of a limited natural gas supply: methane hydrate. Before methane hydrate can be commercially produced in the US, many questions must be answered. Specifically, the US must be able to answer the question, "Can methane hydrate be technically a nd economically produced in the US?" A focus on energy potential evaluat ion and an increase in funding and industry participation are needed to answer the question of energy resource and production viability in a reasonable timeframe. To answer this question, government must support the completion of the following steps: 1. Overcome technical issues asso ciated with methane hydrate detection, characterization, and production, and 2. Rigorously assess (map) domes tic methane hydrate deposits in permafrost and marine environments. The barriers to completion of these steps include: 1. Broad government program research goals, and 2. Lack of appropriate funding – the wrong amount at the wrong time. Solutions to both problems may be t he same. For example, increased appropriations to specific agencies can both increase support of research and focus goals. This paper formulates policy recommendations to help government agencies answer the question of sufficient energy supply potential and feasible production of domestic methane hydrate. The steps in formulating these recommendations are: 1. Provide a background understanding of why dom estic methane hydrate research and assessment is import ant and needed for US energy security, the environment, and the economy (Sections 1-2) 2. Identify program needs to answer viabilit y and production questions through a summary of current resear ch and legislation. (Section 3) 3. Identify potential solutions based on the structure, funding, and organization of other oil and gas re search programs. (Section 4) 4. Make policy recommendations bas ed on industry and government agency input, and the success and failure of past policy to increase funding for focused research goals and so that industry partners may be enticed to form joint methane hydrate research pr ojects with the U.S. government (Section 5) Though international partner ships will be essential in the development of methane hydrate technology and fields, the development of these partnerships deemphasized as industry partnership s are the focus of this paper.

#### High-level federal signal is key to effective leadership and innovation

Lugar, 07 [Dick Lugar U.S. Senator for Indiana Contact: Andy Fisher • 202-224-2079 • Date: 12/18/2007 http:// lugar.senate.gov • andy\_fisher@lugar.senate.gov U.S. Energy Security and the 2008 Presidential Election Following are the prepared remarks by U.S. Sen. Dick Lugar (R-IN) at the Brookings Institution on U.S. Energy Security and the 2008 Presidential Election:, <http://www.brookings.edu/~/media/events/2007/12/18%20lugar/20071218_lugar.pdf>]

Three factors lead me to the conclusion that energy is the most vital topic of this Presidential election. Firs t, energy is the issue with the wide st gulf between what is required to make our nation secure and what is likely to be achieved through the inertia of existing programs and Congressional proposals. As such, it is the issue on which mean ingful progress most depends on the great intangible in American public policymaking – the application of dramatic, visionary, and sustainedPresidential leadership. Congress and private enterprise can make evolutionary energy advancements, but revolutionary national progress in the energy field probabl y is dependent on presidential action. Our energy dependence is perpetuated by a lack of national will and focus. Only the President **has the** visibility **to elevate a cause to national status,** and only the President can leverage the buying power, regulatory authorit y, and legislative leadership of an administration behind solving a problem that is highly conducive to political procrastina tion and partisanship. Second, transformational energy policies are like ly to be a requirement for achieving our economic and social aspirations here at home. In an era when exploding global demand for energy creates high prices and fears of scarcit y, the U.S. economy is likely to continue to underperform. Our ability to address social s ecurity, health care, e ducation, and overall budget problems will be heavily encumbered over both th e short and the long run if we do not mitigate our energy import dependence. Almost any scenario for recession will be deepened by high energy costs. Moreover, many of the most seve re recession scenarios i nvolve sustained energy disruptions due to terrorism, war, embargo, or natural disaster. Third, energy is the underlying condition that exacerbates almost every major foreign policy issue. We pressure Sudan to stop genoc ide in Darfur, but we find that the Sudanese government is insulated by oil revenue and oil supply relationships. We pressure Iran to stop its uranium enrichment activities, yet key nations are hesitant to endanger th eir access to Iran’s oil and natural gas. We try to foster global re spect for civil society a nd human rights, yet oil revenues flowing to authoritarian governments ar e often diverted to corrupt or repressive purposes. We fight terrorism, ye t some of the hundreds of billions of dollars we spend each year on oil imports are diverted to terrorists. We gi ve foreign assistance to lift people out of poverty, yet energy-poor countries are further impoverished by expensive energy import bills. We seek options that would allow for military disengageme nt in Iraq and the wider Middle East, yet our 4 way of life depends on a steady stream of oil from that region. American national security will be at risk as long as we are heavily dependent on imported energy. Vigorous energy diplomacy of the type that only a committed President can ensure is required around the world. Even as we seek to reduce our foreign oil dependence, the United States will remain part of the global energy sy stem and our foreign policy priorities will be affected by the production and consumption decisi ons of other nations. A top priority in our relations with China and India s hould be helping them avoid re plicating U.S. dependence on oil and coal and guiding them to cleaner power gene ration technologies. Countries from Indonesia to Egypt to Chile are considering new nucl ear power programs, creating new risks for proliferation of enrichment technology. Ma nagement of energy relations with Russia will remain difficult for our NATO allies. And any strategy for resolving the situations in Iraq and Iran must include a plan for stabi lity of Persian Gulf oil supplies. Making progress in Central Asia and the Cauc uses is another case in point. Recently President Putin of Russia sought to secure agr eements with Kazakhstan and Turkmenistan to ship their energy north through Russia, rather than through alternative routes that would not be dominated by the Kremlin. Next month, I will travel to the region to demonstrate American interest in strengthening relati ons with these countries. An East-West energy corridor would help reduce Russia’s stranglehold on gas shipment s to Europe. Diplomatic support for the Baku- Tbilisi-Ceyhan and South Caucuses pipelines that have led development of the corridor was a bold initiative with tremendous stra tegic importance. Already we have seen benefits for stability in the region and closer relati onships with Georgia and Azerbaija n. Those benefits can also be reaped in Central Asia. Measuring Commitment to Energy Leadership Whoever is sworn in as Presid ent in 2009 must elevate energy security to the status of a core national goal and must direct ly engage all the American peopl e in the solution. If the next President addresses energy through a familiar ideol ogical prism, the chance to strengthen U.S. national security and economic prosperity will be lost. To succeed, the President must be more than thoughtful and attentive to en ergy concerns. The President must be relentless. He or she must be willing to stake the reputation of the Administration on politically difficult breakthroughs that meaningfully contribute to U.S. energy security. The President must be willing to have his or her Admini stration judged according to its success or failure on this issue. Politically, that is not an easy thing for a Pr esident to accept. The President will have advisers who will be whispering cautions about the risks of committing the prestige of any Administration to aggressive energy goals. Those advisers will say with some credibility that a President can appear forward looking on energy with a few carefully chosen initiatives and occasional optimistic rhetoric promoting altern ative sources. They will say that the voting public’s overwhelming energy concern is high prices for gasoline and home heating, and that as long as the President app ears attentive to those concerns th ey can cover thei r political bases without asking for sacrifices or risking the possible failure of a more controversial energy policy. They will point out that the core constituency of their party will have expectations on energy policy that would rule out entire categories of action. The next President must reject this type of politically defensive posture. The President must be willing to operate outside the energy policy orthodoxy of his or her party. The President must avoid the temptation to substitute popular ge stures like reducing gaso line taxes or using the strategic petroleum reserve to temporarily cut gaso line prices for a true energy security program. 5 He or she must be willing to reject subservience to the majo r energy and environmental lobbying groups without denying the c ontributions that each of these groups can make. With these reference points in mind, I would submit that it is not enough for Americans to ask presidential candidates which energy solutions they prefer or what legislation they will endorse. Americans need to be able to measure the commitment of the candidates to changing the fundamental energy equation in the United States. Voters dese rve answers from Presidential candidates on such questions as: How will you involve members and groups of the other party in energy deliberations from the beginning of your administration, and will you oppose members of your own party who stand in the way of broad energy achievements? How often will you personally devote your atte ntion to energy security, and how often will you speak to the American people about it ? Will you feature ener gy security in your inaugural and State of the Union addresses? Will you guarantee that your Energy Secretary will be the most talented person you can find -- a visible big leaguer who inspires public confidence and will not be relegated to the fringes of your Administration? How will you impress upon the rest of your Cabinet, including the Secretaries of State, Defense, Commerce, and Treasury, th at they must factor energy concerns into their work every day and be prepared to work clos ely with the Secretary of Energy? Will you attempt to build public pride in achieving energy goals, and will your Administration produce and publiciz e clear benchmarks of progre ss toward those goals, even when progress has failed to meet public expectations? Will you make clear to every member of your Administration that achieving your energy goals is among the highest of Administration priorities, and will you dismiss advisers if they deliberately slow down or undermine progress toward your goals? Rising Above Partisan Divisions Despite auspicious words, Democratic and Re publican Presidential candidates are at risk of locking themselves into policies from the playbooks of their respec tive parties. Although there have been some exceptions, the major candidates have split along party lines on most energy issues. As a report by Edmund Andrews in the New York Times recently observed: “On oil, the parties fall into 2 camps: use less or find more.” Republican candidates generally reject gove rnment market intervention and favor increased oil drilling. They point out that gove rnment regulation and ma ndates run counter to the entrepreneurial forces of our market system. Yet a laissez-faire approach is insufficient for bringing innovation, trial produc tion runs, and dramatic volumes of production quickly enough to meet looming energy challenges. It also fails to recognize that globa l energy markets are not free. According to PFC Energy, about 79 percent of the world's oil supply is controlled by state- run oil companies.

#### No technical showstoppers

Morel, 6 [Near Term Energy Potential Realization of Domestic Methane Hydrate Deposits: The Need for Funding and Industry Participation Liz Morel 2006 WISE Intern The University of Kansas August 3, 2006, Sponsored by The American Institute of Chemical Engineers, <http://www.wise-intern.org/journal/2006/Morel-AIChE.pdf>]

Hydrates, in general, were first di scovered in the early 1800s when scientists were performing laboratory exper iments with chlorine-w ater mixtures. In the 1930s methane hydrates were observed in oil and gas transmission lines where they clogged the lines and were considered a nuisance. They were not considered to be an energy source until the 1960’s when methane hydrates were observed in operating Siberian gas reserves. 4 Methane has conventionally been delivered as a gas via long transmission pipelines. **Basic equipment for drilling and producing methane hydrates does exist.** 5 Currently, there are three methods to liberate methane gas from methane hydrate: depressurization, heating, or using a solvent like methanol. Depressurization seems to be the most viable because it does not involve chemicals that may be environmen tally harmful. This liberated methane gas can then be either put into existing nat ural gas pipelines or converted to a liquid if infrastructure does not exis t near the wellhead. The Syntroleum Corporation is one company that has already has a pat ent (US Patent 5,950,732) to recover methane hydrates from the ocean floor. 6 Commercial production will most likely begin in the Alaska North Sl ope (ANS) and the Gulf of Mexico (GOM) **since transmission and drilling infrastructure exists**. Though the transportation system exists, that says nothing about the spar e capacity in that infrastructure.

#### But federal funding is key to reliability and industry participation

Morel, 6 [Near Term Energy Potential Realization of Domestic Methane Hydrate Deposits: The Need for Funding and Industry Participation Liz Morel 2006 WISE Intern The University of Kansas August 3, 2006, Sponsored by The American Institute of Chemical Engineers, <http://www.wise-intern.org/journal/2006/Morel-AIChE.pdf>]

4.5 Summary The current research environment for government methane hydrate research is a supportive one. Congress has passed legislation that has created infrastructure, provided basic support for the research programs in that infrastructure, and encouraged industry to invest in production of natural gas in areas that contain methane hydrate. Use of earmark s has been avoided to grant researchers freedom to determine necessa ry research, but it may also be detrimental to the program for specif ic research goals and deliverables to Congress are not identifi ed. Independent reviews of the research done by government agencies has also had a majo r part in influencing the research objectives set by the Methane Hydrate Ad visory Committee and the Technical Coordination Team for the government methane hydrate research agencies. Though research goals have been able evolve and address a well-rounded group of subjects relating to methane hydrates, from technical to environmental - 13 - questions, funding has not increased to support a research program with such a broad spectrum of goals. Thus, as it has been one of the most influential groups in affecting methane hydrate research, Congress has a unique opportunity to address this funding gap by approaching th e problem from two sides. It can first increase funding to bring t he funding to levels appropriate for the research goals and timelines the government wishes to un dertake, and, second, it may optimize the benefit received from t he funding invested in the program by **making the funding regular and reliable so** that industry will partner with government. When industry and other groups partner with government, as the NRC stated, great benefit is achieved, especially when compar ed to the initial investment made. Methane hydrate research has no voice that may be an advocate for it. The review committees are meant to be impartial and the advisory committees may not directly address or lobby Congr ess. Since methane hydrates are not proven to be able to be commercially produced, not even industry has an interest in lobbying Congress for additional funding. All that is le ft is the lone voice of the professional societies and in terest groups. Because of this, **Congress must take their role** in the success of the US Methane Hydrate Research Program very seriously and support, with legislation that grants appropriate funding, the research done by government agencies

#### Otherwise, coordination and expertise barriers lock us into inferior sources

Tomer, et al 1 [A Collaborative Approach to Methane Hydrate Research and Development Activities Brad Tomer, Hugh Guthrie, and Tom Mroz U.S. Department of Energy, National Energy Technology Laboratory and Ray Boswell, EG&G Services, <http://www.netl.doe.gov/technologies/oil-gas/publications/Hydrates/pdf/otcpaper.pdf>]

Introduction At present, the United States is relying on the accelerated use of clean and affordable natural gas to simultaneously achieve aggressive economic and environmental goals. Fundamental to this strategy is an abundant and affordable supply of domestic natural gas. However, there are increasing concerns about the surety of this supply. In a recent workshop on post-2020 gas supplies held at the DOE’s NETL, most organizations agreed that a new source of supply would most likely be needed by the year 2030. That new source will likely be methane hydrates . Clearly, no one institution has the resources and the expertise to quickly resolve the many issues and technological challenges surrounding the possible exploitation of methane hydrates. Similarly, a series of parallel, duplicative, and uncoordinated efforts will inevitably delay results and may leave key questions unanswered. The NETL believes that a nationally coordinated, collaborative effort is needed, and is committed to supporting a program of allied and focused investigations by the nation’s leading researchers on all fronts of the methane hydrate issue Methane Hydrate R&D Issues Methane Hydrates are the most abundant natural form of clathrate - unique chemical substances in which molecules of one material (in this case, water) form an open solid lattice that encloses, without chemical bonding, appropriately-sized molecules of another material (in this case, methane). Recent investigations have revealed that the widespread occurrence of both methane and water allows methane hydrates to accumulate virtually everywhere pressures and temperatures are suitable. As a result, evidence of hydrates is being discovered at relatively shallow depths beneath arctic permafrost and within the fine-grained clastic sediments on the slopes and rises of continental shelves around the world. Of critical importance is the growing realization that, not only is the amount of methane held in this reservoir huge, but the reservoir itself is in constant flux, absorbing gas from below, releasing gas above, and continually equilibrating to changes in pressure, temperature and geochemical regimes. The implications of this vast, dynamic, and previously unnoticed methane reservoir on the global carbon cycle, long-term climate, seafloor stability, and global economics and energy policy, are only now being widely investigated. DOE’s Methane Hydrates program is driven by the need to better understand the nature of hydrates, hydrate-laden sediments, and the interaction between the global methane hydrate reservoir and the world’s oceans and atmosphere. This effort will focus on two key-energy supply goals. First, we will support work that will enhance the safety of deep-water oil and gas E&P operations that require drilling through overlying marine hydrate deposits. Second, the DOE is committed to ensuring the long-term supply of natural gas by developing the knowledge and technology base to allow commercial production of methane from domestic hydrate deposits by the year 2015. To achieve our goals, much must be learned. As a result, the DOE program supports work to improve the characterization of hydrates through laboratory study, direct observation, and remote sensing of hydrate deposits. This work will support both theoretical and field studies of the role of methane hydrates in both sea-floor stability and global climate phenomena. Ultimately, improved understanding of the hydrate reservoir will allow for development of effective and responsible methane hydrate production technologies.

