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#### Global nuclear expansion now – dozens of countries

**NEI 12** [May 2012, Nuclear Energy Institute, White Paper, “Global Nuclear Power ¶ Development: Major ¶ Expansion Continues”]

Introduction¶ The development of energy policy is a balancing act for ¶ any nation. Resource availability, projections of electricity demand growth, the age of existing infrastructure and ¶ climate change goals are a few of the issues that must ¶ be addressed. A country’s decision to include nuclear ¶ energy in its portfolio can be more complex because ¶ nuclear requires a regulatory and industry infrastructure ¶ to ensure safety, ongoing access to global nuclear trade ¶ through treaties and cooperation agreements, significant ¶ capital for new plant construction and public support for ¶ peaceful use of the technology. In the aftermath of the ¶ Fukushima accident, a few countries—including Germany ¶ and Switzerland—have indicated that that they do not ¶ plan further nuclear expansion. But many more plan to ¶ proceed with nuclear power development.¶ The table on page two shows the 30 countries with existing nuclear programs, and includes their plans for new ¶ nuclear generation. Thirteen of the countries rely on ¶ nuclear power for over one-quarter of their electricity ¶ generation. Another 14 countries are moving ahead with ¶ new plant construction, and others have longer-term ¶ plans for new nuclear development. In rapidly ¶ developing countries like China and India, governments ¶ are planning a major role for new nuclear generation as ¶ they increase basic electrification and keep up with ¶ demand growth from economic expansion. ¶ The case studies in this paper provide examples of how ¶ different countries have balanced their resources and ¶ needs and determined that nuclear generation should be ¶ a part of their energy portfolios. Even in the postFukushima environment, this robust growth is expected ¶ with an additional 329 proposed¶ planned and 68 units proposed in countries without operating nuclear plants. ¶ Nuclear Countries¶ Operating Under Construction Planned Proposed¶ Country¶ As shown in the map, countries with existing nuclear programs are not the only ¶ ones planning to build nuclear plants. Some governments, like those in the ¶ United Arab Emirates and Poland, have made firm commitments to develop the ¶ infrastructure needed for a nuclear program. Other countries like Thailand and ¶ Chile are keeping nuclear energy as an option for the future by announcing ¶ proposals for new reactors. Countries will continue to evaluate policy and energy options as time passes and make appropriate decisions at the national level. ¶ For many nuclear energy will be a part of their clean energy future.¶ As the current status of new nuclear construction demonstrates, the majority of ¶ nuclear energy growth is occurring in non-OECD countries. OECD countries will ¶ build nuclear plants as they seek to replace aging generating fleets and reduce ¶ carbon emissions. But non-OECD countries are building electricity generation ¶ on a large scale to fuel high economic growth and to expand residential electrification. This presents many opportunities for U.S. suppliers to take ¶ advantage of markets aboard. ¶ Brazil¶ From the beginning of its nuclear program in the 1970s, Brazil has remained ¶ supportive of nuclear energy and its role in the country’s generation portfolio. ¶ Brazil has two operating nuclear units, Angra 1 and 2, near Rio de Janeiro, as ¶ well as facilities for uranium enrichment and fuel fabrication in Resende that ¶ serve the two domestic reactors. The planning for the first unit at Angra, a 520 ¶ MW unit designed by Westinghouse, started in the 1970s. Brazil signed a deal ¶ with West Germany for eight 1,300 MW units in the late ¶ 1970s, but economic stagnation and lower demand growth ¶ halted those plans. In 1995, construction on Angra 2 was ¶ restarted with the help of additional German investment.

#### Fast reactors inevitable – US lead key to nuke leadership

**Kirsch 9** [Steve Kirsch, founder and CEO of multiple tech companies collectively worth over %241 billion and MS in Electrical Engineering and Computer Science from MIT, November 2009, "Why We Should Build an Integral Fast Reactor Now,", ]

The genie is out of the bottle: refusing to play will not make fast reactors go away and will ultimately make us less safe. If we don’t re-start our fast reactor technology, then other countries will take the lead. France, Russia, India, Japan, and China all have fast reactor programs and all are either operating fast reactors now, or soon will be. The US shut down our last remaining fast reactor 15 years ago. Leadership is important for two reasons: 1) if we fail to lead, we will have missed taking advantage of our superior technology and missed a major economic opportunity as the premiere supplier of clean power technology and 2) the nuclear industry is in far safer hands if the US leads the way than if we abdicate. For example, if Chernobyl had been a US reactor design, that accident could never have happened.

#### Prolif – Plan solves it

#### A. Economic incentive to forego ENR and PUREX – means no weapons

**Stanford 10** [IFR FaD context – the need for U.S. implementation of the IFR, 18 February 2010 by Barry Brook, This is a context statement for the IFR FaD series, written by Dr. George S. Stanford. George is a nuclear reactor physicist, part of the team that developed the Integral Fast Reactor. He is now retired from Argonne National Laboratory after a career of experimental work pertaining to power-reactor safety. He is the co-author of Nuclear Shadowboxing: Contemporary Threats from Cold War Weaponry. He is a founding member of the Science Council for Global Initiatives, Brave New Climate]

Background info on proliferation (of nuclear weapons). Please follow the reasoning carefully.¶ – Atomic bombs can be made with highly enriched uranium (90% U-235) or with good-quality plutonium (bomb designers want plutonium that is ~93% Pu-239).¶ – For fuel for an LWR, the uranium only has to be enriched to 3 or 4% U-235.¶ – To make a uranium bomb you don’t need a reactor — but you do need access to an enrichment facility or some other source of highly enriched uranium…¶ – Any kind of nuclear reactor can be used to make weapons-quality plutonium from uranium-238, but the uranium has to have been irradiated for only a very short period. In other words, nobody would try to make a plutonium weapon from ordinary spent fuel, because there are easier ways to get plutonium of much better quality.¶ – Plutonium for a weapon not only has to have good isotopic quality, it also has to be chemically uncontaminated. Thus the lightly irradiated fuel has to be processed to extract the plutonium in a chemically pure form. But mere possession of a reactor is not sufficient for a weapons capability — a facility using a chemical process called PUREX is also needed.¶ – Regardless of how many reactors a country has, it cannot have a weapons capability unless it has either the ability to enrich uranium or to do PUREX-type fuel reprocessing.¶ – Therefore, the spread of weapons capability will be strongly inhibited if the only enrichment and reprocessing facilities are in countries that already have a nuclear arsenal.¶ – But that can only happen if countries with reactors (and soon that will be most of the nations of the world) have absolutely ironclad guarantees that they can get the fuel they need even if they can’t make their own, regardless of how obnoxious their political actions might be.¶ – Such guarantees will have to be backed up by some sort of international arrangement, and that can only come to pass if there is effective leadership for the laborious international negotiations that will have to take place. (For a relevant discussion, see here)¶ – At present, the only nation that has a realistic potential to be such a leader is the United States.¶ – But a country cannot be such a leader in the political arena unless it is also in the technological forefront.¶ – The United States used to be the reactor-technology leader, but it abandoned that role in 1994 when it terminated the development of the IFR.¶ – Since then, other nations — China, India, Japan, South Korea, Russia, France — have proceeded to work on their own fast-reactor versions, which necessarily will involve instituting a fuel-processing capability.¶ – Thus the United States is being left behind, and is rapidly losing its ability to help assure that the global evolution of the technology of nuclear energy proceeds in a safe and orderly manner.¶ – But maybe it’s not too late yet. After all, the IFR is the fast-reactor technology with the post promise (for a variety of reasons), and is ready for a commercial-scale demonstration to settle some uncertainties about how to scale up the pyroprocess as needed, to establish better limits on the expected cost of production units, and to develop an appropriate, expeditious licensing process.

#### B. Commercial leadership and solving uranium – also solves the nuclear arsenal

**Jones 12** [The Hill, “US must remain leader in nuclear enrichment”, Retired General James L. Jones, senior fellow at the Bipartisan Policy Center and co-chairman of its Energy Project. He was national security adviser to President Obama from January 2009 to November 2010, 01/17/12]

Achieving energy security is among our nation’s most pressing requirements in this still-young century. I believe that America must employ a more strategic national energy policy if it is to overcome the many complex energy challenges that will so heavily influence its economic and national security. While our continued dependence on foreign sources of oil might remain the most visible threat to American eneurargy security, consequential energy-related threats such as climate change and the proliferation of nuclear material will continue to bear heavily on our security for many decades to come.¶ Nuclear nonproliferation, long one of America’s chief international security strategies, has been a major priority for this administration, as it has for every administration since World War II. Nuclear power is unique among energy sources because the commercial use of civilian technology is inseparable from nuclear security and proliferation concerns. The commercial trade of nuclear technology can heighten proliferation risks. Such vulnerabilities in a complex and dangerous world must continue to be managed responsibly — a primary objective of the nonproliferation laws and safeguards that accompany the export of U.S. nuclear technology. ¶ ¶ Our commercial leadership in the nuclear industry has been an enduring source of America’s influence in the global marketplace and a potent lever for promoting international cooperation in developing and enforcing nonproliferation regimes. Unfortunately, the U.S. is ceding its leadership in key areas of nuclear technology development. Of greatest concern is potential loss of leadership in the enrichment industry. The U.S. once produced a majority of the world’s supply of enriched uranium necessary to generate nuclear power, but today it produces only 25 percent. The United States Enrichment Corporation (USEC), which operates the United States’s largest commercial uranium enrichment facility, is the only U.S. majority-owned supplier. However, its plant located in Paducah, Ky., uses antiquated and inefficient technology. The enterprise is not well-positioned to compete cost-effectively and its ability to sustain operations remains in serious doubt. ¶ The loss of our only domestically-owned source of enriched uranium will severely undermine America’s influence in the industry and our leadership in vital international nonproliferation efforts. Without the United States as a reliable source of nuclear fuel, particularly in a world with increasing demand for low- and no-carbon electric generation, other nations will have greater incentive to pursue their own enrichment capabilities, increasing the risks of proliferation and the chances that civilian nuclear technology will be diverted for malign purposes. We know well the adverse effects on U.S. national security and international stability of North Korea’s and Iran’s pursuit of nuclear weapons under the guise of commercial enrichment.¶ The disappearance of a domestically owned capability would not only undermine U.S. leadership in a highly consequential arena of global commerce and security, it would render us dependent on foreign-controlled sources of uranium enrichment. This could increase the vulnerability not only of America’s commercial nuclear industry but of our national nuclear arsenal. Tritium, produced using enriched uranium, is necessary to maintain and modernize our nuclear weapons. Relying on foreign suppliers for material essential for maintaining the safety, security and reliability of our nuclear capability is unacceptable.

#### Proliferation likely now – risks Israel strikes

**Chalmers 13** [Royal United Services Institute, independent think-tank founded in 1831 by the Duke of Wellington, “The Nuclear Agenda for 2013: New Solutions to Old Problems”, RUSI Analysis, 10 Jan 2013, Hugh Chalmers, Research Analyst, Nuclear Analysis, formerly had consulting position at the Verification Research, Training and Information Centre, previously held positions at IHS Jane's and the King's College Centre for Science and Security Studies, MA in Science and Security from the King's College Department of War Studies]

After a year characterised by leadership transitions in the US, Russia, China, Japan, and South Korea, political paralysis has pushed many old nuclear problems into 2013. And through the momentum this has afforded them, they will almost certainly colour the coming year.¶ Continuing Crises¶ Chief among these old problems is the Iranian nuclear crisis. Despite increasingly bellicose rhetoric from Israel and the implementation of further sanctions, Iran's stockpile of 20%-enriched uranium almost tripled in 2012 - increasing the threat to what fragile stability exists in the Middle East. The International Atomic Energy Agency (IAEA) can neither confirm nor deny whether Iran's nuclear programme has a military dimension, and the P5+1 group of nations has yet to negotiate a satisfactory conclusion to this crisis.¶ This was in part due to the US Presidential elections in November. The lingering presence of the crisis in US election debates meant that few risks were taken by the US, and consequently the P5+1, to compromise with Iran in the latter half of 2012. And while the IAEA ended the year with a small step towards resolving its dispute with Iran, the US and its partners in the P5+1 start 2013 no closer to their goal than they were a year ago. Unless Iran dramatically reduces its production of 20%-enriched uranium (or significantly increases the conversion of enriched uranium to less-sensitive forms) its stockpile will probably cross Israel's hazy red line of 240kg before mid-2013. If this occurs, the Israeli airstrikes that were narrowly avoided in 2012 may yet haunt 2013.¶ Elections in South Korea and Japan were also coloured by North Korea's successful launch of the Unha-3 rocket in December, which also cast a shadow over the newly-formed Politburo Standing Committee in China. While the timing of the launch ostensibly commemorated the first anniversary of Kim Jong-Il's death, it served equally well as a reminder that North Korea is still prepared to use provocative displays of power to influence regional debates. The launch was rightly met by familiar condemnation from the international community, including an important call from China to abide by UN Security Council Resolutions. However, the Security Council itself has yet to add its voice to this chorus - something it did within four days of North Korea's failed rocket launch in April 2012.¶ While it is too early to judge the impact of the launch, if North Korea feels that provocation has proven productive (and that it may dodge an assertive response from the UN), it may be tempted to consider further provocation. Satellite imagery analysis suggests that North Korea has maintained a readiness to test a nuclear warhead within two week's notice. And if North Korea does indeed hope to eventually mount a nuclear warhead on a modified Unha-3 rocket, it will have to test a reliable, small-scale warhead.¶ Decaying Relations¶ Finally, since Vladimir Putin's controversial return to the Kremlin in March of 2012, a distinct chill has come over US-Russia relations. While the 'reset' in relations between the two powers successfully secured modest reductions in the strategic nuclear arsenals of the two states, it has since stumbled over the deployment of US ballistic missile defence systems in Europe, and fallen over Russia's tit-for-tat response to the blacklisting of select Russian individuals by the US Magnitsky act at the end of 2012.¶ Two important symptoms of this deteriorating relationship will manifest themselves this year. The Nunn-Lugar Cooperative Threat Reduction Program, which safeguarded and dismantled weapons of mass destruction in the former Soviet Union, and the Megatons to Megawatts Program, which converted Russian weapons-origin fissile material into fuel for US reactors, will be dropped by Russia before 2013 is out. Without a thaw in relations between the US and Russia, and the reinvigoration of bilateral nuclear arms control between the two powers, 2013 may leave the global nuclear disarmament movement in a worse state than it found it.

#### Israel strike causes great power war

José Miguel Alonso Trabanco 2009; researcher for Global Research, “The Middle Eastern Powder Keg Can Explode at Anytime,” globalresearch.ca/index.php?context=va&aid=11762

In case of an Israeli and/or American attack against Iran, Ahmadinejad's government will certainly respond. A possible countermeasure would be to fire Persian ballistic missiles against Israel and maybe even against American military bases in the regions. Teheran will unquestionably resort to its proxies like Hamas or Hezbollah (or even some of its Shiite allies it has in Lebanon or Saudi Arabia) to carry out attacks against Israel, America and their allies, effectively setting in flames a large portion of the Middle East. The ultimate weapon at Iranian disposal is to block the Strait of Hormuz. If such chokepoint is indeed asphyxiated, that would dramatically increase the price of oil, this a very threatening retaliation because it will bring intense financial and economic havoc upon the West, which is already facing significant trouble in those respects. In short, the necessary conditions for a major war in the Middle East are given. Such conflict could rapidly spiral out of control and thus a relatively minor clash could quickly and dangerously escalate by engulfing the whole region and perhaps even beyond. There are many key players: the Israelis, the Palestinians, the Arabs, the Persians and their respective allies and some great powers could become involved in one way or another (America, Russia, Europe, China). Therefore, any miscalculation by any of the main protagonists can trigger something no one can stop. Taking into consideration that the stakes are too high, perhaps it is not wise to be playing with fire right in the middle of a powder keg.

#### Prolif causes extinction

Krieger, ‘9

[David, Pres. Nuclear Age Peace Foundation and Councilor – World Future Council, “Still Loving the Bomb After All These Years”, 9-4, https://www.wagingpeace.org/articles/2009/09/04\_krieger\_newsweek\_response.php?krieger]