#### Certain commitment key to leadership and stability

Burwell, et al, 12 [November 29th, Director Energy and Climate Program, Carnegie Endowment, <http://carnegieendowment.org/globalten/?fa=50162>]

This new oil and gas wealth presents the United States with a significant opportunity to create jobs, stimulate its economy, reduce the trade deficit, and improve its global economic competitiveness. However, **realizing the full potential** of these new energy sources and reaping the short-term economic rewards of this energy bonanza **require presidential leadership and new policies.** The highest levels of government must prioritize efforts to address these public objectives while **ensuring market stability**, protecting national security, and addressing climate change. There is at least as much unconventional oil and gas accessible today as there is conventional supply. Historically, energy has been a policy priority only during moments of crisis, such as the Organization of the Petroleum Exporting Countries’ oil embargo and the Iranian Revolution of the 1970s. But the United States must focus on national energy policy now, when times are good, to make sure it is closely aligned with the imperative of climate protection. Policy attention in times of plenty affords more room for maneuver in the short term and more careful development of long-term strategies to advance key national objectives. America has meaningful new oil and gas choices. Establishing climate objectives for the U.S. energy bonanza will require a durable policy frameworkbackedby presidential leadership.

#### (back to diplomacy) SCS disputes ensure extinction

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.

**Relations are impossible and won’t result in cooperation**

**LaFranchi, 3/3/12** [Christian Science Monitor, “A cold-war chill US-Russia relations falter over Libya and Syria”, http://www.csmonitor.com/USA/Foreign-Policy/2012/0303/A-cold-war-chill-US-Russia-relations-falter-over-Libya-and-Syria/%28page%29/2]

Secretary of State Hillary Rodham Clinton doffed her diplomatic gloves after Russia vetoed a United Nations Security Council resolution on Syria. Calling the February veto "despicable," she laid at Moscow's feet the "murders" of Syrian "women, children, [and] brave young men."

Not to be outdone, Russian Prime Minister Vladimir Putin railed against the United States for indulging its "bellicose itch" to get involved in other countries' internal affairs. And he vowed that Russia will thwart American designs in the Middle East.

Whatever happened to the "reset," President Obama's ballyhooed reorientation of US-Russia relations to a more cooperative path focused on common interests?

Russia would say Libya happened – the conflict where the West and the US in particular demonstrated a zeal for intervention that struck at Russia's sense of sovereignty and of what the UN should and shouldn't do. The US would say Syria happened – revealing Russia's revived obstructionist tendencies on the Security Council and demonstrating Russia's determination to protect an old ally at the expense of the Syrian people.

Both countries might say that what happened is this: The common interests that the "reset" was meant to emphasize – arms control, counterterrorism, the global economy – have taken a back seat to awakened geopolitical rivalries and **diverging** international **visions**.

Add to this the fact that Mr. Putin is expected to return to Russia's presidency in elections Sunday, bringing with him a blame-the-west perspective for explaining many of Russia's ills.

The result is that stormy days lie ahead for US-Russia relations, many say. Progress on issues like missile defense and NATO-Russia relations is likely to remain stalled – and could suffer serious setbacks if the Syria and Iran crises deteriorate further.

"I foresee a tough year for US-Russia relations," says Andrew Weiss, a former director for Russian affairs on the National Security Council under President Clinton who is now a Russia analyst at the RAND Corp. in Arlington, Va. With little prospect for advances, he adds, the Obama administration is likely to focus on preventing backsliding. "The emphasis will be on ensuring that these fast-moving conflicts don't put the remaining areas of cooperation at risk," he says.

Others say the current frictions demonstrate how relations, despite the efforts of three administrations, have never overcome cold-war mistrusts to progress to a deeper level.

"Under both Clinton and Bush, the US made it look like things were moving forward with Russia by focusing on things that were easier to do and that didn't require sacrifice from either side," says Paul Saunders, executive director of the Center for the National Interest in Washington.

Three years ago this month, President Obama said he **hoped to promote** more **cooperation** between the U.S. and Russia. It would be hard to see how that may happen as Vladimir Putin approaches power once again. Host Scott Simon speaks with the U.S. ambassador to Russia, Michael McFaul, about Sunday's elections in Russia.

#### Relations collapse inevitable

Kupchan 8/21/12 (Charles, Whitney Shepardson Senior Fellow, 8/21/12, <http://www.cfr.org/russian-fed/russia-joins-wto-amid-continuing-tensions-us/p28858>)

Russia’s accession to the WTO this Wednesday marks the successful end of a long and tortuous road of negotiations. Washington played an important role in paving the way, in the end game helping to remove the final hurdle by pressing Georgia to acquiesce to Russian membership despite the continuing acrimony between Tblisi and Moscow. Russia’s admission to the WTO should thus mark a significant advance in U.S.-Russian relations – a major step forward in the so-called “reset.” But the opposite is true. Relations between Washington and Moscow have been particularly strained of late, with the Obama administration justifiably angry over the Kremlin’s intransigent alignment with a Syrian regime using brute force against its own people. Meanwhile, the U.S. Congress has yet to graduate Russia from Jackson-Vanik restrictions – economic sanctions put in place in the 1970s intended to pressure the Soviet Union to allow emigration of its Jews. Congress is also considering legislation which would link normal trade relations with Russia to the country’s readiness to improve its record on human rights. The so-called Magnitsky Bill and related proposals envisage the public disclosure of a blacklist of human rights violators and the imposition of a visa ban on such individuals. Sergei Magnitsky was a Russian whistleblower who was imprisoned and then died while under policy custody in 2009. Without Russia’s graduation from Jackson-Vanik, commerce between the U.S. and Russia will not fully benefit from Russia’s accession to the WTO. And the Kremlin has expressed outrage that Congress is linking trade and human rights, claiming that Washington has no right to interfere in Russia’s domestic affairs. Senior Russian officials have threatened to retaliate with their own restrictions on visas for Americans, a move that could impair economic cooperation. Congress’ reluctance to repeal Jackson-Vanik stems in part from partisan wrangling amid the home stretch of the presidential race. Mitt Romney is positioning himself as the foreign policy hardliner in the contest, seeking to portray Obama as insufficiently tough in his conduct of statecraft. Romney is reserving his best rhetoric for the Kremlin, going so far as to declare that Russia is America’s chief foe. Although such claims bear little semblance to reality, the Republicans are ready to pounce if Democrats appear to be too accommodating of the Kremlin. As a result, the effort to move Russia past the Jackson-Vanick era has bogged down on Capitol Hill. Moreover, although Congress is more than justified in criticizing Russia on matters of human rights, there is also a counterproductive Russophobia on Capitol Hill that is best explained as a hangover from the Cold War. It is appears probable that Congress will be finally be ready to graduate Russia from Jackson-Vanik during the lame duck session that follows the November election. But even so, this episode is revealing America’s schizophrenic view of Russia and casting an unfortunate shadow over what should be an auspicious moment in commercial ties between the two countries. For its part, Russia has played right into the hands of American voices arguing that the Kremlin should be kept at arm’s length. The Russian government continues to trample on political freedoms; last week’s conviction of the punk band Pussy Riot is a case in point. The Kremlin’s **repression of political opponents** is not only distasteful, but also unnecessary; Putin’s political machine and personal popularity are more than sufficient to give him a strong hand. Putin’s more **confrontational foreign policy** is also costing him dearly in Washington. Initially, many American observers presumed that his more blustery tone was aimed at shoring up support in preparation for the presidential election. But Putin’s provocations have not abated, especially when it comes to NATO’s plans for **missile defense and**, most importantly, the crisis in **Syria**. Putin was arguably justified in reacting with pique to the NATO operation in Libya on the grounds that it brought about regime change under the cover of a UN mandate intended to protect civilians. But smarting over the Libya mission provides Putin no reason whatsoever to embrace a government in Syria that is mercilessly killing its own citizens. Indeed, the Kremlin seems to have backed itself into a corner, stuck supporting a regime that has lost its legitimacy and decency in the court of world opinion. Russia gains nothing from standing with Assad – and the chilling effect on U.S.-Russian relations will last a long time. Indeed, the Kremlin’s policy toward Syria is raising troubling questions in Washington about Russian intentions and its suitability as a strategic partner. Even in the absence of these tensions in U.S.-Russian relations, the implications of Russia’s accession to the WTO should not be overstated. To be sure, there will be significant economic benefits to Russia and its trading partners. But WTO membership has only modest potential to foster ambitious economic and political reforms or to encourage Russia to more fully embrace Western norms. After all, China has been a WTO member since 2001, but its inclusion has done little to dismantle state capitalism or encourage political reform. Russia takes an important step in the right direction on Wednesday. But when it comes to consolidating rapprochement between Washington and Moscow and more fully anchoring Russia in Western markets and institutions, there is still much hard work to be done.

#### No link

#### 97% of resources are already covered by legal agreements – they’re not launching nukes for the other 3%

Igor Alexeev 2-20-2013, Strategic Culture Foundation, “Economic Cooperation Prevents Conflict of Interests in the Arctic” http://www.strategic-culture.org/news/2013/02/20/economic-cooperation-prevents-conflict-interests-in-arctic.html

As to energy policy the members of the Arctic «five» have preferential rights to tap its resources. It should be noted, that 97% of the discovered and potential reserves of the Arctic are located under the sovereign jurisdiction of the Arctic states. Concerned countries especially China and some members of the EU should consider that there is no «unclaimed» territory in the region. However, third parties can freely apply for a mining claim through bilateral agreements. Most probably the Arctic sweet spots will be developed on the basis of public–private partnership.

#### Arctic drilling now

Jernelov 1/20

[Arne, Times of Oman,1/20/13, [Gas and oil companies vying for a position](http://www.timesofoman.com/Columns/Article-796.aspx)

http://www.timesofoman.com/Columns/Article-796.aspx]

Not only states are playing for position in the Arctic. The large oil and gas companies are very active, too. In the wake of the BP oil spill in the Gulf of Mexico in 2010 and the subsequent US drilling embargo, the approval of Shell's drilling operations off the Alaskan coast received considerable media attention. However, this year's planned drilling of three wells in the Chukchi Sea and two in the Beaufort Sea was first reduced to one well and then postponed until next year after a containment dome – an emergency device for stopping a blowout – was damaged. In other parts of the Arctic, though, exploratory drilling has continued. Cairn Energy is drilling south and west of Greenland. In Russia, Rosneft and BP are involved in a complicated arrangement to exploit Arctic offshore oil and gas resources – for example, in the Pechora Sea. Rosneft has also signed exploration agreements with Statoil, ExxonMobil, and Eni. Of the large oil companies, only one – France's Total – has argued against Arctic oil exploration and exploitation on the grounds of environmental risks and economic costs.

### AT: Natural gas labor shortage

**Employment incentives and training solve**

**Davies, 12** – senior writer for the Fed Gazette, a publication of the Federal Reserve Bank of Minneapolis (Phil, “Desperately seeking workers in the oil patch” 4/18,

<http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=4852>)

In the oil patch, labor supply constantly plays catch-up with demand—setting it apart from most areas of the Ninth District and the nation, where unemployment rates remain high in the wake of the Great Recession. Oil country is a place where finding a job typically takes less than a day, unskilled laborers can make over $60,000 per year and restaurants offer sign-on bonuses and prize drawings to attract workers.

As local pools of available labor have drained, job seekers have poured into the oil patch from other parts of the district, from distant states and even from other countries. But still there aren’t enough outsiders arriving to satisfy rising demand for labor in a white-hot regional economy driven by ongoing oil and gas exploration, drilling and production.

Markets are rising to the workforce challenges of the oil boom. For example, employers have raised wages to lure workers in a variety of industries, not just oil and gas. But when jobs are plentiful and wages high, yet employers still go begging for workers—especially in this national economy—it’s clear there are barriers to the free flow of labor into the oil patch. One obstacle is external to the region—low unemployment in eastern North Dakota that discourages migration from that area.

#### Squo solves the labor shortage

**Davies, 12** – senior writer for the Fed Gazette, a publication of the Federal Reserve Bank of Minneapolis (Phil, “Desperately seeking workers in the oil patch” 4/18,

<http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=4852>)

However, down the road, labor supplies are likely to increase in the oil patch as state and local governments invest in sewers, highways and other infrastructure, and developers build more housing for workers and their families.

Rising wages in a range of industries should encourage more local residents to enter the workforce and attract more workers from outside the region willing to brave frigid winters. “We’re catching up with the rest of the world,” Baker said. “We were a low-wage environment prior to [the oil boom], and thank goodness we’re no longer famous for that.”

### AT: No infrastructure

#### Expansion now

**Moser, 12/27**/12 – partner at Kaye Scholer, focuses his practice on the planning, development, acquisition, financing, refinancing, operation and sale of energy and infrastructure assets around the world. He has represented investment funds, developers, industrial sponsors, banking and investment firms, governments and agencies in investments and transactions in a wide variety of industries, including oil and gas, transportation, power, water, professional athletics facilities, and education. Joel is an adjunct professor at Columbia University School of International and Public Affairs and a member of the Council on Foreign Relations. He is the founding editor of Global Infrastructure (Joel, “Money matters: oil & gas infrastructure investment comes of age” Lexology,

<http://www.lexology.com/library/detail.aspx?g=9f7ed19c-08eb-4bb8-8beb-c7ff64e60a24>)

As the US economy continues to slowly improve, 2013 may usher in the start of the biggest expansion of energy infrastructure investment seen in the US in more than 50 years, particularly in regard to tight gas and tight oil.

This is the result of two mega trends converging: the maturation of investment funds focused on infrastructure as an asset class and the discovery of vast untapped oil and gas reserves in North America, particularly from Canada’s oil sands and in US shale beds such as the Marcellus formation, which according to the United States Geological Survey covers roughly 95,000 square miles, ranging in depth from 4,000 to 8,000 feet, as well as the larger Utica formation.

As a result, the US Energy Information Administration (EIA) projects US natural gas production to increase from 21.6 trillion cubic feet in 2010 to 27.9 trillion cubic feet in 2035, a 29% increase. Almost all of this increase is due to projected growth in shale gas production, which is expected to grow from 5.0 trillion cubic feet in 2010 to 13.6 trillion cubic feet in 2035.1

However, delivering this reserve to consumers will require the building and financing of pipelines, storage, transmission and waste water containment and treatment facilities. According to a recent study conducted by industry analyst firm IHS, nearly $1.9 trillion in cumulative capital investments in the drilling and capturing of tight gas are expected to be made between 2010 and 2035.2

### 2AC Moniz

#### If stupidity were a VI this disad would lose them the debate

#### A. The link evidence takes out the disad- it says the DOE has nothing to do with energy.... ergo they have nothing to do with the plan

#### B. The internal link is absurd- no way the head of the DOE just forgets to update the nuclear stockpile because of new energy projects- their card doesn't come close to saying this

#### C. Assign zero risk- giving them any risk of this disad encourages a model of debate where people paste garbage together hoping to win on risk of a link- this is anti educational and should be rejected at the NDT specifically

#### Sequester jacked deterrence

PAUL D. **SHINKMAN** http://www.usnews.com/news/articles/2013/02/06/general-sequestration-harms-us-ability-to-deter-nukes **2-16**-13

The U.S. military's ability to deter a nuclear attack and to conduct air strikes worldwide is declining due to the current economic crisis, said an Air Force general tasked with overseeing these missions. Projected cuts to flying hours under sequestration will create a ripple effect through all aspects of these Air Force operations, said Lt. Gen. James Kowalski, commander of the Air Force Global Strike Command. Congress's inaction in passing a defense budget for this fiscal year has already begun taking its toll on day-to-day operating equipment, he added.

#### Moniz can walk and chew gum- hes the hero gotham deserves

Glenn **McCullough** Jr. is a former mayor of Tupelo and served as chairman of TVA from 2001-2005. : **March 25,**2013 http://msbusiness.com/blog/2013/03/25/president-obama-makes-good-call-for-doe-secretary/

To lead our nation to great energy security, President Obama has nominated a man of deep qualification, seasoned experience and proven leadership ability. Ernest J. Moniz graduated summa cum laude with a B.S. degree in physics from Boston College. He earned a doctorate in theoretical physics from Stanford University and has honorary doctorates from the University of Athens, the University of Erlangen-Nurenberg and Michigan State University. Currently, Dr. Moniz is the Cecil and Ida Green Professor of Physics and Engineering Systems, director, Laboratory for Energy and Environment and director of the Energy Initiative at the Massachusetts Institute of Technology. Respected internationally, Dr. Moniz served as under secretary of energy from 1997-2001 and associate director for science and technology policy in the Executive Office of The President from 1995-1997. While at the Department of Energy, Dr. Moniz made the world safer by leading a comprehensive review of nuclear weapons stockpile stewardship and serving as the Secretary’s special negotiator for Russian nuclear materials disposition programs. Through his service on the Blue Ribbon Committee on America’s Nuclear Future, Dr. Moniz shaped the vision for the only generation source of 24 – 7 baseload electricity that produces no greenhouse gas emissions. Toward optimizing the interrelationship of energy, the environment and economy, Dr. Moniz has led studies on the future of nuclear power, nuclear fuel cycles, coal, natural gas and solar energy in a low carbon world. Dr. **Moniz has experienced the demands placed on DOE to maintain nuclear weapons for national defense, manage nuclear waste storage facilities and to lead research for development of diverse energy sources needed to fuel the world’s largest economy.** Across our country’s vast energy frontier, in the classroom, research laboratory, at the Department of Energy and in The White House, Dr. Moniz has prepared himself to be **the leader America needs at this pivotal time of challenge and opportunity.** The U.S. Senate will soon begin its constitutional responsibilities of advice and consent on the President’s nomination of Dr. Ernie Moniz for secretary of energy. Dr. Moniz has experienced an investigation of his background and record of work and will face intense questioning. After careful, deliberate consideration, the Senate will do well to render its consent and confirm Dr. Ernie Moniz as secretary of energy.

Just look at his luxurious hair



This picture makes him look much less capable



(this is an MSU card, i have no idea why it is responsive to anything but it was on your list)

#### Arctic collapse causes extinction

Ford 3 (Violet, Vice President – Inuit Circumpolar Conference, “Global Environmental Change: An Inuit Reality”, 10-15, http://www.mcgill.ca/files/cine/Ford.pdf)

The Arctic ecosystem is a fundamental contributor to **global processes** and the balance of **life on earth**. Both the unique physical and biological characteristics of the Arctic ecosystem play key roles in maintaining the integrity of the global environment. Massive ice sheets and ice cover regulate the global temperatures by reflecting much of the solar radiation back into space, the Arctic ocean influences global ocean currents which are responsible for a variety of weather conditions and events, to name but two. The Arctic is also the recipient of the by-products of southern-based industry and agricultural practices. In February 2003, UNEP’s Governing Council passed a resolution effectively recognizes the Arctic as a **“barometer”** or indicator region **of the globe’s environmental health**. This is important and is further reason why Arctic indigenous peoples should work together at the international level. Late last year ICC and RAIPON participated in the Global Environment Facility (GEF) Council meeting in Beijing, China with the aim of sensitizing this organization to the Arctic dimension of global environmental issues. I understand that the GEF is now willing to consider indigenous peoples and their organizations to be distinct and separate from environmental and other NGO’s.

### AT: T Financial Incentives – No R and D

#### We meet – basic R and D has been completed – the plan is linked to production

Paul, et al, 10 [CHARLES PAULL (Chair[1](http://www.nap.edu/openbook.php?record_id=12831&page=R5#p2001b411896000v001)), Monterey Bay Aquarium Research Institute, Moss Landing, California WILLIAM S. REEBURGH (Chair[2](http://www.nap.edu/openbook.php?record_id=12831&page=R5#p2001b411896000v002)), University of California, Irvine (Retired) SCOTT R. DALLIMORE, Geological Survey of Canada, Sidney, British Columbia GONZALO ENCISO, Oil and Gas Exploration Consultant,[3](http://www.nap.edu/openbook.php?record_id=12831&page=R5#p2001b411896000v003) Houston, Texas SIDNEY GREEN, University of Utah, Salt Lake City CAROLYN A. KOH, Colorado School of Mines, Golden KEITH A. KVENVOLDEN, U.S. Geological Survey (Retired), Palo Alto, California CHARLES MANKIN, Oklahoma Geological Survey (Retired), Norman MICHAEL RIEDEL, Geological Survey of Canada, Sidney, British Columbia[4](http://www.nap.edu/openbook.php?record_id=12831&page=R5#p2001b411896000v004) Committee on Assessment of the Department of Energy's Methane Hydrate Research and Development Program: Evaluating Methane Hydrate as a Future Energy Resource, <http://books.nap.edu/catalog.php?record_id=12831>]

The United States is at an important juncture as it considers future, long-term directions for supplying its own energy needs while also reducing the impact on the global environment. Consideration of the greenhouse gas contribution to the atmosphere of each energy source relative to its energy efficiency is a key part of this discussion. Natural gas, and particularly methane, because of its relatively clean environmental footprint—when combusted, natural gas produces less carbon dioxide per energy unit than do other fossil fuels—has emerged as a central piece in planning and implementing the nation’s transition to a future with cleaner, more efficient energy use. Whereas the current estimates of the nation’s undiscovered, conventional natural gas endowment on- and offshore are fairly substantial, the extent and accessibility of alternative sources of natural gas from “unconventional” (more technically challenging) sources are of increasing interest to policy makers, industry, and the public.Methane hydrate, a solid form of methane and water that is widespread in Arctic permafrost areas of the Alaska North Slope and along most of the U.S. offshore continental margins, is an unconventional source of a potentially enormous volume of methane. Although the scientific, engineering, and environmental questions associated with exploration and potential commercial production of methane from methane hydrate are challenging, research programs around the world, including the United States, have made recent, substantial progress in understanding the behavior and extent of the resource and in performing drilling and production tests to extract methane from it. The results of these research endeavors provide the input to gauge the next steps toward realizing sustained, economically and environmentally viable production of methane from methane hydrate. The coming decade will prove pivotal as various nations attempt to make the transition from successful basic research and development programs to full-scale production of methane from methane hydrate in commercially supported operations.

“For” requires intent

**Arterton, 03** – US District Judge (Janet, Applera Corporation and Roche Molecular Systems, Inc., plaintiffs, v. MJ Research Inc. and Michael and John Finney, 3:98cv1201 (JBA), UNITED STATES DISTRICT COURT FOR THE DISTRICT OF CONNECTICUT, 292 F. Supp. 2d 348; 2003 U.S. Dist. LEXIS 20903, lexis)

The ordinary meaning of the preposition "for," see Webster's New World Dictionary of the American Language 544 ("with the aim or purpose of; suitable to; appropriate for"), **demonstrates** the **intended use** of the well is that it be capable of holding a tube, and does not require that the tube actually be seated in the well, even though "one embodiment" requires the tubes be "seated in the sample block," '610 Patent, col. 8, l. 65 and col. 9, ll. 31-32, at least while performing PCR.

#### Financial incentives involve two conditions --

#### 1. A transfer of resources

#### 2. Linkage to reduced production costs

EIA, 01 [United States Department of Energy Environmental Information Incentives, Mandates, and Government Programs for Promoting Renewable Energy, “Report Date: February 2001 Next Release Date: None Incentives, Mandates, and Government Programs for Promoting Renewable Energy by Mark Gielecki, Fred Mayes, and Lawrence Prete, [http//lobby.la.psu.edu/\_107th/128\_PURPA/Agency\_Activities/EIA/Incentive\_Mandates\_and\_Government.htm](http://lobby.la.psu.edu/_107th/128_PURPA/Agency_Activities/EIA/Incentive_Mandates_and_Government.htm)]

A financial incentive is defined in this report as providing one or more of the following benefits: A transfer of economic resources by the Government to the buyer or seller of a good or service that has the effect of reducing the price paid, or, increasing the price received, respectively; Reducing the cost of production of the good or service; or, Creating or expanding a market for producers.

#### The plan meets that

EIA, 01 [United States Department of Energy Environmental Information Incentives, Mandates, and Government Programs for Promoting Renewable Energy, “Report Date: February 2001 Next Release Date: None Incentives, Mandates, and Government Programs for Promoting Renewable Energy by Mark Gielecki, Fred Mayes, and Lawrence Prete, [http//lobby.la.psu.edu/\_107th/128\_PURPA/Agency\_Activities/EIA/Incentive\_Mandates\_and\_Government.htm](http://lobby.la.psu.edu/_107th/128_PURPA/Agency_Activities/EIA/Incentive_Mandates_and_Government.htm)]

Whereas these EIA subsidy reports discussed the scope of Federal energy subsidies and attempted to measure the cost of all energy subsidies, this article differs from those studies in three ways. First, this article focuses on regulatory and legislative mandates, as well as, financial incentives and Federal R&D for renewable energy, including renewable transportation fuels. Federal R&D is included because its cost to the government is well measured by the Federal budget process, and R&D is integral to lowering costs and/or reducing the time it takes for renewable technologies to become commercially viable. Second, this article does not measure the total cost of incentives, though it does provide some measures related to incentive costs. Finally, this article provides an assessment of the aggregate impact of the various programs for promoting renewable energy.

#### Applied R and D and linkage solves ground explosion

EIA, 06 [3 Federal Energy Research and Development, <http://www.eia.gov/oiaf/servicerpt/subsidy/pdf/research.pdf>]

Research and Development Defined Federal energy-related R&D can be described as falling 1950 1960 1970 1980 1990 2000 0 10 20 30 40 50 60 Billion 1999 Dollars Space Defense Transportation Health Energy Natural Resources and Environment Figure 2. Federal Research and Development Outlays by Program, Fiscal Years 1950-1999 Note: Budget figures for Transportation, Natural Resources and Environment, and Agriculture are similar and thus difficult to distinguish graphically. Agriculture data are not shown in this graph. Source: Office of Management and Budget, Budget of the United States Government, Fiscal Year 2000 (Washington, DC, February 1999), Historical Tables, pp. 160-165. into three classes: basic research, research that seeks to develop new energy technologies, and research that seeks to improve existing technologies. • Basic Research. The potential beneficiaries of basic research could be considered to be the population of the United States or the world as a whole. Basic research includes research projects designed to pursue the advancement of scientific knowledge and the understanding of phenomena rather than specific applications. • Research To Develop New Technologies. The efforts in this context involve attempts to discover new scientific knowledge that can have commercial application. Although the end objective of the research is known, the research task is difficult and uncertain. • Research To Improve Existing Technologies. These efforts emphasize the use of scientific knowledge to design and test new processes that may have substantial technical and cost uncertainties. The immediate beneficiaries are generally well defined: current producers and consumers of particular fuels or operators, and customers of the technology being improved.

#### Prefer it –

#### Topic Education and AFF Flex – they kill debates over new tech – such as IFRs, solar nanotech and thorium – R and D is inevitable as an effect, takes out their offense and proves in depth mechanism debates are preferable and that they overlimit

#### Only R and D has unique fed key warrants – key to viable incentives affs

#### Precision – our interp is from the EIA – most predictable

#### Plan and rez check indirect v. direct

#### Reasonability – they cause a race to the bottom that destroys substantive debate

### AT: CP

#### condo

#### Perm the Economic Development Administration should do the plan

#### Perm do both

#### Doesn’t solve methane – that is about drilling

#### Natural gas prices key

Paul N. Cicio (President, Industrial Energy Consumers of America) August 2012 “RE: In Response to Michael A. Levi, “The Case for Natural Gas Exports” Op¶ -¶ Ed, August 15, 2012¶ in¶ The¶ New York Times” http://www.ieca-us.com/wp-content/uploads/NY-Op-Ed-Levi-Response\_08.27.12.pdf

The August 15, 2012 op¶ -¶ ed in The New York Times, authored by Michael A. Levi, titled "The Case for¶ Natural Gas Exports," completely misses the mark by conveniently looking at the export issue narrowly.¶ The op¶ -¶ ed overlooks the massive domestic economic impl ications and jobs of abundant and affordable¶ natural gas if used in the U.S.; the significant growing accumulative domestic demand that is underway;¶ and the dangers of exports increasing U.S. natural gas prices to international levels for every consumer¶ in¶ the country. Using natural gas in manufacturing products and exporting those products is the best¶ way to create jobs and economic growth.¶ For clarity, prices of natural gas on the NYMEX are trading at about $2.67 per MMBtu and rise an¶ average of 2¶ 7% per year to 2020. So, even without exports, prices are going up rapidly. And, as they do,¶ both our natural gas and¶ electricity prices¶ will go up¶ –¶ a double impact for all consumers.¶ There are¶ now¶ fourteen applications to export natural gas¶ before the U¶ .S. Department of Energy, which¶ account for¶ an equivalent demand of 6.7¶ T¶ cf, a 30 percent increase above today’s level. That is a very¶ significant increase. For perspective, U¶ .¶ S¶ .¶ demand increased only 4.4 percent from 2000 to 2011. The¶ manufacturing sector¶ has announced projects of $70 billion in capital investments on the back of low¶ natural gas prices that will increase demand about 3.7¶ T¶ cf per year. Electric utilities are engaged in¶ massive coal to natural gas fuel¶ -¶ switching¶ ,¶ and truck and bus fleets acr¶ oss the country are switching¶ from diesel to natural gas. Domestic demand is growing rapidly.¶ As more and more LNG cargos are shipped from the U.S., it increases the potential for domestic natural¶ gas to be priced like crude oil is today, on internat¶ ional demand. It is NOT in the public interest to pay¶ higher natural gas prices when demand for natural gas from the Far East increases.¶ The shale gas revolution has given U.S. manufacturing our biggest competitive advantage in a¶ generation. Proponen¶ ts of expediting U.S. natural gas exports tend to focus only on the jobs that can be¶ created on the natural gas well pad, at the expense of the more substantial job growth in the¶ manufacturing value chain that would flow from using natural gas as an afford¶ able raw material and as¶ an energy source. While we do not oppose exports, common sense says that we can create more jobs by¶ using the natural gas domestically and exporting value¶ -¶ added products. This country needs to be¶ thoughtful about maximizing America¶ n job creation and our energy diversity

Next gen economy doesn’t solve

#### Links to politics - policy proposal – dmes and republicans and their link isn’t generic enough

#### Absent the counterplan the plan fails

Saha and Muro 1/14 (Devashree Saha and Mark Muro, Brookings, “Cut to Invest: Create a Nationwide Network of Advanced Industries Innovation Hubs”, <http://www.brookings.edu/research/papers/2013/01/14-federalism-series-advanced-industries-hubs>, January 14, 2013)

In the aftermath of the Great Recession, the United States needs to transition from an economic model focused on finance and consumption toward a “next economy” model oriented toward innovation, engineering, and production. Such a model promises to increase the nation’s productivity, drive export growth, and provide good-paying jobs. Advanced industries—characterized by dynamic R&D and engineering-intensive industrial concerns—must be a focal point of this new direction. Delivering products and services in industries ranging from aerospace and space to auto assembly, advanced energy systems, IT, and medical devices, AIs comprise over 10 percent of the overall economy, generate 45 percent of U.S. goods exports, and support over 4 million high-skilled, and several million more ancillary, jobs. All too often with advanced industries, companies fail to make adequate investments in innovation because the benefits are undetermined, the risks are too high, and the project timelines too extended. A national network of innovation hubs would address these challenges by greatly accelerating the pace of innovation and new-product development. Nor is that all. A prime site of R&D activity in the U.S. economy, AIs punch well above their weight in building and expanding national and regional economic competitiveness. Innovations in AIs—such as photonics technology with applications in optical communications, medical diagnostics, semiconductors, optical imaging, and the now ubiquitous GPS technology—tend to ripple across the economy and drive broader productivity. As a result, AIs contribute inordinately to the competitiveness of the nation’s critical traded sectors, which will be crucial in helping the United States to balance its foreign trade. Simply put, the U.S. economy will not regain its full vitality and preeminence without a strong push to extend the leadership of AIs.

### AT: Basic R and D

#### Links to politics

#### THE CP Solves NONE OF the case – basic r and d has ALREADY BEEN Done – this cp is a joke – the point is that costs need to be decreased to spur cooperation –

#### <already on t> Paul says gotta now transition to production now

Paul, et al, 10 [CHARLES PAULL (Chair[1](http://www.nap.edu/openbook.php?record_id=12831&page=R5#p2001b411896000v001)), Monterey Bay Aquarium Research Institute, Moss Landing, California WILLIAM S. REEBURGH (Chair[2](http://www.nap.edu/openbook.php?record_id=12831&page=R5#p2001b411896000v002)), University of California, Irvine (Retired) SCOTT R. DALLIMORE, Geological Survey of Canada, Sidney, British Columbia GONZALO ENCISO, Oil and Gas Exploration Consultant,[3](http://www.nap.edu/openbook.php?record_id=12831&page=R5#p2001b411896000v003) Houston, Texas SIDNEY GREEN, University of Utah, Salt Lake City CAROLYN A. KOH, Colorado School of Mines, Golden KEITH A. KVENVOLDEN, U.S. Geological Survey (Retired), Palo Alto, California CHARLES MANKIN, Oklahoma Geological Survey (Retired), Norman MICHAEL RIEDEL, Geological Survey of Canada, Sidney, British Columbia[4](http://www.nap.edu/openbook.php?record_id=12831&page=R5#p2001b411896000v004) Committee on Assessment of the Department of Energy's Methane Hydrate Research and Development Program: Evaluating Methane Hydrate as a Future Energy Resource, <http://books.nap.edu/catalog.php?record_id=12831>]

The United States is at an important juncture as it considers future, long-term directions for supplying its own energy needs while also reducing the impact on the global environment. Consideration of the greenhouse gas contribution to the atmosphere of each energy source relative to its energy efficiency is a key part of this discussion. Natural gas, and particularly methane, because of its relatively clean environmental footprint—when combusted, natural gas produces less carbon dioxide per energy unit than do other fossil fuels—has emerged as a central piece in planning and implementing the nation’s transition to a future with cleaner, more efficient energy use. Whereas the current estimates of the nation’s undiscovered, conventional natural gas endowment on- and offshore are fairly substantial, the extent and accessibility of alternative sources of natural gas from “unconventional” (more technically challenging) sources are of increasing interest to policy makers, industry, and the public.Methane hydrate, a solid form of methane and water that is widespread in Arctic permafrost areas of the Alaska North Slope and along most of the U.S. offshore continental margins, is an unconventional source of a potentially enormous volume of methane. Although the scientific, engineering, and environmental questions associated with exploration and potential commercial production of methane from methane hydrate are challenging, research programs around the world, including the United States, have made recent, substantial progress in understanding the behavior and extent of the resource and in performing drilling and production tests to extract methane from it. The results of these research endeavors provide the input to gauge the next steps toward realizing sustained, economically and environmentally viable production of methane from methane hydrate. The coming decade will prove pivotal as various nations attempt to make the transition from successful basic research and development programs to full-scale production of methane from methane hydrate in commercially supported operations.