Jonathan Tepperman’s article in the September 7, 2009 issue of Newsweek, “Why Obama Should Learn to Love the Bomb,” provides a novel but frivolous argument that nuclear weapons “may not, in fact, make the world more dangerous….” Rather, in Tepperman’s world, “The bomb may actually make us safer.” Tepperman shares this world with Kenneth Waltz, a University of California professor emeritus of political science, who Tepperman describes as “the leading ‘nuclear optimist.’” Waltz expresses his optimism in this way: “We’ve now had 64 years of experience since Hiroshima. It’s striking and against all historical precedent that for that substantial period, there has not been any war among nuclear states.” Actually, there were a number of proxy wars between nuclear weapons states, such as those in Korea, Vietnam and Afghanistan, and some near disasters, the most notable being the 1962 Cuban Missile Crisis. Waltz’s logic is akin to observing a man falling from a high rise building, and noting that he had already fallen for 64 floors without anything bad happening to him, and concluding that so far it looked so good that others should try it. Dangerous logic! Tepperman builds upon Waltz’s logic, and concludes “that all states are rational,” even though their leaders may have a lot of bad qualities, including being “stupid, petty, venal, even evil….” He asks us to trust that rationality will always prevail when there is a risk of nuclear retaliation, because these weapons make “the costs of war obvious, inevitable, and unacceptable.” Actually, he is asking us to do more than trust in the rationality of leaders; he is asking us to gamble the future on this proposition. “The iron logic of deterrence and mutually assured destruction is so compelling,” Tepperman argues, “it’s led to what’s known as the nuclear peace….” But if this is a peace worthy of the name, which it isn’t, it certainly is not one on which to risk the future of civilization. One irrational leader with control over a nuclear arsenal could start a nuclear conflagration, resulting in a global Hiroshima. Tepperman celebrates “the iron logic of deterrence,” but deterrence is a theory that is far from rooted in “iron logic.” It is a theory based upon threats that must be effectively communicated and believed. Leaders of Country A with nuclear weapons must communicate to other countries (B, C, etc.) the conditions under which A will retaliate with nuclear weapons. The leaders of the other countries must understand and believe the threat from Country A will, in fact, be carried out. The longer that nuclear weapons are not used, the more other countries may come to believe that they can challenge Country A with impunity from nuclear retaliation. The more that Country A bullies other countries, the greater the incentive for these countries to develop their own nuclear arsenals. Deterrence is unstable and therefore precarious. Most of the countries in the world reject the argument, made most prominently by Kenneth Waltz, that the spread of nuclear weapons makes the world safer. These countries joined together in the Nuclear Non-Proliferation Treaty (NPT) to prevent the spread of nuclear weapons, but they never agreed to maintain indefinitely a system of nuclear apartheid in which some states possess nuclear weapons and others are prohibited from doing so. The principal bargain of the NPT requires the five NPT nuclear weapons states (US, Russia, UK, France and China) to engage in good faith negotiations for nuclear disarmament, and the International Court of Justice interpreted this to mean complete nuclear disarmament in all its aspects. Tepperman seems to be arguing that seeking to prevent the proliferation of nuclear weapons is bad policy, and that nuclear weapons, because of their threat, make efforts at non-proliferation unnecessary and even unwise. If some additional states, including Iran, developed nuclear arsenals, he concludes that wouldn’t be so bad “given the way that bombs tend to mellow behavior.” Those who oppose Tepperman’s favorable disposition toward the bomb, he refers to as “nuclear pessimists.” These would be the people, and I would certainly be one of them, who see nuclear weapons as presenting an urgent danger to our security, our species and our future. Tepperman finds that when viewed from his “nuclear optimist” perspective, “nuclear weapons start to seem a lot less frightening.” “Nuclear peace,” he tells us, “rests on a scary bargain: you accept a small chance that something extremely bad will happen in exchange for a much bigger chance that something very bad – conventional war – won’t happen.” But the “extremely bad” thing he asks us to accept is the end of the human species. Yes, that would be serious. He also doesn’t make the case that in a world without nuclear weapons, the prospects of conventional war would increase dramatically. After all, it is only an unproven supposition that nuclear weapons have prevented wars, or would do so in the future. We have certainly come far too close to the precipice of catastrophic nuclear war. As an ultimate celebration of the faulty logic of deterrence, Tepperman calls for providing any nuclear weapons state with a “survivable second strike option.” Thus, he not only favors nuclear weapons, but finds the security of these weapons to trump human security. Presumably he would have President Obama providing new and secure nuclear weapons to North Korea, Pakistan and any other nuclear weapons states that come along so that they will feel secure enough not to use their weapons in a first-strike attack. Do we really want to bet the human future that Kim Jong-Il and his successors are more rational than Mr. Tepperman?

**Credible nuclear arsenal deters all war and solves Russia and China nuclear war**

**Payne ’12** – professor and head of Defense and Strategic Studies at Missouri State

(Dr. Keith B., Testimony to the Congressional Strategic Posture Commission, United States Senate Appropriations Subcommittee on Energy and Water Development, 7-25-2012)

The GNZC report, however, essentially dismisses this concern by asserting that Russia and China are not now opponents and are unlikely ever to be so again: “The risk of nuclear confrontation between the United States and either Russia or China belongs to the past, not the future.” Such a prediction fits the narrative for further deep reductions, but it does not appear to fit Russian or Chinese actions and statements concerning their ambitions and nuclear developments. Over the past several years, top Russian leaders have made numerous threats of pre-emptive and preventive nuclear attack against US allies and friends. Most recently, the Chief of the Russian General Staff, Gen. Nikolai Makarov threatened a pre-emptive attack against NATO states, and the threat was implicitly nuclear. 11 (Please see the attached compilation of Russian nuclear threats since 2007 by Dr. Mark Schneider). Such threats challenge Western sensibilities and faith in a powerful, global nuclear “taboo,” but they are within the norm of Russian behavior and doctrine regarding nuclear forces. To claim that nuclear weapons will not be salient in contemporary or future US relations with Russia or China is an unwarranted and highly optimistic prediction, not a prudent basis for calculating US deterrence strategies and forces. If wrong, Minimum Deterrence and corresponding low force levels could invite serious risk and provocations. Second, the question of having an adequate deterrence capability cannot be answered simply by determining if we can threaten some given, contemporary set of targets. Deterrence must work in contemporary and future crises, and we will come to those crises with the forces we have in hand. No one knows with confidence “how much of what force” will be necessary for credible deterrence now, and future requirements are particularly arcane because opponents and threats can shift rapidly in this post-Cold War era and the requirements for deterrence correspondingly can change rapidly. This reality complicates the task of calculating “how much is enough” for deterrence. The priority deterrence question now is whether we have sufficient force options and diversity to threaten credibly the wide spectrum of targets that opponents may value over the course of decades. In some plausible scenarios, a small and undiversified US nuclear force may be adequate for deterrence, in other cases, effective deterrence may demand a large and diverse nuclear arsenal with capabilities well beyond those envisaged for Minimum Deterrence. Confident declarations that some fixed Minimum Deterrence force level will prove adequate cannot be based on substance; they reflect only hope and carry considerable risk. Instead, the flexibility and resilience of our forces to adapt to differing deterrence requirements should be considered a fundamental requirement of US force adequacy, and our standing capabilities must be sufficiently large and diverse to adapt to a variety of shifting deterrence demands. It may be convenient to pick some fixed, low number and claim that 300, 400, or 500 weapons will be adequate for deterrence now and in the future, but no one can possibly know if such statements are true. We do know that the more diverse and flexible our forces, the more likely we are to have the types of capabilities needed for deterrence in a time of shifting and uncertain threats, stakes and opponents. But force diversity and flexibility does not come automatically. It is important that our nuclear force posture and infrastructure incorporate these characteristics and that they are manifest to opponents and allies for deterrence and assurance purposes respectively.

### 2

#### Warming is real and anthropogenic – CO2 is key

Rahmstorf, November 12 [Stefan Rahmstorf is a German oceanographer and climatologist. Since 2000, he has been a Professor of Physics of the Oceans at Potsdam University. He received his Ph.D. in oceanography from Victoria University of Wellington.Comparing climate projections to observations up to 2011, Stefan Rahmstorf et al 2012 Environ Res. Lett. 7 044035 [doi:10.1088/1748-9326/7/4/044035](http://dx.doi.org/10.1088/1748-9326/7/4/044035) © 2012 IOP Publishing Ltd Received 19 July 2012, accepted for publication 9 November 2012 Published 27 November 2012. <http://iopscience.iop.org/1748-9326/7/4/044035/article>]