#### Permute do both

#### Doesn’t solve international collaboration which has to be focused on development – that’s 1ac Johnson!

#### Research is insufficient to solve the aff -- and development is too risky for the private sector to undertake it alone

Fletcher & Borne, ‘12

[Anthony C., PhD in organic chemistry, and had a 20-year career as a management consultant with Deloitte and with Cap Gemini Ernst and Young and is now a freelance consultant, Phillip E., PhD in physical chemistry, is a professor of pharmacology and Associate Vice Chancellor for Innovation and Industrial Alliances at the University of California San Diego, the co-founder of SciVee.tv, and founding editor-in-chief of this journal, 9-27, “Ten Simple Rules To Commercialize Scientific Research,” PLoS Comput Biol 8(9), http://www.ploscompbiol.org/article/info%3Adoi%2F10.1371%2Fjournal.pcbi.1002712]

Rule 6: Separate The R And The D And Be Realistic There is a big difference between basic research and the development of such research to the point of commercialization. Generally, development is done by the entity commercializing the product and could be considered the mid-point between academic and commercial cultures. Development can be hugely expensive and time-consuming and presents a huge financial risk to the investor, especially as it is a front-loaded cost. The investor has to look at such topics as mass production (scaling up from lab levels), distribution, logistics, pricing, practicality, marketing, safety, the law, etc. Often times, one or more of these proves insoluble and the breakthrough has to languish, possibly for decades, until a solution appears. Personal genomics is an example where extensive commercialization of a number of ideas has had to wait until next generation sequencing makes the products feasible. Scientists also need to be realistic in valuing the idea—they typically have no concept of the development costs and often feel the basic research represents the bulk of the value, which is almost never the case. Rule 7: The Market May Not Exist At The Outset The old fashioned method of working out what your factory can make (being “production led” in the jargon) and then seeing if there is a market is a largely discredited approach in modern business. In the case of basic scientific research, of course, this is exactly the situation—scientists invariably investigate things out of intellectual curiosity without any view to commercialization. The original research will not be aimed at solving any commercial, market-related problems, outside of obvious areas such as pharmaceuticals and engineering, and so the breakthrough is inevitably made in isolation of market requirements. There are various anecdotes that illustrate the apparent lack of market. “Who needs music on the move?” was one comment about the Sony Walkman. “No one wants a tablet computer with no keyboard”, and so on. Examples like these are often used to “prove” that a good idea will make it anyhow, but it's simply not true in the majority of cases. It conveniently sidesteps the point that if no ready market exists, it has to be developed. That takes money, advertising, skill, and time. All of which add to the development costs.

It’s vital to solvency -- solves a unique part of the innovation spectrum that collapses commercialization and applies research breakthroughs otherwise

Nolan, 2-1-13

[Kelly, “RESEARCH COMMERCIALIZATION CENTRES RECEIVE NEW FUNDING,” http://www.nce-rce.gc.ca/Media-Medias/news-communiques/News-Communique\_eng.asp?ID=123]

“The CECR program has been extremely effective in bridging the challenging gap between innovation and commercialization,” added Nancy Hughes Anthony, Chair of the NCE’s Private Sector Advisory Board. “It occupies a unique place along the innovation continuum, leveraging the expertise and resources of the private and public sectors to translate promising research into tangible benefits for Canada.” The CECR program is managed by the Networks of Centres of Excellence Secretariat on behalf of the three federal granting agencies—the Natural Sciences and Engineering Research Council (NSERC), the Canadian Institutes of Health Research (CIHR), and the Social Sciences and Humanities Research Council (SSHRC)—in partnership with Industry Canada and Health Canada. It was created in 2007 with a $285 million investment over five years. The program’s budget was $31.2 million in 2011-12, and it currently supports 22 active centres based across the country. The NCE operates a suite of national funding programs that mobilize Canada’s best research, development and entrepreneurial talent and focus it on specific issues and strategic areas. By supporting large scale collaborations between universities, industry, government and not-for-profit organizations, NCE programs focus research capacity on economic and social challenges, help commercialize and apply research breakthroughs, increase private-sector R&D, and train highly qualified people.

#### Basic research doesn’t spill up

Jones 10 [Richard, Professor of Physics and the Pro-Vice Chancellor for Research and Innovation at the University of Sheffield, “On Pure Science, Applied Science, and Technology” <http://www.softmachines.org/wordpress/?p=926>]

Bush thus left us with three ideas that form the core of the postwar consensus on science policy. The first was that basic research should be carried out in isolation from thoughts of potential use – that it should result from ” the free play of free intellects, working on subjects of their own choice, in the manner dictated by their curiosity for exploration of the unknown”. The second was that, even though the scientists who produced this basic knowledge weren’t motivated by practical applications, these applications would follow, by a process in which potential applications were picked out and developed by applied scientists, and then converted into new products and processes by engineers and technologists. This one-way flow of ideas from science into application is what innovation theorists call the linear model of innovation. Bush’s third assertion was that a country that invested in basic science would recoup that investment through capturing the rewards from new technologies.¶ All three of these assertions have subsequently been extensively criticised, though the basic picture has a persistent hold on our thinking about science. Perhaps the most influential critique, from the science policy point of view, came in a book by Donald Stokes called Pasteur’s quadrant. Stokes argued from history that the separation of basic research from thoughts of potential use often didn’t happen; his key example was Louis Pasteur, who created a new field of microbiology in his quest to understand the spoilage of milk and the fermentation of wine. Rather than thinking about a linear continuum between pure and applied research, he thought in terms of two dimensions – the degree to which research was motivated by a quest for fundamental understanding, and the degree to which it was motivated by applications. Some research was driven solely by the quest for understanding, typified by Bohr, while an engineer like Edison typified a search for practical results untainted by any deeper curiosity. But, the example of Pasteur showed us that the two motivations could coexist. He suggested that research in this “Pasteur’s quadrant” – use-inspired basic research – should be a priority for public support.¶

#### Permute do the cp – they specify how, which is a possible example – effect v. mandate distinction

#### Stimulus should of triggered the link

Dave **Roos 3-31**-12 http://www.howstuffworks.com/next-economic-bubble-burst2.htm

As part of the American Recovery and Reinvestment Act, the U.S. Congress voted to invest nearly $30 billion in programs like a "smart" national electricity grid, the "greening" of federal buildings, low-income home weatherizing and green job training [source: WhiteHouse.gov].

#### No impact and doesn’t turn the case

Gross 6 (Daniel, writer for Slate, “The Prius Bubble,” July, <http://www.slate.com/articles/business/moneybox/2006/07/the_prius_bubble.2.html>)

So, why isn't anyone panicking? In 2001 and 2002, when the postmortems of the dot-com era were written, it was easy to declare the whole thing a failure and a scam. But with the passage of time, another picture has emerged. In a process that has repeated itself throughout history—with the railroad and telegraph, for example—investment bubbles frequently kick-start new industries and leave behind innovations and commercial infrastructure that others can use. The fiber-optic cable and dot-com business infrastructure that was rolled out in the 1990s wasn't simply abandoned. Second-generation entrepreneurs and companies have used it to great effect. The excessive investment in infrastructure may have set off ruinous price wars in 2000. But it also led to the swift rollout of broadband and sharply reduced prices of Web-hosting and data transmission. Google, MySpace, Flickr, YouTube, and iTunes—all these highly successful, quality-of-life-improving businesses—were built on the wreckage of the dot-com era. As consumers, investors, and workers, in other words, we've all been enriched by the fruits of the dot-com boom. It just took a while. A similar process may be unfolding now in the alternative-energy business. Many of these venture-backed alternative-energy firms will fail, and some of the publicly held ethanol stocks will turn out to be turkeys. But fierce competition will lead to price reductions in energy-saving equipment. The vast sums being plowed into research may lead to incremental improvements or revolutionary breakthroughs. And as more giant companies such as Wal-Mart become consumers of alternative-energy products and services, the industry will gain scale—a development that leads to price reductions for all consumers. So, let's hear it for the Prius Bubble.

#### Links to politics

### politics

#### Relations inevitable but no impact and alt causalities they can’t solve

#### Joshi 3/1/13

Yogesh, doctoral student in international politics at the Center for International Politics, Organization and Disarmament (CIPOD), School of International Studies, Jawaharlal Nehru University, New Delhi studying post-Cold War transitions in Indian foreign policy. He is a CSIS-Pacific Forum young leader and also represented India at Global Zero World Summits in Paris (2010) and London (2011). Recently, he joined the steering committee of the International Network of Emerging Nuclear Specialists (INENS) as a career and professional development liaison, “U.S.-India Relations: New Delhi's Responsibility,” http://www.diplomaticourier.com/news/regions/brics/1372-us-india-relations-new-delhis-responsibility

While the U.S. presidential candidates were slugging it out during the debates on foreign policy, India remained conspicuously absent from the narrative. At face value, the omission of India from the debates gave an impression that the country hardly matters in U.S. foreign policy. However, the case was exactly opposite. If there was one foreign policy issue where the Republicans and Democrats had more or less similar views, it was the role of India in the future of U.S. Grand Strategy. In some sense, the presidential elections settled the debate on India’s importance in the U.S.'s world view and future strategic plans. While the campaign was reaching its crescendo, India and the U.S. were engaged in their third annual strategic dialogue–an event of immense geo-political significance first started in 2010. The annual strategic dialogue clearly indicates the level of strategic convergence between New Delhi and Washington, DC. It was therefore not surprising to see that during the recently concluded Asia-Pacific summit, President Obama called upon Indian Prime Minister Manmohan Singh to reveal that India is a "big part" of his second term foreign policy plans. In his first term, President Obama continued the strategic engagement with India initiated by his predecessor, President George W. Bush. The highlight of U.S.-India relations during Obama's first term was his visit to India, in which for the first time the U.S. supported India’s candidacy for a permanent seat at the UN Security Council (UNSC). However, for many critics, Obama has failed to capitalize on the momentum generated in the bilateral relationship by addressing the Indo-U.S. nuclear deal. The reasons for such pessimism are multi-faceted. First, the promise of the Indo-U.S. nuclear deal remains unrealised. Though the U.S was instrumental in manipulating the global nuclear regime to allow India to trade in nuclear material and technologies, its own nuclear industry has not benefited much out of the agreement. India’s killer nuclear liability law, with provisions for supplier culpability, has hindered the participation of nuclear consortiums such as Westinghouse and General Electric in India’s vast nuclear energy market. Second, the strategic partnership has failed to convince India to tow the U.S. line on a number of issues, including a nuclear Iran and a more robust alliance against China. Though India has repeatedly declared that it opposes Iran’s development of a nuclear bomb, the suggestion of military action against Iran finds no traction with Indian policymakers. Similarly, India remains cagey about consummating the military component of its strategic relationship with the U.S. insofar it wants to keep China in good humour.

#### Deal doesn’t mean anything – passage still a ways off

**Mali, 3/31/13** (Meghashyam, http://thehill.com/blogs/blog-briefing-room/news/291127-rubio-no-deal-yet-on-immigration-reform)**Red**

Sen. Marco Rubio (R-Fla.) on Sunday cautioned that reports that a bipartisan group in the Senate was close to a deal on reforming the nation’s immigration laws **was “premature.”** “I’m encouraged by reports of an agreement between business groups and unions on the issue of guest workers,” said Rubio in a statement released Sunday. “However, reports that the bipartisan group of eight senators have agreed on a legislative proposal are premature.” Rubio’s statement came after reports Saturday said business and labor groups had reached a deal on a plan to grant visas to low-skilled guest workers, a key stumbling block in congressional efforts to forge immigration reform. The news led to speculation that the “Gang of Eight” senators who are working on an immigration reform deal were nearing a final accord. Rubio’s colleagues in the group were much more optimistic about quickly finalizing a deal. On the Sunday morning shows, Sen. Lindsey Graham (R-S.C.) said the group had reached a deal “conceptually” and could roll out a bill as early as “next week.” Sen. Charles Schumer (D-N.Y.), who helped broker the business-labor agreement, said a floor vote could come as early as May. Rubio, however, said the group had made “substantial progress” but cautioned that unveiling the legislation would “**only be a starting point**.” “But arriving at a final product will require it to be properly submitted for the American people’s consideration, through the other 92 senators from 43 states that weren’t part of this initial drafting process. In order to succeed, this process cannot be rushed or done in secret,” said Rubio. On Saturday, in a letter to Senate Judiciary Chairman Patrick Leahy (D-Vt.) Rubio cautioned against a “rush to legislate” on immigration reform. He warned that moving too quickly could **cost public support for immigration reform.** “A rush to legislate, without fully considering all views and input from all senators, would be fatal to the effort of earning the public’s confidence,” said Rubio. Rubio, a Tea Party favorite, **would play a key role in winning support for any immigration bill among conservative GOP lawmakers.**

#### Rubio will force more debate

**Washington Post, 4/1/13** (http://www.washingtonpost.com/blogs/the-fix/wp/2013/04/01/why-marco-rubio-needs-to-slow-walk-immigration-reform/)

Shortly after 8 a.m. on Sunday morning, Florida Sen. Marco Rubio (R) released a statement making clear that there was no deal on comprehensive immigration reform. “I’m encouraged by reports of an agreement between business groups and unions on the issue of guest workers,” Rubio said. “However, reports that the bipartisan group of eight senators have agreed on a legislative proposal are premature.” The statement — both its timing and its contents — was a deliberate attempt by Rubio to slow down the momentum toward a deal on immigration. Rubio knew that New York Democratic Sen. Chuck Schumer — another member of the so-called “Gang of 8″ that is negotiating on immigration and the de facto chief strategist for his side — was scheduled to appear on NBC News’s “Meet the Press” later Sunday morning. And the Florida Republican knew that Schumer would cast the immigration negotiations as a done deal, which, of course, he did. (“With the agreement between business and labor, every major policy issue has been resolved on the ‘Gang of Eight,’” Schumer told Chuck Todd.) What Rubio was doing in releasing his statement then was ensuring that Schumer’s “it’s all over but the shouting” declaration didn’t wreak of capitulation to conservatives who are closely watching every move the Florida Republican makes — on immigration and everything else. “The Senate is littered with Republicans who negotiated with Chuck Schumer, thinking they had one deal when he had something else entirely in mind,” said Rick Wilson, a Florida-based GOP consultant. “I think [Rubio is] very mindful of the two potential negative outcomes (something perceived as a blanket/easy amnesty or a deal perceived as not moving the ball in a meaningful way) but still views this as a right policy/right politics matter.” Rubio allies insist the effort to reform the immigration system is not something he could have avoided even if he had wanted to, which, they vehemently note, he did not, solely because of his ethnic background (he’s Cuban-American) and the fact that most everyone in both parties thinks he is running for president. “The truth is that this is not that complicated,” said Rubio consultant Todd Harris. “Marco has told anyone who will listen what his principles are regarding immigration reform, as well as what he could support and what his red lines are. Floridians know it, the conservative base knows it and so do his fellow senators.” True enough. But, appearances (and perceptions) matter quite a bit in politics. And, if the perception is that Rubio either a) got rolled or b) rolled over when it comes to a path to citizenship for undocumented workers, which Democrats insist must be in any comprehensive plan, it could mean real trouble for him with the conservative base of the GOP. In the end, Rubio has to be able to say to conservatives something along these lines: “I fought with Democrats. I told them what we needed to allow undocumented workers a path to citizenship. They didn’t want it but I held firm and we got it done.” **The fight is almost as important as the final outcome**, politically speaking, when it comes to Rubio’s relationship with the base. Yes, having been seen as the lead GOP voice in making comprehensive immigration reform happen would be a huge feather in his 2016 general election cap, but Rubio and his team know that to get there they have to win the Republican nomination first.

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#### Not top of the docket, won’t pass, and Obama’s not spending the PC

Hennessey 3-25-13 (Kathleen Hennessey, Obama tries to push stalled immigration talks forward, http://www.latimes.com/news/politics/la-pn-obama-stalled-immigration-talks-20130325,0,7503326.story)

In January, Obama threatened to send his own bill to Congress if the group did not produce a proposal “in a timely fashion.” His remarks Monday suggest the White House is willing to give the group more time to work before it takes that step.¶ “I expect the debate to begin next month. I want to sign that bill into law as soon as possible,” he said. “We know that real reform means continuing to strengthen our border security and holding employers accountable. … Let’s get this done.”¶ Obama’s time frame may be tough for senators to reach. U.S. Sen. Patrick J. Leahy (D-Vt.), chairman of the judiciary committee, already has cast doubt on the chances of getting a bill through his committee by the end of April. Even if the bill comes to the floor next month a vote would not necessarily follow quickly. Senate Majority Leader Harry Reid (D-Nev.) has said he plans to let senators debate the legislation at length, and there remains no clear path for the bill through the Republican-led House.¶ The senators remain deadlocked over several issues, including the details of a guest-worker program and how the legislation will implement and define security at the border.¶ Obama has largely steered clear of the talks, instead offering broad elements he wants to see included. The president on Monday used the platform to revive his call for a path to citizenship for illegal immigrants, the key requirement for any bill.

#### Gun control thumps

Murray 3-28 (Mark, “First Thoughts: Obama jumps back into the gun debate,” NBC News, <http://firstread.nbcnews.com/_news/2013/03/28/17501341-first-thoughts-obama-jumps-back-into-the-gun-debate?lite>)

Obama jumps back into the gun debate: With some GOP senators vowing to filibuster the legislation coming to the floor next month and with some analysts saying that reformers have already lost, President Obama today steps back into the gun debate with an event at the White House at 11:40 am ET. Per the White House, Obama will stand with mothers, law-enforcement officials, and Vice President Biden in urging Congress to take action on the upcoming Senate legislation, which includes universal background checks. As we have written before, those checks -- supported overwhelmingly in public opinion polls -- will ultimately define success or failure for gun-control advocates. Democrats, led by Sen. Chuck Schumer, are trying to get Republicans to back some type of compromise on background checks, given that the filibuster threat means 60 votes will be needed to even begin considering the legislation. That’s why Michael Bloomberg’s Mayors Against Illegal Guns is airing TV ads in key states to also apply pressure. Meanwhile, Politico reports that Sen. Chuck Grassley, the top GOP lawmaker on the Senate Judiciary Committee, is drafting his own Republican gun bill (without background checks), which “could further complicate what will already be a difficult lift for Democrats and the White House.” \*\*\* Obama, bipartisan group still optimistic on immigration reform: While Obama uses the bully pulpit today on guns, yesterday he used it on immigration by granting interviews to the top Spanish-language TV news outlets. “If we have a bill introduced at the beginning of next month -- as these senators indicate it will be -- then I'm confident that we can get it done certainly before the end of the summer,” Obama told Telemundo regarding the Senate bipartisan activity on immigration, per NBC’s Carrie Dann. “I'm optimistic,” he added. “I've always said that if I see a breakdown in the process, that I've got my own legislation. I'm prepared to step in. But I don't think that's going to be necessary. I think there's a commitment among this group of Democratic and Republican senators to get this done.” Speaking of that bipartisan group senators, four of them (Schumer, John McCain, Jeff Flake, and Michael Bennet) held a press conference yesterday in Arizona, where they also expressed optimism. “I’d say we are 90 percent there,” Schumer said, according to Roll Call. “We have a few little problems to work on; we’ve been on the phone all day talking to our other four colleagues who aren’t here. McCain chimed in: “Nobody is going to be totally happy with this legislation -- no one will be because we are having to make compromises, and that’s what makes for good legislation. It’s compromise that brings everybody together.”

#### PC is academically bankrupt, not key to immigration and winners win

Michael Hirsch (chief correspondent for National Journal, previously served as the senior editor and national economics correspondent for Newsweek, based in its Washington bureau) February 7, 2013 “There’s No Such Thing as Political Capital” <http://www.nationaljournal.com/magazine/there-s-no-such-thing-as-political-capital-20130207>

On Tuesday, in his State of the Union address, President Obama will do what every president does this time of year. For about 60 minutes, he will lay out a sprawling and ambitious wish list highlighted by gun control and immigration reform, climate change and debt reduction. In response, the pundits will do what they always do this time of year: They will talk about how unrealistic most of the proposals are, discussions often informed by sagacious reckonings of how much “political capital” Obama possesses to push his program through.¶ Most of this talk will have no bearing on what actually happens over the next four years.¶ Consider this: Three months ago, just before the November election, if someone had talked seriously about Obama having enough political capital to oversee passage of both immigration reform and gun-control legislation at the beginning of his second term—even after winning the election by 4 percentage points and 5 million votes (the actual final tally)—this person would have been called crazy and stripped of his pundit’s license. (It doesn’t exist, but it ought to.) In his first term, in a starkly polarized country, the president had been so frustrated by GOP resistance that he finally issued a limited executive order last August permitting immigrants who entered the country illegally as children to work without fear of deportation for at least two years. Obama didn’t dare to even bring up gun control, a Democratic “third rail” that has cost the party elections and that actually might have been even less popular on the right than the president’s health care law. And yet, for reasons that have very little to do with Obama’s personal prestige or popularity—variously put in terms of a “mandate” or “political capital”—chances are fair that both will now happen.¶ What changed? In the case of gun control, of course, it wasn’t the election. It was the horror of the 20 first-graders who were slaughtered in Newtown, Conn., in mid-December. The sickening reality of little girls and boys riddled with bullets from a high-capacity assault weapon seemed to precipitate a sudden tipping point in the national conscience. One thing changed after another. Wayne LaPierre of the National Rifle Association marginalized himself with poorly chosen comments soon after the massacre. The pro-gun lobby, once a phalanx of opposition, began to fissure into reasonables and crazies. Former Rep. Gabrielle Giffords, D-Ariz., who was shot in the head two years ago and is still struggling to speak and walk, started a PAC with her husband to appeal to the moderate middle of gun owners. Then she gave riveting and poignant testimony to the Senate, challenging lawmakers: “Be bold.”¶ As a result, momentum has appeared to build around some kind of a plan to curtail sales of the most dangerous weapons and ammunition and the way people are permitted to buy them. It’s impossible to say now whether such a bill will pass and, if it does, whether it will make anything more than cosmetic changes to gun laws. But one thing is clear: The political tectonics have shifted dramatically in very little time. Whole new possibilities exist now that didn’t a few weeks ago.¶ Meanwhile, the Republican members of the Senate’s so-called Gang of Eight are pushing hard for a new spirit of compromise on immigration reform, a sharp change after an election year in which the GOP standard-bearer declared he would make life so miserable for the 11 million illegal immigrants in the U.S. that they would “self-deport.” But this turnaround has very little to do with Obama’s personal influence—his political mandate, as it were. It has almost entirely to do with just two numbers: 71 and 27. That’s 71 percent for Obama, 27 percent for Mitt Romney, the breakdown of the Hispanic vote in the 2012 presidential election. Obama drove home his advantage by giving a speech on immigration reform on Jan. 29 at a Hispanic-dominated high school in Nevada, a swing state he won by a surprising 8 percentage points in November. But the movement on immigration has mainly come out of the Republican Party’s recent introspection, and the realization by its more thoughtful members, such as Sen. Marco Rubio of Florida and Gov. Bobby Jindal of Louisiana, that without such a shift the party may be facing demographic death in a country where the 2010 census showed, for the first time, that white births have fallen into the minority. It’s got nothing to do with Obama’s political capital or, indeed, Obama at all.¶ The point is not that “political capital” is a meaningless term. Often it is a synonym for “mandate” or “momentum” in the aftermath of a decisive election—and just about every politician ever elected has tried to claim more of a mandate than he actually has. Certainly, Obama can say that because he was elected and Romney wasn’t, he has a better claim on the country’s mood and direction. Many pundits still defend political capital as a useful metaphor at least. “It’s an unquantifiable but meaningful concept,” says Norman Ornstein of the American Enterprise Institute. “You can’t really look at a president and say he’s got 37 ounces of political capital. But the fact is, it’s a concept that matters, if you have popularity and some momentum on your side.”¶ The real problem is that the idea of political capital—or mandates, or momentum—is so poorly defined that presidents and pundits often get it wrong. “Presidents usually over-estimate it,” says George Edwards, a presidential scholar at Texas A&M University. “The best kind of political capital—some sense of an electoral mandate to do something—is very rare. It almost never happens. In 1964, maybe. And to some degree in 1980.” For that reason, political capital is a concept that misleads far more than it enlightens. It is distortionary. It conveys the idea that we know more than we really do about the ever-elusive concept of political power, and it discounts the way unforeseen events can suddenly change everything. Instead, it suggests, erroneously, that a political figure has a concrete amount of political capital to invest, just as someone might have real investment capital—that a particular leader can bank his gains, and the size of his account determines what he can do at any given moment in history.¶ Naturally, any president has practical and electoral limits. Does he have a majority in both chambers of Congress and a cohesive coalition behind him? Obama has neither at present. And unless a surge in the economy—at the moment, still stuck—or some other great victory gives him more momentum, it is inevitable that the closer Obama gets to the 2014 election, the less he will be able to get done. Going into the midterms, Republicans will increasingly avoid any concessions that make him (and the Democrats) stronger.¶ But the abrupt emergence of the immigration and gun-control issues illustrates how suddenly shifts in mood can occur and how political interests can align in new ways just as suddenly. Indeed, the pseudo-concept of political capital masks a larger truth about Washington that is kindergarten simple: You just don’t know what you can do until you try. Or as Ornstein himself once wrote years ago, “Winning wins.” In theory, and in practice, depending on Obama’s handling of any particular issue, even in a polarized time, he could still deliver on a lot of his second-term goals, depending on his skill and the breaks. Unforeseen catalysts can appear, like Newtown. Epiphanies can dawn, such as when many Republican Party leaders suddenly woke up in panic to the huge disparity in the Hispanic vote.¶ Some political scientists who study the elusive calculus of how to pass legislation and run successful presidencies say that political capital is, at best, an empty concept, and that almost nothing in the academic literature successfully quantifies or even defines it. “It can refer to a very abstract thing, like a president’s popularity, but there’s no mechanism there. That makes it kind of useless,” says Richard Bensel, a government professor at Cornell University. Even Ornstein concedes that the calculus is far more complex than the term suggests. **Winning on one issue** often **changes the calculation for the next issue**; there is never any known amount of capital. “The idea here is, if an issue comes up where the conventional wisdom is that president is not going to get what he wants, and he gets it, then each time that happens, it changes the calculus of the other actors” Ornstein says. “If they think he’s going to win, they may change positions to get on the winning side. It’s a bandwagon effect.”¶ ALL THE WAY WITH LBJ¶ Sometimes, a clever practitioner of power can get more done just because he’s aggressive and knows the hallways of Congress well. Texas A&M’s Edwards is right to say that the outcome of the 1964 election, Lyndon Johnson’s landslide victory over Barry Goldwater, was one of the few that conveyed a mandate. But one of the main reasons for that mandate (in addition to Goldwater’s ineptitude as a candidate) was President Johnson’s masterful use of power leading up to that election, and his ability to get far more done than anyone thought possible, given his limited political capital. In the newest volume in his exhaustive study of LBJ, The Passage of Power, historian Robert Caro recalls Johnson getting cautionary advice after he assumed the presidency from the assassinated John F. Kennedy in late 1963. Don’t focus on a long-stalled civil-rights bill, advisers told him, because it might jeopardize Southern lawmakers’ support for a tax cut and appropriations bills the president needed. “One of the wise, practical people around the table [said that] the presidency has only a certain amount of coinage to expend, and you oughtn’t to expend it on this,” Caro writes. (Coinage, of course, was what political capital was called in those days.) Johnson replied, “Well, what the hell’s the presidency for?”¶ Johnson didn’t worry about coinage, and he got the Civil Rights Act enacted, along with much else: Medicare, a tax cut, antipoverty programs. He appeared to understand not just the ways of Congress but also the way to maximize the momentum he possessed in the lingering mood of national grief and determination by picking the right issues, as Caro records. “Momentum is not a mysterious mistress,” LBJ said. “It is a controllable fact of political life.” Johnson had the skill and wherewithal to realize that, at that moment of history, he could have unlimited coinage if he handled the politics right. He did. (At least until Vietnam, that is.)¶ And then there are the presidents who get the politics, and the issues, wrong. It was the last president before Obama who was just starting a second term, George W. Bush, who really revived the claim of political capital, which he was very fond of wielding. Then Bush promptly demonstrated that he didn’t fully understand the concept either.¶ At his first news conference after his 2004 victory, a confident-sounding Bush declared, “I earned capital in the campaign, political capital, and now I intend to spend it. That’s my style.” The 43rd president threw all of his political capital at an overriding passion: the partial privatization of Social Security. He mounted a full-bore public-relations campaign that included town-hall meetings across the country.¶ Bush failed utterly, of course. But the problem was not that he didn’t have enough political capital. Yes, he may have overestimated his standing. Bush’s margin over John Kerry was thin—helped along by a bumbling Kerry campaign that was almost the mirror image of Romney’s gaffe-filled failure this time—but that was not the real mistake. The problem was that whatever credibility or stature Bush thought he had earned as a newly reelected president did nothing to make Social Security privatization a better idea in most people’s eyes. Voters didn’t trust the plan, and four years later, at the end of Bush’s term, the stock-market collapse bore out the public’s skepticism. Privatization just didn’t have any momentum behind it, no matter who was pushing it or how much capital Bush spent to sell it.¶ The mistake that Bush made with Social Security, says John Sides, an associate professor of political science at George Washington University and a well-followed political blogger, “was that just because he won an election, he thought he had a green light. But there was no sense of any kind of public urgency on Social Security reform. It’s like he went into the garage where various Republican policy ideas were hanging up and picked one. I don’t think Obama’s going to make that mistake.… Bush decided he wanted to push a rock up a hill. He didn’t understand how steep the hill was. I think Obama has more momentum on his side because of the Republican Party’s concerns about the Latino vote and the shooting at Newtown.” Obama may also get his way on the debt ceiling, not because of his reelection, Sides says, “but because Republicans are beginning to doubt whether taking a hard line on fiscal policy is a good idea,” as the party suffers in the polls.¶ THE REAL LIMITS ON POWER¶ Presidents are limited in what they can do by time and attention span, of course, just as much as they are by electoral balances in the House and Senate. But this, too, has nothing to do with political capital. Another well-worn meme of recent years was that Obama used up too much political capital passing the health care law in his first term. But the real problem was that the plan was unpopular, the economy was bad, and the president didn’t realize that the national mood (yes, again, the national mood) was at a tipping point against big-government intervention, with the tea-party revolt about to burst on the scene. For Americans in 2009 and 2010—haunted by too many rounds of layoffs, appalled by the Wall Street bailout, aghast at the amount of federal spending that never seemed to find its way into their pockets—government-imposed health care coverage was simply an intervention too far. So was the idea of another economic stimulus. Cue the tea party and what ensued: two titanic fights over the debt ceiling. Obama, like Bush, had settled on pushing an issue that was out of sync with the country’s mood.¶ Unlike Bush, Obama did ultimately get his idea passed. But the bigger political problem with health care reform was that it distracted the government’s attention from other issues that people cared about more urgently, such as the need to jump-start the economy and financial reform. Various congressional staffers told me at the time that their bosses didn’t really have the time to understand how the Wall Street lobby was riddling the Dodd-Frank financial-reform legislation with loopholes. Health care was sucking all the oxygen out of the room, the aides said.¶ Weighing the imponderables of momentum, the often-mystical calculations about when the historic moment is ripe for an issue, will never be a science. It is mainly intuition, and its best practitioners have a long history in American politics. This is a tale told well in Steven Spielberg’s hit movie Lincoln. Daniel Day-Lewis’s Abraham Lincoln attempts a lot of behind-the-scenes vote-buying to win passage of the 13th Amendment, banning slavery, along with eloquent attempts to move people’s hearts and minds. He appears to be using the political capital of his reelection and the turning of the tide in the Civil War. But it’s clear that a surge of conscience, a sense of the changing times, has as much to do with the final vote as all the backroom horse-trading. “The reason I think the idea of political capital is kind of distorting is that it implies you have chits you can give out to people. It really oversimplifies why you elect politicians, or why they can do what Lincoln did,” says Tommy Bruce, a former political consultant in Washington.¶ Consider, as another example, the storied political career of President Franklin Roosevelt. Because the mood was ripe for dramatic change in the depths of the Great Depression, FDR was able to push an astonishing array of New Deal programs through a largely compliant Congress, assuming what some described as near-dictatorial powers. But in his second term, full of confidence because of a landslide victory in 1936 that brought in unprecedented Democratic majorities in the House and Senate, Roosevelt overreached with his infamous Court-packing proposal. All of a sudden, the political capital that experts thought was limitless disappeared. FDR’s plan to expand the Supreme Court by putting in his judicial allies abruptly created an unanticipated wall of opposition from newly reunited Republicans and conservative Southern Democrats. FDR thus inadvertently handed back to Congress, especially to the Senate, the power and influence he had seized in his first term. Sure, Roosevelt had loads of popularity and momentum in 1937. He seemed to have a bank vault full of political capital. But, once again, a president simply chose to take on the wrong issue at the wrong time; this time, instead of most of the political interests in the country aligning his way, they opposed him. Roosevelt didn’t fully recover until World War II, despite two more election victories.¶ In terms of Obama’s second-term agenda, what all these shifting tides of momentum and political calculation mean is this: Anything goes. Obama has no more elections to win, and he needs to worry only about the support he will have in the House and Senate after 2014. But if he picks issues that the country’s mood will support—such as, perhaps, immigration reform and gun control—there is no reason to think he can’t win far more victories than any of the careful calculators of political capital now believe is possible, including battles over tax reform and deficit reduction.¶ Amid today’s atmosphere of Republican self-doubt, a new, more mature Obama seems to be emerging, one who has his agenda clearly in mind and will ride the mood of the country more adroitly. If he can get some early wins—as he already has, apparently, on the fiscal cliff and the upper-income tax increase—that will create momentum, and one win may well lead to others. “Winning wins.”