Climate projections like those of the Intergovernmental Panel on Climate Change (IPCC [2001](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib10), [2007](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib11)) are increasingly used in decision-making. It is important to keep track of how well past projections match the accumulating observational data. Five years ago, it was found that CO2 concentration and global temperature closely followed the central prediction of the third IPCC assessment report during 1990–2006, whilst sea level was tracking along the upper limit of the uncertainty range (Rahmstorf et al [2007](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib24)). Here we present an update with five additional years of data and using advances in removing short-term noise from global temperature data. Atmospheric carbon dioxide concentration continues to match the prediction: the mean value reached in 2011 was 390.5 ppm (NOAA [2012](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib21)), only about 1.5 ppm higher than the central IPCC projections published in 2001. For historical perspective, in his article 'Are we on the brink of a pronounced global warming?', Broecker ([1975](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib1)) predicted an increase from 322 ppm observed in 1970 to 403 ppm in 2010. A more detailed analysis of anthropogenic climate forcing, which also includes other greenhouse gases, aerosols and surface albedo changes, is beyond the scope of this letter. Here we focus on two prime indicators of climate change: the evolution of global-mean temperature and sea level. 2. Global temperature evolution To compare global temperature data to projections, we need to consider that IPCC projections do not attempt to predict the effect of solar variability, or specific sequences of either volcanic eruptions or El Niño events. Solar and volcanic forcing are routinely included only in 'historic' simulations for the past climate evolution but not for the future, while El Niño–Southern Oscillation (ENSO) is included as a stochastic process where the timing of specific warm or cool phases is random and averages out over the ensemble of projection models. Therefore, model-data comparisons either need to account for the short-term variability due to these natural factors as an added quasi-random uncertainty, or the specific short-term variability needs to be removed from the observational data before comparison. Since the latter approach allows a more stringent comparison it is adopted here. Global temperature data can be adjusted for solar variations, volcanic aerosols and ENSO using multivariate correlation analysis (Foster and Rahmstorf [2011](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib6), Lean and Rind [2008](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib14), [2009](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib15), Schönwiese et al [2010](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib28)), since independent data series for these factors exist. We here use the data adjusted with the method exactly as described in Foster and Rahmstorf, but using data until the end of 2011. The contributions of all three factors to global temperature were estimated by linear correlation with the multivariate El Niño index for ENSO, aerosol optical thickness data for volcanic activity and total solar irradiance data for solar variability (optical thickness data for the year 2011 were not yet available, but since no major volcanic eruption occurred in 2011 we assumed zero volcanic forcing). These contributions were computed separately for each of the five available global (land and ocean) temperature data series (including both satellite and surface measurements) and subtracted. The five thus adjusted data sets were averaged in order to avoid any discussion of what is 'the best' data set; in any case the differences between the individual series are small (Foster and Rahmstorf [2011](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib6)). We show this average as a 12-months running mean in figure [1](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749fig1), together with the unadjusted data (likewise as average over the five available data series). Comparing adjusted with unadjusted data shows how the adjustment largely removes e.g. the cold phase in 1992/1993 following the Pinatubo eruption, the exceptionally high 1998 temperature maximum related to the preceding extreme El Niño event, and La Niña-related cold in 2008 and 2011. Figure 1. Observed annual global temperature, unadjusted (pink) and adjusted for short-term variations due to solar variability, volcanoes and ENSO (red) as in Foster and Rahmstorf ([2011](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib6)). 12-months running averages are shown as well as linear trend lines, and compared to the scenarios of the IPCC (blue range and lines from the third assessment, green from the fourth assessment report). Projections are aligned in the graph so that they start (in 1990 and 2000, respectively) on the linear trend line of the (adjusted) observational data. [Export PowerPoint slide](http://iopscience.iop.org/1748-9326/7/4/044035/powerpoint/figure/erl439749fig1) [Download figure (96 KB)](http://iopscience.iop.org/1748-9326/7/4/044035/downloadFigure/figure/erl439749fig1) Note that recently a new version of one of those time series has become available: version of 4 the HadCRUT data (Morice et al [2012](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib20)). Since the differences are small and affect only one of five series, the effect of this update on the average shown in figure [1](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749fig1) is negligible. We chose to include version 3 of the data in this graph since these data are available up to the end of 2011, while version 4 so far is available only up to the end of 2010. The removal of the known short-term variability components reduces the variance of the data without noticeably altering the overall warming trend: it is 0.15 °C/decade in the unadjusted and 0.16 °C/decade in the adjusted data. From 1990–2011 the trends are 0.16 and 0.18 °C/decade and for 1990–2006 they are 0.22 and 0.20 °C/decade respectively. The relatively high trends for the latter period are thus simply due to short-term variability, as discussed in our previous publication (Rahmstorf et al [2007](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib24)). During the last ten years, warming in the unadjusted data is less, due to recent La Niña conditions (ENSO causes a linear cooling trend of −0.09 °C over the past ten years in the surface data) and the transition from solar maximum to the recent prolonged solar minimum (responsible for a −0.05 °C cooling trend) (Foster and Rahmstorf [2011](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib6)). Nevertheless, unadjusted observations lie within the spread of individual model projections, which is a different way of showing the consistency of data and projections (Schmidt [2012](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib27)). Figure [1](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749fig1) shows that the adjusted observed global temperature evolution closely follows the central IPCC projections, while this is harder to judge for the unadjusted data due to their greater short-term variability. The IPCC temperature projections shown as solid lines here are produced using the six standard, illustrative SRES emissions scenarios discussed in the third and fourth IPCC reports, and do not use any observed forcing. The temperature evolution for each, including the uncertainty range, is computed with a simple emulation model, hence the temperature curves are smooth. The temperature ranges for these scenarios are provided in the summary for policy makers of each report, in figure 5 in case of the third assessment and in table SPM.3 in case of the fourth assessment (where the full time evolution is shown in figure 10.26 of the report; Meehl et al [2007](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib18)). For historic perspective, Broecker in 1975 predicted a global warming from 1980–2010 by 0.68 °C, as compared to 0.48 °C according to the linear trend shown in figure [1](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749fig1), an overestimate mostly due to his neglect of ocean thermal inertia (Rahmstorf [2010](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib23)). A few years later, Hansen et al ([1981](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib8)) analysed and included the effect of ocean thermal inertia, resulting in lower projections ranging between 0.28 and 0.45 °C warming from 1980–2010. Their upper limit thus corresponds to the observed warming trend. They further correctly predicted that the global warming signal would emerge from the noise of natural variability before the end of the 20th century. 3. Global sea-level rise Turning to sea level, the quasi linear trend measured by satellite altimeters since 1993 has continued essentially unchanged when extending the time series by five additional years. It continues to run near the upper limit of the projected uncertainty range given in the third and fourth IPCC assessment reports (figure [2](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749fig2)). Here, the sea-level projections provided in figure 5 of the summary for policy makers of the third assessment and in table SPM.3 of the fourth assessment are shown. The satellite-based linear trend 1993–2011 is 3.2 ± 0.5 mm yr−1, which is 60% faster than the best IPCC estimate of 2.0 mm yr−1 for the same interval (blue lines). The two temporary sea-level minima in 2007/2008 and 2010/2011 may be linked to strong La Niña events (Llovel et al [2011](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib17)). The tide gauges show much greater variability, most likely since their number is too limited to properly sample the global average (Rahmstorf et al [2012](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib25)). For sea level the fourth IPCC report did not publish the model-based time series (green lines), but these were made available online in 2012 (CSIRO [2012](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib5)). They do not differ significantly from the projections of the third IPCC report and thus continue to underestimate the observed upward trend. Figure 2. Sea level measured by satellite altimeter (red with linear trend line; AVISO data from (Centre National d'Etudes Spatiales) and reconstructed from tide gauges (orange, monthly data from Church and White ([2011](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib4))). Tide gauge data were aligned to give the same mean during 1993–2010 as the altimeter data. The scenarios of the IPCC are again shown in blue (third assessment) and green (fourth assessment); the former have been published starting in the year 1990 and the latter from 2000. [Export PowerPoint slide](http://iopscience.iop.org/1748-9326/7/4/044035/powerpoint/figure/erl439749fig2) [Download figure (91 KB)](http://iopscience.iop.org/1748-9326/7/4/044035/downloadFigure/figure/erl439749fig2) Could this underestimation appear because the high observed rates since 1993 are due to internal multi-decadal variability, perhaps a temporary episode of ice discharge from one of the ice sheets, rather than a systematic effect of global warming? Two pieces of evidence make this very unlikely**.** First, the IPCC fourth assessment report (IPCC [2007](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib11)) found a similar underestimation also for the time period 1961–2003: the models on average give a rise of 1.2 mm yr−1, while the best data-based estimate is 50% larger at 1.8 mm yr−1 (table 9.2 of the report; Hegerl et al [2007](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib9)). This is despite using an observed value for ice sheet mass loss (0.19 mm yr−1) in the 'modelled' number in this comparison. Second, the observed rate of sea-level rise on multi-decadal timescales over the past 130 years shows a highly significant correlation with global temperature (Vermeer and Rahmstorf [2009](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib30)) by which the increase in rate over the past three decades is linked to the warming since 1980, which is very unlikely to be a chance coincidence. Another issue is whether non-climatic components of sea-level rise, not considered in the IPCC model projections, should be accounted for before making a comparison to data, namely water storage in artificial reservoirs on land (Chao et al [2008](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib3)) and the extraction of fossil groundwater for irrigation purposes (Konikow [2011](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib13)). During the last two decades, both contributions approximately cancel (at −0.3 and +0.3 mm yr−1) so would not change our comparison in figure [2](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749fig2), see figure 11 of Rahmstorf et al ([2012](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib25)) based on the data of Chao et al ([2008](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib3)) and Konikow ([2011](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib13)). This is consistent with the lack of recent trend in net land-water storage according to the GRACE satellite data (Lettenmaier and Milly [2009](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib16)). For the period 1961–2003, however, the effect of dam building (which peaked in the 1970s at around −0.9 mm yr−1) very likely outstripped groundwater extraction, thus widening the gap between modelled and observed climatically-forced sea-level rise. It is instructive to analyse how the rate of sea-level rise changes over longer time periods (figure [3](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749fig3)). The tide gauge data (though noisy, see above) show that the rate of sea-level rise was around 1 mm yr−1 in the early 20th century, around 1.5–2 mm yr−1 in mid-20th-century and increased to around 3 mm yr−1 since 1980 (orange curve). The satellite series is too short to meaningfully compute higher order terms beyond the linear trend, which is shown in red (including uncertainty range). Finally, the AR4 projections are shown in three bundles of six emissions scenarios: the 'mid' estimates in green, the 'low' estimates (5-percentile) in cyan and the 'high' estimates (95-percentile) in blue. These are the scenarios that comprise the often-cited AR4-range from 18 to 59 cm sea-level rise for the period 2090–99 relative to 1980–99 (IPCC [2007](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib11)). For the period 2000–2100, this corresponds to a range of 17–60 cm sea-level rise. Figure 3. Rate of sea-level rise in past and future. Orange line, based on monthly tide gauge data from Church and White ([2011](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib4)). The red symbol with error bars shows the satellite altimeter trend of 3.2 ± 0.5 mm yr−1 during 1993–2011; this period is too short to determine meaningful changes in the rate of rise. Blue/green line groups show the low, mid and high projections of the IPCC fourth assessment report, each for six emissions scenarios. Curves are smoothed with a singular spectrum filter (ssatrend; Moore et al [2005](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib19)) of 10 years half-width. [Export PowerPoint slide](http://iopscience.iop.org/1748-9326/7/4/044035/powerpoint/figure/erl439749fig3) [Download figure (94 KB)](http://iopscience.iop.org/1748-9326/7/4/044035/downloadFigure/figure/erl439749fig3) Figure [3](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749fig3) shows that in all 'low' estimates, the rate of rise stays well below 3 mm yr−1 until the second half of the 21st century, in four of the six even throughout the 21st century. The six 'mid' estimates on average give a rise of 34 cm, very close to what would occur if the satellite-observed trend of the last two decades continued unchanged for the whole century. However, figure [3](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749fig3) shows that the reason for this relatively small projected rise is not an absence of acceleration. Rather, all these scenarios show an acceleration of sea-level rise in the 21st century, but from an initial value that is much lower than the observed recent rise. Figure [3](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749fig3) further shows that only the 'high' models represented in the range of AR4 models validate when compared to the observational data and can in this regard be considered valid projection models for the future. These 'high' model scenarios represent a range of 21st century rise of 37–60 cm. Nevertheless, this range cannot be assumed to represent the full range of uncertainty of future sea-level rise, since the 95-percentile can only represent a very small number of models, given that 23 climate models were used in the AR4. The model(s) defining the upper 95-percentile might not get the right answer for the right reasons, but possibly by overestimating past temperature rise. Note that the IPCC pointed out that its projections exclude 'future rapid dynamical changes in ice flow'. The projections now published online (CSIRO [2012](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib5)) include an alternative version that includes 'scaled-up ice sheet discharge'. These projections validate equally well (or poorly) with the observed data, since they only differ substantially in the future, not in the past, from the standard projections. The sea-level rise over 2000–2100 of the 'high' bundle of these scenarios is 46–78 cm. Alternative scalings of sea-level rise have been developed, which in essence postulate that the rate of sea-level rise increases in proportion to global warming (e.g. Grinsted et al [2009](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib7), Rahmstorf [2007](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib22)). This approach can be calibrated with past sea-level data (Kemp et al [2011](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib12), Vermeer and Rahmstorf [2009](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib30)) and leads to higher projections of future sea-level rise as compared to those of the IPCC. The latter is immediately plausible: if we consider the recently observed 3 mm yr−1 rise to be a result of 0.8 °C global warming since preindustrial times (Rahmstorf et al [2012](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib25)), then a linear continuation of the observed warming of the past three decades (leading to a 21st century warming by 1.6 °C, or 2.4 °C relative to preindustrial times) would linearly raise the rate of sea-level rise to 9 mm yr−1, as in the highest scenario in figure [3](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749fig3)—but already for a rather moderate warming scenario, not the 'worst case' emissions scenario. 4. Conclusions In conclusion, the rise in CO2 concentration and global temperature has continued to closely match the projections over the past five years, while sea level continues to rise faster than anticipated**.** The latter suggests that the 21st Century sea-level projections of the last two IPCC reports may be systematically biased low. Further support for this concern is provided by the fact that the ice sheets in Greenland and Antarctica are increasingly losing mass (Rignot et al [2011](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib26), Van den Broeke et al [2011](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib29)), while those IPCC projections assumed that Antarctica will gain enough mass in future to largely compensate mass losses from Greenland (see figure 10.33 in Meehl et al ([2007](http://iopscience.iop.org/1748-9326/7/4/044035/article#erl439749bib18))). For this reason, an additional contribution ('scaled-up ice sheet discharge') was suggested in the IPCC fourth assessment. Our results highlight the need to thoroughly validate models with data of past climate changes before applying them to projections.

#### And, it causes extinction – but US leadership can reverse it

Ferris, 1/17/13 [The Big Thaw, [Elizabeth Ferris](http://www.brookings.edu/experts/ferrise) Co-Director, [Brookings-LSE Project on Internal Displacement](http://www.brookings.edu/about/projects/idp), <http://www.brookings.edu/research/papers/2013/01/the-big-thaw>

Global warming is occurring at a faster pace than predicted by scientists. Temperatures are rising, icecaps and glaciers are melting, and extreme weather events are becoming both more frequent and more intense. Last fall, the National Snow and Ice Data Center documented a record low of the level of Arctic sea ice – a figure 49 percent lower than the 1979-2000 average. If these trends continue, the results will be far-reaching for life on this planet. But if the warming accelerates dramatically and if polar ice melts even faster, the results could be catastrophic. This could occur if the Greenland ice sheet or the West Antarctica Ice Sheet (WAIS) collapses, triggering a significant rise in sea levels throughout the world with particularly devastating impacts on populations living in low-lying coastal areas. Although the effects of climate change are likely to be long-term and the worst effects will probably neither be experienced in your presidency nor even in your lifetime, the future is inherently unpredictable. Climate change is already affecting communities around the world. It is likely to produce devastating consequences whether in the near or distant future. Taking bold steps now to address climate change offers an opportunity for you not only to leave a legacy that will impact future generations but also an opportunity to address current problems resulting from the effects of climate change. Recommendations: • Raise the priority of climate change on your foreign policy agenda, in particular by re-vitalizing negotiations over a post-Kyoto treaty. The Doha round of negotiations, which ended last month, was disappointing. Countries are further away today than they were a year ago on reducing emissions. U.S. leadership can reverse current trends of inadequate globalcommitment to reduce greenhouse gases. • Support measures that will enable communities and countries to adapt to the most egregious effects of climate change. On the international level this means supporting and leading the difficult discussions around climate finance and using U.S. aid to support government planning to respond to the effects of climate change, including financial assistance to encourage communities to stay where they are as well as to plan for the relocation of communities whose homes will no longer be habitable. • Support effective multilateral action to increase both mitigation and adaptation measures. Use your influence with the multilateral development banks to encourage more attention to disaster riskreduction measures in development planning. Work with international agencies and legal experts to devise an international legal regime for dealing with the expected increase in trans-border migration. It is easier to put a system in place before a crisis is at hand. • Strengthen domestic efforts to mitigate the effects of climate change by reducing carbon emissions and enhancing domestic capacity to prepare for, respond, and recover from sudden-onset natural disasters. Background: Since the first report of the Intergovernmental Panel on Climate Change (IPCC) in 1990, the projections about the impact of global warming have become direr. From projecting the widespread consequences of a global rise in temperature of 2 degrees Celsius by the end of the century, current projections are that the rise in temperature will double to 4 degrees Celsius. The seas are rising 60 percent faster than predicted by the IPCC. The Greenland ice sheet is shrinking twice as fast as estimated by the IPCC and is losing mass at about five times the rate it was in the early 1990s. If the Greenland ice sheet were to melt completely, global sea rise could reach seven meters. And the consequences of global warming go far beyond sea-level rise. For example, the National Oceanic and Atmospheric Administration warns that the conditions that led to the 2011 Texas drought are 20 times more likely to occur now than in the 1960s as a result of increases in greenhouse gas concentrations. Although climate change will have many negative effects in different parts of the world, including prolonged droughts, reduction in arable land, declining agricultural productivity, and increased flooding due to more extreme weather events, the impact of sea level rise perhaps best illustrates the potential dangers. Throughout the world, more people are living in coastal areas as the result of population growth, urbanization and government policies. Presently 10 percent of the world’s population — 600 million people — live in low-elevation coastal zones and the percentage is growing. Sixty-five percent of the world’s megacities (those over 5 million) are located in these coastal areas. A rise in sea level of even a meter would have major implications for coastal populations; if sea levels were to rise by several meters, the consequences would be catastrophic. Most obviously, sea level rise will submerge land, causing countries to lose physical territory. The areas expected to experience the largest land loss by 2030 are the Arctic Ocean coasts of Canada, Alaska, Siberia and Greenland as well as coastal areas of Pakistan, Sri Lanka, southeast Indonesia, and eastern Africa. In the United States, particularly vulnerable areas include the coastal areas of the east and west coasts and the Gulf of Mexico. Rising sea levels will affect economics, politics, community life and security. For example, the mega-deltas of Asia are the food baskets of the region, and the impact of a sea level rise on food security will be considerable. But perhaps the most significant impact of climate change in general and rising sea levels in particular will be the displacement of people. Migration is a complex process driven by a range of economic, social and political factors but it is becoming clear that environmental factors will increasingly influence migration. In Bangladesh, for example, moving to cities has become a common coping strategy in the face of flooding. One of the IPCC background studies posits that a 40-centimeter rise in sea levels will affect 100 million people. As hundreds of millions of people in Africa and Asia are at risk of flooding by 2060, it is likely that many will move to cities such as Dhaka and Lagos that are located in coastal flood plain areas. In other words, the trend is for people to migrate to areas of greater — not lesser — environmental vulnerability. At the same time, as the UK’s authoritative Foresight study concludes, those who are able to migrate may well be the lucky ones; those who are unable to move may be the most vulnerable. Large-scale migration has many consequences. If sea level rise renders small island states uninhabitable (which is likely to occur long before the islands are actually submerged by the seas), issues of sovereignty, legal status, and responsibility will present the world with huge challenges. Most climate change-induced or displacement will be internal, placing strain on infrastructure and pressure on governments to deliver services. Political instability, conflict poor governance exacerbate these problems. Climate change is a threat multiplier, often affecting those countries least able to respond appropriately. How will governments cope with the movement of large numbers of people from coasts toward inland areas? There is also a possibility that some, perhaps many, will seek to move to other countries because of the effects of climate change. The international legal system is unprepared to deal with trans-border movements triggered by environmental factors or disasters, since the displaced do not fall under the 1951 Refugee Convention (unless they leave because of political turmoil exacerbated by climate change.) Projecting possible massive displacement from climate change is complicated by the difficulty of comprehending the interrelationships between the different effects of climate change, for example, changes in fish stocks and coral reefs brought about by the acidification of the world’s oceans; changing patterns of disease; changing habitats for animals and plants; the intersection of deforestation and increasingly arid climates in some parts of the world. Delicate ecological balances are changing in ways that are as yet poorly understood. Similarly, there is much we do not know about the dynamic nature of the effects of climate change. For example, some scientists are reporting that the melting of Arctic ice itself is releasing more carbon into the atmosphere, increasing global warming which will in turn increase the rate of Arctic ice melt. Most scientists have observed that the climate is becoming warmer and that extreme weather events are becoming more frequent. While it is impossible to attribute any single weather event, such as Hurricane Sandy, to climate change, the global trends clearly demonstrate an increase in the frequency of extreme weather events. These trends are likely to intensify. The interaction between increasing extreme weather events and other effects of climate change – such as increased erosion, acidification of the seas, desertification, sea-level rise – is also likely to lead to large-scale movement of people. Conclusion: There are certainly obstacles and pitfalls to making climate change a centerpiece of your foreign policy. Perhaps the projections of scientists are too pessimistic and the effects of global warming will not be as serious as now thought. Perhaps you will be unable to marshal the necessary political support to enact necessary legislation. Perhaps other governments will fail to rally to your leadership and perhaps the negotiations over climate change mitigation and adaptation will widen, not narrow the North- South divide. It is certainly understandable that you would want to put aside these longer-term challenges and focus on more immediate economic issues. But a climate catastrophe could be lurking around the corner. Unless urgent action is taken now, the effects of climate change on life on this planet and on life in the United States will increase. Climate change is a domestic, foreign policy, security, development, human rights, and intergenerational justice issue. Preparing better for climate change disasters at home and abroad is a good short-term prophylactic. But making serious and sustained efforts to reduce global warming can solidify America’s present leadership in the world. It can lay the foundation for the country’s sustainable future development. It can address the causes of future humanitarian crises and alleviate future human suffering. It can be a legacy issue for the Obama administration that will impact the world for generations.