#### Won’t pass

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

The next few months offer the best chance in a generation for the two parties to solve a problem that has bedeviled Congress like few others. Both sides agree the U.S. immigration system is broken. Both would seem to gain from a deal that clears a pathway out of legal oblivion for the nation’s 11 million illegal immigrants. Support is building for a landmark pact. But while negotiations are progressing in both the House and Senate, an agreement is a long way off. As the talks grow more detailed, obstacles to a deal may begin to emerge:¶ Problem #1: The Gang of Eight¶ The first snag lurks in the Senate, where the so-called Gang of Eight has huddled privately since the election in hopes of hammering out a bill. Members have crafted a set of measures that would create a pathway to citizenship for the nation’s estimated 11 million undocumented immigrants within about 13 years while requiring them to register with federal authorities, pay back taxes and fines, learn English and undergo background checks. The deal, both sides agree, would also beef up border security and determine how the future flow of immigrants will be regulated to match the needs of the economy.¶ The Gang’s closed conclaves have been marked by Vatican-style secrecy, often a sign of progress in a town where silence is rare. The Gang’s members – Republicans Marco Rubio, Lindsey Graham, John McCain and Jeff Flake, and Democrats Chuck Schumer, Dick Durbin, Bob Menendez and Michael Bennet – have, by all accounts, developed a rapport. “You can tell by the tone of their voices,” says an elected Democrat briefed on the progress of the private talks.¶ But the broad themes are the easy part. The full bill will stretch to hundreds of pages, each peppered with detailed provisions that could spike it. Members bring clashing political imperatives and ideologies to the talks. Rubio, for example, is trying to repair the GOP’s tattered image with Hispanic voters without sparking a backlash among the movement conservatives he’d need in a presidential bid. Graham, who faces a probable primary challenge in 2014, has a habit of basking in the bipartisan spotlight before bolting when negotiations intensify. The measure of the Gang of Eight’s success isn’t whether they are aligned at the start of their talks. It’s whether they are all aligned at the end.¶ Problem #2: The Lobbyists¶ A few years ago, an impasse between the leaders of the Chamber of Commerce and the AFL-CIO helped scupper an immigration-reform bill backed by President George W. Bush. At that time, business and labor could not agree on how many visas to grant low skilled workers who make the construction, agriculture and hotel and restaurant industries hum. The Chamber wanted cheap labor, but didn’t want workers to stay; unions were concerned about protecting citizens’ jobs. Soon after, reform collapsed.¶ This time the two groups have nurtured an unlikely alliance. “There has been a sea change,” says a labor source close to the discussions. Nudged by Graham and Schumer, the two lobbies released a set of shared principles, including one stating that Americans should get “first crack” at available jobs and that businesses should have the flexibility to hire to meet the demands of the market. But history could repeat itself again. The two sides call for a new federal agency charged with setting visa levels, but they have yet to agree on who’s eligible or how the new bureau will work. The issue of future flow has been a stubborn sticking point before. And it is as easy to imagine conservatives balking at efforts to create a new government agency as it is to foresee unions drawing a line at a small number of foreign workers.¶ Problem #3: House Republicans¶ Even if Senate negotiators can come up with a package to get 60 votes in the upper chamber, “the question continues to be, how does it get through the House?” says Frank Sharry, an expert on immigration reform. As in the Senate, a bipartisan cluster of eight representatives from across the ideological spectrum have been secretly meeting for months. Congressman Luis Gutierrez, an Illinois Democrat who has long been a leader on immigration reform, is full of praise for the new tack taken by his Republican counterparts. But, he acknowledges, “You still have to put those votes on the board, and that’s going to be a real, real test in the House of Representatives.”¶ For their part, Republicans say the party’s old dogma, which held that illegal immigrants should self-deport and then go to the back of the line, is not viable policy. Even many immigration hard-liners say they want to help shape comprehensive reform. “It’s time for us to belly up to the bar,” says Ted Poe, the Texas Republican who chairs the House immigration reform caucus. But for conservatives, amnesty remains a dirty word. “A bill that’s basically amnesty, that says you’re here and you’re going to be a citizen — those two things are not going to come out of this conservative House,” says Poe. Even citizenship is charged enough that Republican Senator Rand Paul, who gave a speech March 19 backing a path to legalization for undocumented immigrants, avoided using the term. Many House Republicans, including several in the Judiciary Committee through which a bill must pass, have a long history of antipathy to amnesty, and only a grassroots rebellion to fear as next year’s primaries approach.¶ Then there is the reality that even if Republicans were to be widely supportive of amnesty, very few of those new citizens are likely to abandon the Democratic Party anytime soon. “Republicans face a choice: do they ditch their principles and go all out in a failing attempt to outpander Democrats?” asks Rosemary Jenks, director of government relations at NumbersUSA, which advocates for lower immigration levels. “It’s becoming very clear to Republicans in Congress that this is not going to get them the Hispanic vote.”¶ Problem #4: The Democrats¶ Little discussed but also looming is the possibility that Democrats drag their feet on reform. Liberals will balk if the path to citizenship is too long or too onerous, or if enforcement provisions are too rigid. Many conservatives also suspect that Democratic power brokers, despite their daily hammering of Republicans to get moving on immigration reform, would privately prefer to keep the issue as a cudgel than actually pass a law. Barack Obama “wants to make a bill come out of the Senate that is so far out there that it would never pass, so that he can blame us for not being compassionate and use the issue to take back the House in 2014,” says a House Republican. Even some liberals see this as a plausible scenario. “There’s always a lingering doubt in my mind,” admits one House Democrat. Obama knows that putting his fingerprints on the deal is an easy way to kill it; when a draft of his proposal leaked in the press, he called Republican negotiators individually to apologize. But if negotiations in Congress bog down, he may not be so hands off.¶ By all accounts, negotiators are making genuine progress toward a landmark deal that builds on a foundation laid during its last fumbled attempts. But lawmakers still have to thread a bill through a thicket of obstacles in a bitterly divided Congress. Sources close to the negotiations say they expect both chambers to introduce legislation in early April, giving Congress several months to haggle out a pact before members scatter for their summer recess. It sounds like plenty of time, but it’s not. Immigration will have to jockey for attention this spring with gun control, budgets and a potential grand bargain on tax and entitlement reform. Meanwhile, the human cost of the political stalemate is high. Each day, 1,400 undocumented immigrants are deported.

#### Loss of PC still results in high-skill reform

Yglesias 1/15 Matthew, Slate, 2013, How the GOP Can Roll Obama on Immigration, www.slate.com/blogs/moneybox/2013/01/15/immigration\_reform\_will\_obama\_get\_rolled.html

Of the major policy issues under discussion in Washington, "immigration reform" stands out for having unusually undefined content. For the major immigration-advocacy groups, the goal is clear, a comprehensive bill that includes a path to citizenship for the overwhelming majority of unauthorized migrants already living in the United States. But many other aspects of immigration law are in the mix as part of a proposed deal, and it seems to me that there's a fair chance that a nimble Republican Party could essentially roll the Democratic coalition and pass an "immigration reform" bill that doesn't offer the path Latino advocacy groups are looking for.¶ Elise Foley has the key line from her briefing on the administration's thinking about immigration, namely that a piecemeal approach "could result in passage of the less politically complicated pieces, such as an enforcement mechanism and high-skilled worker visas, while leaving out more contentious items such as a pathway to citizenship for undocumented immigrants."¶ And indeed it could. But how can they stop it? The last House GOP effort to split the high-tech visas question from the path to citizenship question was an absurd partisan ploy. If Republicans want to get serious about it they should be able to make it work. The centerpiece would be something on increased immigration of skilled workers. That's something the tech industry wants very much, it's a great idea on the merits, and few influential people have any real beef with it. High tech visas will easily generate revenue to pay for some stepped-up enforcement. Then instead of adding on a poison pill so Democrats will block the bill, you need to add a sweetener. Not the broad path to citizenship, but something small like the DREAM Act. Now you've got a package that falls massively short of what Latino groups are looking for, but that I think Democrats will have a hard time actually blocking. After all, why would they block it? It packages three things—more skilled immigration, more enforcement, and help for DREAMers—they say they want. Blocking it because it doesn't also do the broad amnesty that liberals want and conservatives hate would require the kind of fanaticism that is the exact opposite of Obama's approach to politics.

#### Applies to immigration

Hirsh 2/7 Michael, chief correspondent for National Journal, previously served as the senior editor and national economics correspondent for Newsweek, has appeared many times as a commentator on Fox News, CNN, MSNBC, and National Public Radio, has written for the Associated Press, The New York Times, The Washington Post, Foreign Affairs, Harper’s, and Washington Monthly, and authored two books, "There's No Such Thing as Political Capital", 2013, [www.nationaljournal.com/magazine/there-s-no-such-thing-as-political-capital-20130207](http://www.nationaljournal.com/magazine/there-s-no-such-thing-as-political-capital-20130207)

Meanwhile, the Republican members of the Senate’s so-called Gang of Eight are pushing hard for a new spirit of compromise on immigration reform, a sharp change after an election year in which the GOP standard-bearer declared he would make life so miserable for the 11 million illegal immigrants in the U.S. that they would “self-deport.” But this turnaround has very little to do with Obama’s personal influence—his political mandate, as it were. It has almost entirely to do with just two numbers: 71 and 27. That’s 71 percent for Obama, 27 percent for Mitt Romney, the breakdown of the Hispanic vote in the 2012 presidential election. Obama drove home his advantage by giving a speech on immigration reform on Jan. 29 at a Hispanic-dominated high school in Nevada, a swing state he won by a surprising 8 percentage points in November. But the movement on immigration has mainly come out of the Republican Party’s recent introspection, and the realization by its more thoughtful members, such as Sen. Marco Rubio of Florida and Gov. Bobby Jindal of Louisiana, that without such a shift the party may be facing demographic death in a country where the 2010 census showed, for the first time, that white births have fallen into the minority. It’s got nothing to do with Obama’s political capital or, indeed, Obama at all.

#### Necessary vs. Sufficient distinction

Victoria M. DeFrancesco Soto (NBC Latino and MSNBC contributor, Senior Analyst for Latino Decisions and Fellow at the Center for Politics and Governance at the LBJ School of Public Affairs at the University of Texas, at Austin) January 4, 2013 “Opinion: Immigration reform will not be easy, but it’s not impossible” http://nbclatino.com/2013/01/04/opinion-immigration-reform-will-not-be-easy-but-its-not-impossible/

Unlike in his first administration, the president seems to be on board and ready for rolling up his sleeves and getting into immigration reform, but that won’t cut it. The problem for immigration reform in 2013 is rooted in Capital Hill. The president’s support is a necessary condition for any major policy overhaul, but it is not a sufficient condition. Let’s just assume the president can arm-wrestle the Senate Democrats and a few Senate Republicans into supporting his immigration reform. Two out of three won’t cut it. The Republican-controlled House is what stands in the way of immigration reform. More specifically, the GOP’s split mindset regarding Latinos and immigration is what will likely prevent the president from crossing off immigration reform from his 2013 to-do list. There are moderate GOP voices, such as that of Jeb Bush, that are calling for Republicans to not just go along, but lead in an immigration overhaul effort. These are the folks who see the demographic handwriting on the wall and recognize that the Republican Party cannot survive by alienating the fastest-growing segment of the electorate. However, those voices are few and far between.

#### XO solves

Nakamura 1-6 – David Nakamura and Tara Bahrampour, January 6th, 2013 "Obama using authority for immigrant issues," Washington Post, [www.journalgazette.net/article/20130106/NEWS03/301069950/1066/NEWS03](http://www.journalgazette.net/article/20130106/NEWS03/301069950/1066/NEWS03)

WASHINGTON - The Obama administration’s decision this week to ease visa requirements for hundreds of thousands of illegal immigrants represents its latest move to reshape immigration through executive action, even as the White House gears up for an uncertain political fight over a far-more-sweeping legislative package in the months ahead.¶ Immigration advocates on Thursday hailed a rule change at the Department of Homeland Security that would make it easier for many undocumented immigrants to stay in the United States as they seek permanent residency, saying it will improve the lives of relatives who could have been separated for years without the changes.¶ For President Obama – who has called the inability to achieve comprehensive immigration reform among the biggest regrets of his first term – the new policy is among a series of steps his administration has taken over the past year aimed in part at easing the pace of deportations, which have surged during his tenure. The steps also came amid a presidential campaign that included sharp disagreements over immigration policy and strong support among Latinos and Asians for Obama.¶ The centerpiece was Obama’s decision, announced last June, to stop deporting people who were brought to the country as children and have gone on to be productive and otherwise law-abiding residents.¶ “He is checking off every administrative box he can of what he can do with executive authority that comports with his overall view of immigration policy,” said Angela Kelley, an analyst at the Center for American Progress, a liberal think tank allied with the White House.¶ The latest policy change is focused on illegal immigrants who have a spouse, parent or child with U.S. citizenship. Currently, in order to become legal they must leave the United States and apply for a waiver forgiving their unlawful presence in the country. Only then can they apply for an immigrant visa. And if they don’t get a waiver, they are barred from returning to the United States for up to 10 years, depending on the case.¶ The specter of being barred deterred many from applying. But under the rule change finalized Wednesday, those who qualify will be able to apply for waivers from within the United States starting March 4. Applicants must return to their native country for a brief period for the consular immigrant visa process.¶ The new rule greatly reduces the risk inherent in applying for a waiver, as people whose applications are rejected would still be in the United States when they heard the news. Even for those whose applications are approved, the new rule will allow them to spend much less time outside the United States, as they will travel abroad with waivers in hand.

### cp links

#### They are fucked their internal link evidence is about coal lobby backlash

The Economist 10 [“An unconventional glut,” March 11, http://www.economist.com/node/15661889]

The path of demand in gas's new age is hard to predict, but abundant new sources could bring about profound change in patterns of energy consumption. Some of the downward pressure on price will ease: despite sedate growth, the LNG glut should dissipate, probably by 2014, says Mr Harris; and low prices will kill more projects, clearing the inventory. France's Total thinks global demand will recover strongly enough to require another 100m tonnes a year of LNG by 2020, on top of plants already planned. However, the Energy Information Administration, the statistical arm of America's Department of Energy, predicts decades of relatively weak prices.¶ If this is correct, it makes sense, for both environmental and economic reasons, for the country to gasify its power generation, half of which comes from coal-fired plants. This could be done cheaply and quickly, because America's total gas-fired capacity (as opposed to production) already exceeds that for coal. Put a price of only $30 a tonne on carbon, say supporters, and natural gas would quickly displace coal, because gas-fired power stations emit about half as much carbon as the cleanest coal plants. The IEA agrees that penalising carbon emissions would benefit natural gas at the expense of dirtier fuels.¶ There would be political obstacles. The coal lobby remains strong in Washington, DC. Climate legislation struggling through Congress even includes provisions to protect “clean coal”, a term covering an array of measures, so far uncommercial, to reduce emissions from burning the black stuff. Ironically, oil companies that were once suspicious of proposals to control carbon now regard a carbon price or even a carbon tax as a potential boon to their new gas businesses.¶ A more radical idea, and one that would have ramifications for the global oil sector, is to gasify transport. T. Boone Pickens, a corporate raider turned energy speculator, has launched a campaign to promote this, and has support from the gas industry. By converting North America's fleet of 18-wheeled trucks to natural gas, says Randy Eresman, boss of EnCana, a Canadian gas company, America could halve its imports of Middle Eastern oil. EnCana is promoting “natural gas transportation corridors”: highways served by filling stations offering natural gas.¶ All this is some way off. The coal industry will not surrender the power sector without a fight. The gasification of transport, if it happens, could also take a less direct form, with cars fuelled by electricity generated from gas.