#### Causes extinction – oceans

**Sify 2010 –** Sydney newspaper citing Ove Hoegh-Guldberg, professor at University of Queensland and Director of the Global Change Institute, and John Bruno, associate professor of Marine Science at UNC (Sify News, “Could unbridled climate changes lead to human extinction?”, <http://www.sify.com/news/could-unbridled-climate-changes-lead-to-human-extinction-news-international-kgtrOhdaahc.html>, WEA)

The findings of the comprehensive report: 'The impact of climate change on the world's marine ecosystems' emerged from a synthesis of recent research on the world's oceans, carried out by two of the world's leading marine scientists. One of the authors of the report is Ove Hoegh-Guldberg, professor at The University of Queensland and the director of its Global Change Institute (GCI). 'We may see sudden, unexpected changes that have serious ramifications for the overall well-being of humans, including the capacity of the planet to support people. This is further evidence that we are well on the way to the next great extinction event,' says Hoegh-Guldberg. 'The findings have enormous implications for mankind, particularly if the trend continues. The earth's ocean, which produces half of the oxygen we breathe and absorbs 30 per cent of human-generated carbon dioxide, is equivalent to its heart and lungs. This study shows worrying signs of ill-health. It's as if the earth has been smoking two packs of cigarettes a day!,' he added. 'We are entering a period in which the ocean services upon which humanity depends are undergoing massive change and in some cases beginning to fail', he added. The 'fundamental and comprehensive' changes to marine life identified in the report include rapidly warming and acidifying oceans, changes in water circulation and expansion of dead zones within the ocean depths. These are driving major changes in marine ecosystems: less abundant coral reefs, sea grasses and mangroves (important fish nurseries); fewer, smaller fish; a breakdown in food chains; changes in the distribution of marine life; and more frequent diseases and pests among marine organisms. Study co-author John F Bruno, associate professor in marine science at The University of North Carolina, says greenhouse gas emissions are modifying many physical and geochemical aspects of the planet's oceans, in ways 'unprecedented in nearly a million years'. 'This is causing fundamental and comprehensive changes to the way marine ecosystems function,' Bruno warned, according to a GCI release. These findings were published in Science

#### The IFR is the only way to reduce coal emissions sufficiently to avert the worst climate disasters

**Kirsch 9** (Steve Kirsch, Bachelor of Science and a Master of Science in electrical engineering and computer science from the Massachusetts Institute of Technology, American serial entrepreneur who has started six companies: Mouse Systems, Frame Technology, Infoseek, Propel, Abaca, and OneID, "Why We Should Build an Integral Fast Reactor Now," 11/25/9) http://skirsch.wordpress.com/2009/11/25/ifr/

To prevent a climate disaster, we must eliminate virtually all coal plant emissions worldwide in 25 years. The best way and, for all practical purposes, the only way to get all countries off of coal is not with coercion; it is to make them want to replace their coal burners by giving them a plug-compatible technology that is less expensive. The IFR can do this. It is plug-compatible with the burners in a coal plant (see Nuclear Power: Going Fast). No other technology can upgrade a coal plant so it is greenhouse gas free while reducing operating costs at the same time. In fact, no other technology can achieve either of these goals. The IFR can achieve both.¶ The bottom line is that without the IFR (or a yet-to-be-invented technology with similar ability to replace the coal burner with a cheaper alternative), it is unlikely that we’ll be able to keep CO2 under 450 ppm.¶ Today, the IFR is the only technology with the potential to displace the coal burner. That is why restarting the IFR is so critical and why Jim Hansen has listed it as one of the top five things we must do to avert a climate disaster.[4]¶ Without eliminating virtually all coal emissions by 2030, the sum total of all of our other climate mitigation efforts will be inconsequential. Hansen often refers to the near complete phase-out of carbon emissions from coal plants worldwide by 2030 as the sine qua non for climate stabilization (see for example, the top of page 6 in his August 4, 2008 trip report).¶ To stay under 450ppm, we would have to install about 13,000 GWe of new carbon-free power over the next 25 years. That number was calculated by Nathan Lewis of Caltech for the Atlantic, but others such as Saul Griffith have independently derived a very similar number and White House Science Advisor John Holdren used 5,600 GWe to 7,200 GWe in his presentation to the Energy Bar Association Annual Meeting on April 23, 2009. That means that if we want to save the planet, we must install more than 1 GWe per day of clean power every single day for the next 25 years. That is a very, very tough goal. It is equivalent to building one large nuclear reactor per day, or 1,500 huge wind turbines per day, or 80,000 37 foot diameter solar dishes covering 100 square miles every day, or some linear combination of these or other carbon free power generation technologies. Note that the required rate is actually higher than this because Hansen and Rajendra Pachauri, the chair of the IPCC, now both agree that 350ppm is a more realistic “not to exceed” number (and we’ve already exceeded it).¶ Today, we are nowhere close to that installation rate with renewables alone. For example, in 2008, the average power delivered by solar worldwide was only 2 GWe (which is to be distinguished from the peak solar capacity of 13.4GWe). That is why every renewable expert at the 2009 Aspen Institute Environment Forum agreed that nuclear must be part of the solution. Al Gore also acknowledges that nuclear must play an important role.¶ Nuclear has always been the world’s largest source of carbon free power. In the US, for example, even though we haven’t built a new nuclear plant in the US for 30 years, nuclear still supplies 70% of our clean power!¶ Nuclear can be installed very rapidly; much more rapidly than renewables. For example, about two thirds of the currently operating 440 reactors around the world came online during a 10 year period between 1980 and 1990. So our best chance of meeting the required installation of new power goal and saving the planet is with an aggressive nuclear program.¶ Unlike renewables, nuclear generates base load power, reliably, regardless of weather. Nuclear also uses very little land area. It does not require the installation of new power lines since it can be installed where the power is needed. However, even with a very aggressive plan involving nuclear, it will still be extremely difficult to install clean power fast enough.¶ Unfortunately, even in the US, we have no plan to install the clean power we need fast enough to save the planet. Even if every country were to agree tomorrow to completely eliminate their coal plant emissions by 2030, how do we think they are actually going to achieve that? There is no White House plan that explains this. There is no DOE plan. There is no plan or strategy. The deadlines will come and go and most countries will profusely apologize for not meeting their goals, just like we have with most of the signers of the Kyoto Protocol today. Apologies are nice, but they will not restore the environment.¶ We need a strategy that is believable, practical, and affordable for countries to adopt. The IFR offers our best hope of being a centerpiece in such a strategy because it the only technology we know of that can provide an economically compelling reason to change.¶ At a speech at MIT on October 23, 2009, President Obama said “And that’s why the world is now engaged in a peaceful competition to determine the technologies that will power the 21st century. … The nation that wins this competition will be the nation that leads the global economy. I am convinced of that. And I want America to be that nation, it’s that simple.”¶ Nuclear is our best clean power technology and the IFR is our best nuclear technology. The Gen IV International Forum (GIF) did a study in 2001-2002 of 19 different reactor designs on 15 different criteria and 24 metrics. The IFR ranked #1 overall. Over 242 experts from around the world participated in the study. It was the most comprehensive evaluation of competitive nuclear designs ever done. Top DOE nuclear management ignored the study because it didn’t endorse the design the Bush administration wanted.¶ The IFR has been sitting on the shelf for 15 years and the DOE currently has no plans to change that.¶ How does the US expect to be a leader in clean energy by ignoring our best nuclear technology? Nobody I’ve talked to has been able to answer that question.¶ We have the technology (it was running for 30 years before we were ordered to tear it down). And we have the money: The Recovery Act has $80 billion dollars. Why aren’t we building a demo plant?¶ IFRs are better than conventional nuclear in every dimension. Here are a few:¶ Efficiency: IFRs are over 100 times more efficient than conventional nuclear. It extracts nearly 100% of the energy from nuclear material. Today’s nuclear reactors extract less than 1%. So you need only 1 ton of actinides each year to feed an IFR (we can use existing nuclear waste for this), whereas you need 100 tons of freshly mined uranium each year to extract enough material to feed a conventional nuclear plant.¶ Unlimited power forever: IFRs can use virtually any actinide for fuel. Fast reactors with reprocessing are so efficient that even if we restrict ourselves to just our existing uranium resources, we can power the entire planet forever (the Sun will consume the Earth before we run out of material to fuel fast reactors). If we limited ourselves to using just our DU “waste” currently in storage, then using the IFR we can power the US for over 1,500 years without doing any new mining of uranium.[5]¶ Exploits our largest energy resource: In the US, there is 10 times as much energy in the depleted uranium (DU) that is just sitting there as there is coal in the ground. This DU waste is our largest natural energy resource…but only if we have fast reactors. Otherwise, it is just waste. With fast reactors, virtually all our nuclear waste (from nuclear power plants, leftover from enrichment, and from decommissioned nuclear weapons)[6] becomes an energy asset worth about $30 trillion dollars…that’s not a typo…$30 trillion, not billion.[7] An 11 year old child was able to determine this from publicly available information in 2004.

#### Inventing something cheaper is key – alternative methods can’t solve warming

**Kirsch 9** (Steve Kirsch, Bachelor of Science and a Master of Science in electrical engineering and computer science from the Massachusetts Institute of Technology, American serial entrepreneur who has started six companies: Mouse Systems, Frame Technology, Infoseek, Propel, Abaca, and OneID, "How Does Obama Expect to Solve the Climate Crisis Without a Plan?" 7/16/9) <http://www.huffingtonpost.com/steve-kirsch/how-does-obama-expect-to_b_236588.html-http://www.huffingtonpost.com/steve-kirsch/how-does-obama-expect-to_b_236588.html>

The ship is sinking slowly and we are quickly running out of time to develop and implement any such plan if we are to have any hope of saving the planet. What we need is a plan we can all believe in. A plan where our country's smartest people all nod their heads in agreement and say, "Yes, this is a solid, viable plan for keeping CO2 levels from touching 425ppm and averting a global climate catastrophe."¶ ¶ At his Senate testimony a few days ago, noted climate scientist James Hansen made it crystal clear once again that the only way to avert an irreversible climate meltdown and save the planet is to phase out virtually all coal plants worldwide over a 20 year period from 2010 to 2030. Indeed, if we don't virtually eliminate the use of coal worldwide, everything else we do will be as effective as re-arranging deck chairs on the Titanic.¶ ¶ Plans that won't work¶ ¶ Unfortunately, nobody has proposed a realistic and practical plan to eliminate coal use worldwide or anywhere close to that. There is no White House URL with such a plan. No environmental group has a workable plan either.¶ ¶ Hoping that everyone will abandon their coal plants and replace them with a renewable power mix isn't a viable strategy -- we've proven that in the U.S. Heck, even if the Waxman-Markey bill passes Congress (a big "if"), it is so weak that it won't do much at all to eliminate coal plants. So even though we have Democrats controlling all three branches of government, it is almost impossible to get even a weak climate bill passed.¶ ¶ If we can't pass strong climate legislation in the U.S. with all the stars aligned, how can we expect anyone else to do it? So expecting all countries to pass a 100% renewable portfolio standard (which is far far beyond that contemplated in the current energy bill) just isn't possible. Secondly, even if you could mandate it politically in every country, from a practical standpoint, you'd never be able to implement it in time. And there are lots of experts in this country, including Secretary Chu, who say it's impossible without nuclear (a point which I am strongly in agreement with).¶ ¶ Hoping that everyone will spontaneously adopt carbon capture and sequestration (CCS) is also a non-starter solution. First of all, CCS doesn't exist at commercial scale. Secondly, even if we could make it work at scale, and even it could be magically retrofitted on every coal plant (which we don't know how to do), it would require all countries to agree to add about 30% in extra cost for no perceivable benefit. At the recent G8 conference, India and China have made it clear yet again that they aren't going to agree to emission goals.¶ ¶ Saying that we'll invent some magical new technology that will rescue us at the last minute is a bad solution. That's at best a poor contingency plan.¶ ¶ The point is this: It should be apparent to us that we aren't going to be able to solve the climate crisis by either "force" (economic coercion or legislation) or by international agreement. And relying on technologies like CCS that may never work is a really bad idea.¶ ¶ The only remaining way to solve the crisis is to make it economically irresistible for countries to "do the right thing." The best way to do that is to give the world a way to generate electric power that is economically more attractive than coal with the same benefits as coal (compact power plants, 24x7 generation, can be sited almost anywhere, etc). Even better is if the new technology can simply replace the existing burner in a coal plant. That way, they'll want to switch. No coercion is required.

### 3

#### Euro-American nuclear collaboration now – but US funding shortfalls block its effectiveness

**Lovering, Luke, and Brook 12** [Jessica Lovering is a policy analyst, and Max Luke is a policy associate, in the Breakthrough Institute’s Energy & Climate program. Barry Brook is a Breakthrough Senior Fellow, November 16, 2012, “How U.S.-European Cooperation Can Deliver Cheaper, Safer Nuclear Energy”, Breakthrough Institute]

As the debate over climate policy picks up again in the wake of Hurricane Sandy and President Obama’s reelection, policymakers should prioritize efforts that will accelerate the adoption of zero-carbon technologies, especially the only proven baseload source available: next generation nuclear.¶ Whereas traditional nuclear reactors from the 1950s were designed in secret, advanced models are being researched, designed, and financed by innovative international collaborations. Take GE-Hitachi's PRISM, a joint American-Japanese venture to construct a power plant in the United Kingdom capable of processing plutonium. Or the recent announcement that South Korea's national electric utility, KEPCO, had been awarded a contract to build the first nuclear plant in the United Arab Emirates, using Australian-mined uranium for fuel.¶ An expanding international community recognizes the importance of developing advanced nuclear reactor designs to meet energy needs and address global warming. Thirteen countries have joined the Generation IV International Forum (GIF), for instance, a cooperative endeavor to encourage governments and industry to support advanced nuclear energy concepts. Member countries, which include the United States, Japan, Russia, and China, have agreed to expand R&D funding for advanced nuclear projects that meet stringent sustainability, economic, safety and nonproliferation goals.¶ Yet despite international agreement on the necessity of next generation nuclear systems, there is a dearth of support at the national level. In the US, annual federal RD&D spending for advanced fission reactors has not exceeded $200 million in the last 10 years, following much larger budgets through the 1970s to mid-1990s. The majority of research and investment in advanced nuclear systems today comes from Asia, and most new nuclear is constructed in developing nations. Yet many of the countries most interested in building more nuclear are largely stuck with old Generation II designs.¶ Private industry appears ready to take a leadership role in the development and deployment of advanced nuclear builds, but the right government incentives, international agreements and support structures must be in place for this to occur. GE-Hitachi, for example, submitted a proposal last year to build a pair of next generation modular fast reactors in the UK, the first commercial advanced nuclear plant. These “PRISM” reactors are based on an Integral Fast Reactor (IFR) design that is widely considered one of the most promising next generation models (see this white paper by Breakthrough Senior Fellow Barry Brook and Tom Blees of the Science Council for Global Initiatives). In addition to providing clean electricity, PRISM reactors would burn weapons material, offering a cost-effective solution to the UK’s plutonium disposal problem. If built, the reactors would be able to process all of the UK’s stockpiled plutonium within five years and then generate decades of clean energy, in addition to providing a full commercial demonstration of the technology. Other European countries and the United States should seek out and support these win-win scenarios, where an advanced clean technology can be demonstrated while also solving a separate policy problem.