#### Plan’s unpopular in Congress—no shielding

**Kozubek, 11** – freelance science writer at Portsmouth, N.H.(Jim, “Airborne Wind Energy Industry Struggles To Fly” Talking Points Memo, 11/4, <http://idealab.talkingpointsmemo.com/2011/11/airborne-wind-energy-industry-struggles-to-take-off.php>)

One hurdle the nascent industry has to surmount, as most emerging technologies and industries do, is regulation. The Federal Aviation Administration is currently weighing a decision as to whether to allow such tethered gliders to operate. So far a ruling appears at least a year away, Shepard said. ¶ For its part, Makani to date has burned through most of its working capital, and is nearing completion of its 18-month ARPA-E grant-funded pilot project. And while the nascent industry awaits an FAA ruling, investors have been skittish of sinking capital into technology.¶ Sky WindPower was named by TIME Magazine as one of the top 50 top inventions of 2008, but has yet to land investment capital; Dmitri Cherny, founder of energy glider developer Highest Wind, was the darling of New Hampshire’s Speed Venture Summit in 2009, only to come away empty-handed from scores of meetings in venture capital circuits in New Hampshire and South Carolina. ¶ “There have been only a few limited proofs of aspects of whole concepts because these are expensive undertakings requiring more than just angel and vc support,” Shepard said. “As with development of all new energy supplies and the systems to support the capture of energy that have preceded this new energy field, governments will have to provide additional support.”¶ Whether justified or not, the current environment for that kind of support doesn’t look encouraging. The emerging clean tech sector now faces a more skeptical public and congress in the wake of the bankruptcy of the solar panel company Solyndra. And DOE and ARPA-E’s loan programs are under investigation by the department’s inspector general. ¶ Nevertheless, Cherny has filed for a small government grant and says he plans to move his company to Lake Marion in South Carolina this spring. Airborne devices generate “a lot of electricity at a minimal impact,” he said.

**Yes blame**

**Cox and Rodriguez ‘9** – \* Professor of Law, University of Chicago Law School AND \*\* Professor of Law, New York University School of Law (ADAM B. COX AND CRISTINA M. RODRIGUEZ, December, “The President and Immigration Law”, 119 Yale L.J. 458, Lexis Law, dheidt)

Two routes to more formalized Presidential power over ex ante screening could be pursued: a claim of inherent executive authority on the one hand, and direct congressional delegation on the other. With respect to the first theory, one could imagine that a proactive Executive with an interest in reducing its enforcement costs, as well as in shifting the illegal population into legal status, might seek recourse in its inherent executive authority over immigration, much as Presidents Roosevelt and Truman seized the initiative in addressing farm worker shortages during and immediately after World War II. Though the question of inherent authority has never been definitely resolved, we are fairly confident that this option would not be viable in the contemporary political environment. The assertion of inherent authority would be too disruptive to the conventions that have evolved over time regarding Congress's leadership in this arena (and in administrative law generally). Indeed, even when he was riding high politically between 2002 and 2004, it did not occur to President Bush to propose publicly a large-scale guest worker program without congressional authorization. n265

#### Need to answer the CP uses arpa e

### Counterplan \* Must read\*

#### Government-led development’s key to breakthroughs and commercialization --- no private trade-off

Stepp 11 [Senior Analyst with the Information Technology and Innovation Foundation (ITIF) Specializing in Climate Change and Clean Energy Policy “Counterpoint: Heritage Foundation Backgrounder<http://thebreakthrough.org/blog/Counterpoint_Heritage_BTI_ITIF_AEL.pd>]

Heritage cites each of these examples as supposed evidence of the proficiency of the private sector in advancing pre-competitive and advanced energy technologies to market on its own. In reality, all of the companies and research ventures above are prime examples of the kind of productive partnership between private *and public* sectors that is the true face of American innovation – a partnership that Heritage would dismantle. This is the kind of public support for emerging technologies and private sector entrepreneurs that gave birth to everything from jet engines to the Internet, microchips to GPS, and countless biomedical and agricultural innovations, each of which fueled American economic growth and prosperity.8 And unless Heritage has its way, this is the kind of key partnership between public and private sectors that could give rise to new groundbreaking innovations in the energy sector that will strengthen American energy security, launch new high-tech industries, and contribute to another century of sustained national prosperity¶ The report wrongly suggests that DOE budget expenditures are prime targets for substantial deficit reduction.¶ Cutting $6 billion, or approximately 23 percent, from the FY2010 DOE budget, as Heritage proposes, would reduce the $1.5 trillion federal deficit by a mere four-tenths of one percent.¶ The report uses out-of-context figures to exaggerate the relative magnitude of DOE’s budget.¶ Heritage writes that DOE’s budget experienced a “staggering” increase in size from $15 billion to $26.4 billion over the last decade. To call these figures “staggering” is misleading. The DOE’s budget is the fourth smallest of the federal executive departments (only Treasury, State and Commerce have smaller ones), and it compares to $854 billion at Health and Human Services and $691 billion at the Department of Defense. The budgets for HHS and DOD each more than doubled in size over the same ten-year period, adding over half a trillion dollars in government spending, compared to a roughly $10 billion increase at DOE.9¶ The report is inconsistent in its support and understanding of the DOE’s role in enhancing energy security.¶ In the “Talking Points” sidebar of the report, Heritage claims that DOE should stick to its “traditional mission of promoting national and economic energy security.” Yet later in the report they dismiss such efforts, such as advancing biofuels to replace the nation’s reliance on imported fossil fuels, as “either protectionist or attempts to deploy uncompetitive technologies.”¶ The report assumes a zero-sum competition between government and private investors rather than acknowledging the long and successful history of public-private partnerships.¶ The report claims that by “forcing government-developed technologies into the market, the government diminishes the role of the entrepreneur and crowds out private sector investment." Evidence from various DOE programs refutes this claim. ARPA-E does not force government-developed technologies into the market, but instead provides financing for pre-commercial private sector and university ventures that invest in technological innovation.10 Similarly the National Renewable Energy Laboratory’s pre-commercial research into thin-film solar technology was adopted and commercialized by First Solar, now the world’s leading private thin film solar company.11¶ Selective and prejudicial history is applied to suggest that government research has little to no commercial aim or value.¶ Citing the examples of the Internet, computer chips, and GPS, the report claims, "Government programs that become commercial successes were not intended to meet a commercial demand." There are two problems with this. First, this is not a reason to eschew federal funding for future basic research and pre-commercial technology since, as Heritage acknowledges, such investments have resulted in technologies that launched entire new industries, fueled decades of American prosperity, and improved the lives of millions. Second, this claim is not universally true. For example, nuclear power, a technology born out of the government-organized Manhattan Project and supported by the precursors to the DOE, relied on tremendous federal support for its development and deployment, and was explicitly developed for commercial use. Private companies like General Electric and Westinghouse coordinated closely to guarantee that the government would support their high-risk, advanced technology ventures, and the Atomic Energy Commission was set up to ensure the safety and economic viability of the industry.¶ The report relies on the unfounded assumption that the private sector is, and should be, largely responsible for energy research, commerce, and infrastructure.¶ Heritage adamantly stands by its assertion that, “The reality is that when it comes to energy policy, the free market works.” In fact, few industries are more entrenched in a system of government support, insurance, regulation, and protection than energy. Over a century’s worth of subsidizing fossil energy sources—not to mention roads, vehicle development and manufacturing, and transmission/distribution infrastructure—have underwritten the steady development and improvement of conventional energy sources and embedded coal, oil, and natural gas as the favored national energy inputs. In the case of nuclear power, the only new commercial energy generation technology to emerge and scale up significantly in the 20th century, government insurance, liability limitation, and loan guarantees have allowed private financiers the certainty and stability to invest in nuclear energy projects, which typically have high up-front capital cost and long life spans. Military resources, including the lives of American soldiers, are expended in the protection of foreign energy reserves and the shipping lanes that bring them to American markets. The private sector does not and cannot provide these services. The claims that the energy sector is a “free market” and that advanced energy technologies will achieve an efficient critical mass through private investment alone are simply wrong.¶ Heritage acknowledges the role of government in advancing a national interest not met by the private sector, yet claims that the government is not equipped to do so.¶ Heritage employs two conflicting rationales in calling for cuts to various innovation programs. “Government research programs,” Heritage admits, “should advance a specific critical national interest that is not being met by the private sector.” Elsewhere in the report, however, the think tank states that “the government is not equipped to determine commercial viability and can retard the process by misallocating resources to inefficient uses.” The Heritage Foundation first admits that the government plays a critical role in fixing key market failures and advancing critical national interests, but then claims that the private sector is the more effective and appropriate venue to invest in new energy research, apparently assuming that the market will somehow fix itself and overcome the inherent market failures and limitations that now constrain it.¶ Heritage’s logic is self-contradictory, and evidences a misunderstanding of the many market failures constraining the development and adoption of new, advanced energy technologies. In reality, market failures plague the energy innovation process at each stage, from lab to market launch.12 Spillover risks, uncertain returns, and long lead-times all constrain or outright prevent private firms from investing in breakthrough energy innovations. Furthermore, first-of-a-kind advanced energy technologies must typically prove themselves at full commercial scale before attracting traditional financiers. Yet demonstrating large-scale technologies – such as advanced modular nuclear reactors, floating deepwater wind turbines, or carbon capture and storage technologies – typically costs more than venture capitalists can finance alone, leaving a large ‘Valley of Death’ that kills off many promising technologies before they can enter the marketplace. Overcoming these persistent market failures to help advance a portfolio of advanced energy technologies and provide the secure, affordable, and healthy energy needed to fuel the economy is clearly in the national interest, and is the proper role for government energy and innovation programs.¶ Heritage is inconsistent in applying their support or opposition to federal programs supporting clean energy innovation.¶ While the Heritage Foundation supports on ongoing role for the Advanced Research Projects Agency-Energy, lauding the agency's focus on "transformational energy research that industry by itself cannot and will not support," the Heritage brief simultaneously calls for the dismantling of budgets for the DOE Office of Science, including the Energy Frontier Research Centers program, which pursues basic energy research at the frontiers of energy science, the kind of high-risk, long-term research with very uncertain payoffs that private sector firms cannot and do not pursue. The other DOE energy and innovation programs targeted by Heritage also work to fill critical private sector gaps and overcome the market failures listed above.¶ Heritage wrongly suggests that the private sector invests sufficiently in energy innovation.¶ Heritage writes, “Even for technologies that are not yet commercially feasible, the private sector is making financial investments.” But the fact is that for decades the private sector has consistently underinvested in energy research and development (R&D). In fact, the energy industry invests just 0.3 percent of its revenues back into R&D, while most innovative industries such as Information Technology and Biotechnology reinvest 5-20 percent of their revenues into new product development and innovation.13 The gap is so significant that Bloomberg New Energy Finance recommended a number of government policies to support technology demonstration and commercialization, such as the creation of a Clean Energy Deployment Administration and additional technology development through DOE.14

#### Can’t divorce the two -- huge gaps mean linkage is critical to successful commercialization and research by itself fails

Fletcher & Borne, ‘12

[Anthony C., PhD in organic chemistry, and had a 20-year career as a management consultant with Deloitte and with Cap Gemini Ernst and Young and is now a freelance consultant, Phillip E., PhD in physical chemistry, is a professor of pharmacology and Associate Vice Chancellor for Innovation and Industrial Alliances at the University of California San Diego, the co-founder of SciVee.tv, and founding editor-in-chief of this journal, 9-27, “Ten Simple Rules To Commercialize Scientific Research,” PLoS Comput Biol 8(9), http://www.ploscompbiol.org/article/info%3Adoi%2F10.1371%2Fjournal.pcbi.1002712]

Scientists evaluate research by considering whether it makes an original contribution to our understanding of the world. Businesses have a different rationale, which, by and large, is to make money. This engenders a huge culture gap. In the 18th century, as the Chinese started to make porcelain for European markets, it was noted that they simply didn't get the idea of perspective. Pagodas appeared the size of flower vases. The artists understood symbolism; Europeans sought realism. And so it is with commercialization: scientists are not primed for business (some would even say this goes against academic freedom) and businesses are not, for the most part, so good at science unless they have specialized research divisions—Bell Labs comes to mind here, although these days an exception rather than a rule. When these worlds collide there is a need for intermediaries and translators to ensure a common understanding and successful path from research to commercialism. Scientists need to get business people who are “on the same wavelength” on their team and who can explain and guide them. Conversely, businesses have to be able to determine what research universities have to offer and how it could be of benefit. Interfaces are varied, ranging from university development offices to business outreach units to organizations like CONNECT (http://www.connect.org) that specialize on being the interface. These are valuable resources and should be utilized by both scientists and potential business partners. Rule 2: There Is No Single Path To Commercialization Commercialization of scientific breakthroughs is something that has become more formalized in recent years thanks, in the United States at least, to the Bayh-Dole Act (legislation dealing with intellectual property arising from federal government–funded research) [4], with academia taking an active role in facilitating the translation of its intellectual capital into business. There are many routes for this: licensing, royalties, incubation, and in-house development. Industry itself has also moved physically closer to large universities (e.g. science parks) to share in the human capital. Beneath all this activity there are complex issues regarding how much potential value lies locked up in these intellectual assets and how they can best be developed without straying too far from the progenitors' ideals, and at the same time generating value. There are many ways to go from the laboratory bench to the store: commercialization is just like any business process– part art, part science; part inspiration, part perspiration. Most routes are essentially mechanistic, some work and some don't—there is no secret way to do things. So if anyone tells you at the start it's a sure fire winner (or not), don't believe them—there is a lot of hard work that has to be done to see if an idea can make it. And never believe advice that says “this is the best way” based on a single example—for every research-driven idea that makes it big, hundreds wither slowly away. These failures are hardly ever the subject of detailed case studies, and so we have no idea why they failed and what lessons we could learn. Rule 4: Consider The Implications Of Going From Public To Private Academic research has many benefits, for example, collaboration, data and knowledge sharing, and freedom to publish. When moving this research into the private sector, different rules apply. There is a need to protect the intellectual property. In some cases, protecting that investment has implications for follow-on developments and impacts academic freedom. For example, consider a situation where a company licensing a technology from an academic institution also has the rights to follow-on developments. Those rights could impact the academic scientist's ability to freely publish those new developments.

### Doesn’t Turn the AFF – Environment

### 1ar india

#### Relations are inevitable regardless of government ties

Mathai 12(Ranjan is the Foreign Secretary of India, 2012, “India's foreign secretary addresses Washington,”http://www.indusbusinessjournal.com/ME2/dirmod.asp?sid=&nm=&type=Publishing&mod=Publications%3A%3AArticle&mid=8F3A7027421841978F18BE895F87F791&tier=4&id=E3E6AF44D3C44BED9F987F95ECDD2066)

However, given our different circumstances, history, location and levels of development, we will occasionally have differing perspectives and policies. But, this can be a source of great value and strength in our dialogue; and, it also enables us to work together for a broad global consensus on issues of common interest. But, for that, we should attach real value to each other's perspectives and appreciate each other's interest and sensitivities; and, when we differ, we should be able to speak candidly and respectfully to each other, and **insulate the vast common ground** between us **from** the **differences in our relationship**. We must remember that while we may have occasionally different perspectives, **we are also united by a fundamental stake in each other’s success**, because in succeeding individually, we can advance our common interests and inspire a world mirrored in our ideals. And, **even if our** two **governments did nothing**, it would still be an extraordinary relationship, because of the growing ties of kinship between our people and the vitality of private partnerships of enterprise, innovation, research and education across every field of human endeavor. But, I believe that we have the political momentum, public goodwill, a comprehensive architecture of engagement, comfort and confidence in the relationship, the experience of bold and ambitious undertakings, a proven capacity to work through challenges and, as we have seen in recent years, a growing habit of taking tangible steps on a regular basis to advance our cooperation. So, as I look ahead, we will continue to consolidate and affirm our strategic partnership, by completing existing projects and focusing on the wealth of new opportunities that we have. We should continue to stay in close touch on the current challenges in the world, in our neighborhood and beyond. And, we should, above all, continue to strengthen and expand the long-term strategic framework of our relationship, so that we can fully harness the boundless opportunities that this relationship has for our people and the substantial benefit that it can bring to this world.

#### Relations are useless

Tellis 5 (Ashley, senior associate at the Carnegie Endowment for International Peace, specializing in international security, defense, and Asian strategic issues. 11/16/05 “The U.S.-India ''Global Partnership'': How Significant for American Interests? ““<http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=17693>)

Several practical implications, which ought to be of significance to the Congress as it ponders the U.S.-Indian civilian nuclear agreement, flow from these realities. To begin with, the strengthening U.S.-Indian relationship does not imply that New Delhi will become a formal alliance partner of Washington at some point in the future. It also does not imply that India will invariably be an uncritical partner of the United States in its global endeavors. India’s large size, its proud history, and its great ambitions, ensure that it will likely march to the beat of its own drummer, at least most of the time. The first question, for the Congress in particular and for the United States more generally, therefore, ought not to be, “What will India do for us?”—as critics of the civilian nuclear agreement often assert. Rather, the real question ought to be, “Is a strong, democratic, (even if perpetually) independent, India in American national interest?” If, as I believe, this is the fundamental question and if, as I further believe, the answer to this question is “Yes,” then the real discussion about the evolution of the U.S.-Indian relationship ought to focus on how the United States can assist the growth of Indian power, and how it can do so at minimal cost (if that is relevant) to any other competing national security objectives.

#### India growth strong now

Times of India 12/8/12 ("Indian economy may beat expectations in 2013: Goldman Sachs," http://timesofindia.indiatimes.com/business/india-business/Indian-economy-may-beat-expectations-in-2013-Goldman-Sachs/articleshow/17548362.cms)

India's GDP may exceed all expectations next year as there are signs that policymakers might spring up positive surprises, Goldman Sachs has said. ¶ "India in many ways remains the most complex of the four (BRIC nations), with its demographics giving it the best potential GDP growth rate, but its inability to introduce effective policy change is a persistent source of disappointment" leading international fund house Goldman Sachs Asset Management chairman Jim O'Neill said. ¶ "This being said, there are lots of policy changes being discussed and the Indian stock market seems to be quite excited about something. ¶ "We think 2013 Indian GDP will probably exceed expectations, as there are indeed signs that policymakers might also positively surprise," O'Neill said in a research note, but did not put any figures to his estimates.

### AT: new Link – rubio

#### . SMR funding

**Hawkins, 3/12/13** (Derek, “DOE To Open $226M In Small Nuclear Plant Funding” http://www.law360.com/energy/articles/422929/doe-to-open-226m-in-small-nuclear-plant-funding

The U.S. Energy Department said Monday that it would offer an estimated $226 million to help private companies develop small nuclear power plants that will start operating in the next 12 years.

The agency is dipping into a fund set up last year to extend more cost-sharing opportunities to companies looking to design and build small modular reactors, advanced nuclear units about the third the size of normal power plants.

The announcement comes about five months after the Energy Department agreed to provide financing for up to half of a Babcock & Wilcox project to build a series of commercially deployable small modular reactors, also known as SMRs.

Outgoing Energy Secretary Steven Chu said the new round of funding would provide developers with an important boost.

#### DOE commercialization incentives now -

#### a. Compact Light Source funding

**Loewn, 3/11/13** (Rod, “Lyncean Technologies, Inc. receives $1.1M grant from DOE to develop the Compact Light Source” <http://www.eurekalert.org/pub_releases/2013-03/lti-lti031113.php>)

Palo Alto-based Lyncean Technologies, Inc., today announced that it has received a $1.1M SBIR Fast-Track grant to further develop the performance of the Compact Light Source, a miniature synchrotron X-ray source employing state-of-the-art laser-beam and electron-beam technology.

The Lyncean "Compact Light Source" (CLS) has been developed to offer high-quality X ray beams, like those produced at synchrotrons, for applications that cover a broad range of X-ray science. Recently, Lyncean announced the first sale of a Compact Light Source to a biomedical imaging research center in Munich [http://www.eurekalert.org/pub\_releases/2012-12/lti-lti121312.php].

During the past 30 years, synchrotron light sources have become the X-ray probe of choice for material scientists, chemists, biologists and medical researchers. With their high-quality, intense X-ray beams, these world-wide but sparse synchrotron laboratories have revolutionized X-ray science and spawned a large number of new technologies, from electronic devices to pharmaceutical drugs.

Unlike the stadium-sized synchrotron radiation sources that require a highly technical support staff, the CLS fits in a typical laboratory space and is designed to be operated directly by academic or industrial end-users. By replacing the conventional "undulator" magnets found in the large synchrotrons by laser technology, the entire device scales down in size by a factor of 200. Just like a synchrotron, the CLS makes electrons rapidly undulate, or wiggle, causing them to emit a pencil beam of nearly monochromatic X-rays which are adjustable in energy.

The Lyncean CLS is based on licensed technology from SLAC National Accelerator Laboratory. The commercial development was supported primarily by grants from the US National Institutes of Health, NIGMS and NCRR. Now that the initial commercial development is complete, the Department of Energy (DOE) through the Small Business Innovation Research Program is supporting further development of the CLS to enhance performance, and SLAC is participating as a collaborator on the grant.

Dr. Rod Loewen, Principle Investigator for the effort, explained the joint effort, "Lyncean is already at the forefront of compact light source development. By collaborating with SLAC's world-class experts in electron beam systems, we only strengthen our leadership in producing state-of-the-art X-ray sources."

"Commercialization is an important mission of DOE national labs and since the technology was a SLAC spin-off, it is natural to continue to support improvements", said Prof. Norbert Holtkamp, Associate Laboratory Director for the Accelerator Directorate at SLAC. "We want to bring SLAC's expertise to the table to build the best possible compact light source, and we are interested in the technology ourselves to be used at SLAC in the future. This is a perfect match and a tremendous opportunity."

### 1ar Guns Pounder

#### Gun debates are at the top of the docket now - republicans will filibuster and Obama will spend PC to get it through - that’s Murray – proves the internal link is empirically denied

#### Window is small – bill in early April

Jeremy Peters and Peter Baker (writers for the New York Times) March 28, 2013 “Months After Massacre, Obama Seeks to Regain Momentum on Gun Laws” http://www.nytimes.com/2013/03/29/us/politics/obama-makes-impassioned-plea-for-gun-control.html?\_r=0

With resistance to tougher gun laws stiffening in Congress, a visibly frustrated President Obama on Thursday implored lawmakers and the nation not to lose sight of the horrors of the school massacre in Newtown, Conn.¶ “The notion that two months or three months after something as horrific as what happened in Newtown happens and we’ve moved on to other things?” Mr. Obama said in remarks at the White House, surrounded by relatives and friends of victims of gun violence, including some from Newtown. “That’s not who we are. That’s not who we are. And I want to make sure every American is listening today.”¶ The president has just a small window in which to persuade Congress to back a series of gun control measures that will come up for a vote in the Senate early next month. And his remarks, delivered in an impassioned and off-script manner, were aimed at reviving the impetus that gun-control advocates fear they are losing as more time passes since the shootings.¶ A filibuster threat is growing in the Senate. Senator Harry Reid of Nevada, the majority leader, has said a ban on certain styles of semiautomatic weapons is virtually assured of defeat. And a senior Republican senator who opposes the president’s efforts, Charles E. Grassley of Iowa, is now floating a competing gun bill.¶ These complications only add to the strain surrounding negotiations over a bipartisan bill that would strengthen the background check system for gun purchases — talks that have so far drawn the support of only one Republican, Mark Kirk of Illinois.¶ As senators at the heart of those negotiations returned to their home states this week, their staffs continued to try to reach consensus back in Washington. But they have yet to produce anything more than an outline of what legislation might look like.¶ Mr. Obama’s appearance, from the East Room of the White House, suggested just how delicate the situation had become. Rather than read from teleprompters, he seemed to speak extemporaneously much of the time and expressed irritation in a way that he generally does not. At some moments, he paused and took a breath as if collecting himself and circled back to some of his points for emphasis.¶ “Shame on us if we’ve forgotten,” he said.“I haven’t forgotten those kids. Shame on us if we’ve forgotten.”¶ The renewed push by the president, who will travel to Colorado next week to rally support for new gun measures, is just one piece in a broader nationwide effort, timed to coincide with the two-week Congressional recess, by gun control groups like the Brady Campaign to Prevent Gun Violence, and Mayor Michael R. Bloomberg’s coalition.

#### That wrecks the agenda

Chris Stirewalt (digital politics editor for Fox News) February 12, 2013 “Gun Control Will Crowd Out Other Obama Policy Points” http://www.foxnews.com/politics/2013/02/12/gun-control-will-crowd-out-other-obama-policy-points/

How much political capital is President Obama willing to spend to achieve gun control?¶ The choice may not be entirely up to him.¶ Obama tonight will talk about many things in his fourth State of the Union address in an effort to goad his adversaries into action or increase the political penalties for their resistance.¶ He will batter Republicans on their refusal to accept his plan to replace part of automatic cuts to federal spending that begin at the end of the month with a tax hike on top earners. Expect to hear of dire consequences that will befall the nation if spending drops by $120 billion this year: unsafe medicines, hungry children, unsecured nukes, etc.¶ Obama will denounce foes of a rapid amnesty for illegal immigrants and call for additional stimulus spending to “invest” in middle-income jobs. That jobs plea will, as it has invariably become for Obama, be tied to global warming. Obama Democrats see the fight against changes in the earth’s climate as a twofer: it’s environmentalism and a jobs subsidy program.¶ There will be all of those things and more in what promises to be a flurry of policy provisions befitting a re-elected president determined to have a transformative second term. He may not match Bill Clinton’s record for longest-ever (1 hour, 28 minutes and 49 seconds in 2000), but Obama will certainly not be wrapping up quickly.¶ But whatever Obama talks about, it is likely to be overshadowed by his call for a gun ban in response to mass shootings and a steady tide of urban shootings, particularly in his hometown of Chicago.¶ The Constitution instructs the president “from time to time” to update Congress on the state of the union and “recommend to their consideration such measures as he shall judge necessary and expedient.¶ The tradition since 1790 has been for presidents to do this once a year, but the Framers included the line in order to make sure that there was at least some communication between the legislative and executive branches.¶ Presidents since Woodrow Wilson have needed little encouragement to tell Congress what’s on their minds, especially the current chief executive. Obama talks to, about and around Congress constantly.¶ So all that Obama says tonight about immigration, taxes, stimulus and global warming will have been heard and re-heard by the lawmakers Obama is ostensibly there to talk to.¶ The real purpose of States of the Union addresses since Lyndon Johnson moved his speech to primetime from the sleepy midday affairs of his predecessors is to talk to the folks at home and to get the political press to restate your talking points.¶ The speeches are predictable news events that allow for lavish coverage and great pictures – lots of cheering, the big Stars and Stripes, etc. What the president says can be analyzed, re-analyzed and dissected for the evening, and, since Obama will give partial versions of the speech in three campaign stops, for days afterward.¶ But the full laundry list of policies won’t make it through the media wringer. Despite Obama’s claims that Washington can “walk and chew gum at the same time” he surely knows by now that it cannot.¶ But whatever Obama talks about, it is likely to be overshadowed by his call for a gun ban in response to mass shootings and a steady tide of urban shootings, particularly in his hometown of Chicago.¶ In the case of this speech, it seems inevitable that his push on gun control will predominate. It’s an issue that his political base adores, it being an article of faith on the American left that limiting gun sales will reduce gun crime. Add to that the double bias in favor of the issue in the press – dramatic stories for the “if it bleeds it leads” set and a policy that fits overall view in the establishment press that firearms are bad.¶ To that end, the president will use the parents and survivors of the Newtown, Conn. tragedy and other victims of gun violence to personalize his message on gun control. Reports will follow these breadcrumbs and produce the stories that reinforce the president’s message.¶ People getting shot and killed makes for better copy than “sequestration” or “out-year entitlement reform” or “green jobs” or whatever fiscal and economic crisis the government and the nation are currently stumbling through.¶ But the risk here for Obama is that for all of his pivots and policy pounding, the speech may end up being recalled as one about gun control. On each subsequent retelling, the storyline will grow shorter and shorter but guns will never drop from the lead.¶ And given the deep resistance, even among some his own party, to gun control, in political conflict over the subject will never go away.¶

#### Votes are coming in early April – Obama spotlighting it now

Jennifer Bendery (writer for the Huffington Post) March 23, 2013 “Obama Urges Action On Gun Control Bills In Weekly Address” http://www.huffingtonpost.com/2013/03/23/obama-gun-control\_n\_2935525.html

President Barack Obama put the spotlight back on gun violence on Saturday, praising senators for taking "big steps" to advance gun bills but pressing lawmakers to finish the job and deliver legislation to his desk in the coming weeks.¶ In his weekly radio and Internet address, Obama said the nation has changed in the three months since the shootings at Sandy Hook Elementary School in Newtown, Conn., that took the lives of 20 children and six adults. There is "still genuine disagreement" about how to reduce gun violence, he said, but everyone now agrees that it is time to do something.¶ "Senators here in Washington have listened and taken some big steps forward," Obama said, pointing to the mix of gun control legislation headed to the Senate floor next month. Provisions on the table include tighter background checks, a new gun trafficking statute, an assault weapons ban and a ban on high-capacity gun magazines.¶ "These ideas shouldn't be controversial -- they're common sense," Obama said. "I urge the Senate and the House to give each of them a vote."¶ Senate Majority Leader Harry Reid (D-Nev.) is expected to hold votes in early April on a mix of gun proposals, all of which make up the core of Obama's gun violence package. The bills with broader support will be lumped together into one package, while the more controversial pieces -- including the assault weapons ban -- will be taken up as individual amendments to the package.

#### Top of the Agenda and super controversial – comes before immigration

Chuck Todd et al (Mark Murray, Domenico Montanaro, and Brooke Brower, writers for NBC News) March 22, 2013 “First Thoughts: Guns, immigration set to take center stage next month” http://firstread.nbcnews.com/\_news/2013/03/22/17415111-first-thoughts-guns-immigration-set-to-take-center-stage-next-month?lite

Guns, immigration set to take center stage next month: As USA Today notes, the ceasefire in Washington’s warfare over the budget has cleared the way for two big legislative priorities -- immigration and guns -- to take center stage when Congress returns in April from its Easter/Passover break. So after March’s thaw, April will shower us with big pieces of legislative activity. And the two priorities are progressing in different ways, each with their own challenges. On guns, NBC’s Kasie Hunt reports, Senate Majority Leader Harry Reid will bring a gun-regulation bill to the Senate floor that includes a universal background check. “This bill will include the provisions on background checks, school safety and gun trafficking reported by the Judiciary Committee," Reid said in a statement last night. But the question is whether Senate Democrats can find compromise on background checks to get GOP support to clear the 60-vote hurdles that have become all-too routine in the chamber. Quinnipiac polls taken recently show that universal background checks are VERY popular nationally (88% support them, including 85% of gun owners) and in states like Florida and Ohio. By the way, Sunday’s “Meet the Press” will have a discussion on guns with New York City Mayor Michael Bloomberg and top NRA official Wayne LaPierre. ¶ \*\*\* Gun legislation lacking bipartisan support, immigration lacking actual legislation: Meanwhile, the situation on immigration is the exact opposite: There is plenty of bipartisan support for comprehensive immigration (see the “Group of Eight,” Rand Paul, the RNC, even Raul Labrador), but there is no bill and no movement out of the Senate Judiciary Committee. As NBC’s Carrie Dann has reported, Judiciary Committee Chairman Patrick Leahy lamented, “Because we do not yet have legislative language to debate, the Senate Judiciary Committee will not be able to report a comprehensive immigration bill by the end of April, which was my goal.” So one priority (guns) has legislation that’s about to reach the Senate floor, but it has little to no bipartisan support yet. And a second priority (immigration) has plenty of potential bipartisan support, but there isn’t actual legislation yet.

#### Obama injected new momentum on Thursday

Steve Holland (writer for Reuters) March 28, 2013 “Obama makes impassioned plea for gun control legislation” http://www.reuters.com/article/2013/03/28/us-usa-obama-agenda-idUSBRE92R11J20130328

President Barack Obama attempted on Thursday to inject fresh momentum into efforts to pass gun-control legislation, pleading with U.S. lawmakers not to forget those shot to death in Newtown, Connecticut three months ago.¶ Amid signs that he may have to accept a scaled-down version of gun legislation, Obama sounded a note of frustration in calling upon Americans to demand action from the U.S. Congress in the weeks ahead.