#### Effective collaboration ends European coal dependence

**Lynas 11** [European Dialogue, “WHY NUCLEAR POWER IS STILL A GOOD CHOICE”, April 18, 2011, Mark Lynas, a British author, journalist and environmental activist who focuses on climate change, contributor to New Statesman, Ecologist, Granta and Geographical magazines, and The Guardian and The Observer, degree in history and politics from the University of Edinburgh]

They can. The irony of Fukushima is that in forcing us all to confront our deepest fears about the dangers of nuclear power, we find many of them to be wildly irrational — based on scare stories propagated through years of unchallenged mythology and the repeated exaggerations of self-proclaimed "experts" in the anti-nuclear movement. As the British environmental writer George Monbiot has pointed out, if we took the scientific consensus on nuclear energy as seriously as we take the scientific consensus on climate change, we environmentalists would be telling a very different story.¶ The science on radiation tells us that the effects of Fukushima are serious but so far much less so than some of the more hyperbolic media coverage might suggest. The power plant operator, Tokyo Electric Power Co., has been releasing enormous quantities of radioactive water into the sea, for example. It sounds scary, but a member of the public would have to eat seaweed and seafood harvested just one mile from the discharge pipe for a year to receive an effective dose of 0.6 millisieverts. To put this in context, every American receives on average 3 millisieverts each year from natural background radiation, and a hundred times more than this in some naturally radioactive areas. As for the Tokyo tap water that was declared unsafe for babies, the highest measured levels of radioactivity were 210 becquerels per liter, less than a quarter of the European legal limit of 1,000 becquerels per liter. Those leaving Tokyo because of this threat will have received more radiation on the airplane flight out than if they had been more rational and stayed put.¶ For the green movement, which is often justifiably accused of making the perfect the enemy of the good, having to confront real-world choices about energy technologies is painful. Most environmentalists assert that a combination of renewables and efficiency can decarbonize our energy supply and save us both from global warming and the presumed dangers of nuclear power. This is technically possible but extremely unlikely in practice. In the messy real world, countries that decide to rely less on nuclear will almost certainly dig themselves even deeper into a dependence on dirty fossil fuels, especially coal.¶ In the short term, this is already happening. In Germany — whose government tried to curry favor with a strongly anti-nuclear population by rashly closing seven perfectly safe nuclear plants after the Fukushima crisis began — coal has already become the dominant factor in electricity prices once again. Regarding carbon dioxide emissions, you can do the math: Just add about 11 million tons per year for each nuclear plant replaced by a coal plant newly built or brought back onto the grid.¶ In China the numbers become even starker. Coal is cheap there (as are the thousands of human lives lost in extracting it each year), and if the hundred or so new nuclear plants previously proposed in China up to 2030 are not built, it is a fair bet that more than a billion tons can be added to annual global carbon dioxide emissions as a result.¶ Japan is also heavily dependent on coal, so it is a fair bet that less nuclear power there will add substantially to the country's emissions. No wonder the Japanese are insisting on backing off from the Kyoto climate treaty. Looking at the entire global picture, I estimate that turning away from nuclear power could make the difference between whether the world warms by 2 degrees Celsius (bad but manageable) and 3 degrees Celsius (disastrous) in the next century.¶ We have already made this mistake once. In the 1970s it looked as if nuclear power was going to play a much bigger role than eventually turned out to be the case. What happened was Three Mile Island, and the birth of an anti-nuclear movement that stopped dozens of half-built or proposed reactors; coal plants were substituted instead. It is therefore fair to say that the environmental movement played a substantial role in causing global warming, surely an ecological error it should learn from in years ahead.¶ Don't get me wrong: I am an enthusiastic proponent of replacing fossil fuels with renewable energy sources. I strongly support wind, solar and other clean-tech options. But all energy technologies come with an ecological price tag. Wind turbines kill and injure birds and bats. Solar thermal plants proposed in the Mojave Desert have conservationists up in arms. If we are serious about taking biodiversity into consideration as well as climate change, these concerns cannot be idly dismissed. In terms of land use, nuclear scores very well, because the comparatively small quantities of fuel required means less land disturbed or ruined by mines, processing and related uses.¶ Take Japan again. According to some recent number crunching by the Breakthrough Institute, a centrist environmental think tank, phasing out Japan's current nuclear generation capacity and replacing it with wind would require a 1.3-billion-acre wind farm, covering more than half the country's total land mass. Going for solar instead would require a similar land area, and would in economic terms cost the country more than a trillion dollars.¶ Those debating the future of nuclear power also tend to focus on out-of-date technology. No one proposes to build boiling-water reactors of 1960s-era Fukushima vintage in the 21st century. Newer designs have a much greater reliance on passive safety, as well as a host of other improvements. Fourth-generation options, such as the "integral fast reactor" reportedly being considered by Russia, could be even better. Fast-breeders like the IFR will allow us to power whole countries cleanly by burning existing stockpiles of nuclear waste, depleted uranium and military-issue plutonium. And the waste left over at the end would become safe after a mere 300 years, so no Yucca Mountains needed there. IFRs exist only on paper, however; we need to urgently research prototypes before moving on to large-scale deployment.¶ What is needed is perspective. Nuclear energy is not entirely safe, as Fukushima clearly shows, even if the current radiation-related death toll is zero and will likely remain so. But coal and other fossil fuels are far, far worse. And insisting only on renewables risks worsening global warming as an unintended consequence. We need a portfolio of clean energy technologies, deployed in the most environmentally responsible way. Above all, let us base our energy policy on a scientifically valid appreciation of real-world risk, and not on scare stories from the past.

#### S-PRISM key to end coal – modularity and plug-compatibility

**Salmon 9** [Reuters, “Nuclear power: Going fast”, Felix Salmon, finance editor for Reuters, graduate of University of Glasgow, winner of 2010 Excellence in Statistical Reporting Award presented by the American Statistical Association, over a decade of financial reporting experience, JUNE 23, 2009]

I was offline most of yesterday attending a high-intensity series of presentations hosted by Esquire magazine in the magnificent suite of rooms at the top of the new Hearst tower. GE’s Eric Loewen was there, talking about nuclear power, and specifically what he calls a PRISM reactor — a fourth-generation nuclear power station which runs on the nuclear waste generated by all the previous generations of nuclear power stations.¶ PRISM is GE’s name for an integral fast reactor, or IFR, and it’s a pretty great technology. The amount of fuel which already exists for such reactors would be enough to power the world for millennia — no new mining needed. Fast reactors also solve at a stroke the problem of what to do with the vast amounts of nuclear waste which are being stockpiled unhappily around the world. They’re super-safe: if they fail they just stop working, they don’t melt down. And they can even literally replace coal power stations:¶ One nice thing about the S-PRISM is that they’re modular units and of relatively low output (one power block of two will provide 760 MW). They could be emplaced in excavations at existing coal plants and utilize the same turbines, condensers (towers or others), and grid infrastructure as the coal plants currently use, and the proper number of reactor vessels could be used to match the capabilities of those facilities. Essentially all you’d be replacing is the burner (and you’d have to build a new control room, of course, or drastically modify the current one). Thus you avoid most of the stranded costs. If stranded costs can thus be kept to a minimum, both here and, more importantly, in China, we’ll be able to talk realistically not just about stopping to build new coal plants but replacing the existing ones, even the newest ones.¶ And best of all they’re eminently affordable: Loewen showed that they could be profitable selling energy at just 5 cents per KwH — which means that you don’t need to price carbon emissions at all to make these power stations economically attractive.

#### Otherwise, coal exports to Europe are inevitable

**Stafford 12** [“Obama's Nuclear Power Plans”, James Stafford, editor, oilprice.org, 23 November 2012]

While nuclear is experiencing a bit of a revival in the US and coal languishes in its death throes, globally, coal is enjoying gains. Some 1,200 new coal plants are in the works worldwide—the bulk of them in China and India—as countries take advantage of cheap coal prices in the US. But even Europe is importing increasing amounts of coal from the US. US coal exports have reached a decade high.¶ For Europe, this is troubling. As the European public puts increasing pressure on governments to abandon any dreams of fracking shale gas reserves over environmental concerns, the energy gap is being filled in by more polluting coal. This is the subject of our special investor piece today. There is good news—and bad. While the European Parliament has rejected a fracking ban proposal, this doesn’t mean we’re about to see a shale gas free-for-all. Hurdles and pitfalls abound.

#### German coal reliance kills Eurozone – European nuclear revival key to solve

**Mauldin 11** [Paul, B.S. and an M.S. in electrical engineering from the University of California-Berkeley and is a registered professional engineer, worked in the energy industry for more than 25 years, developing and implementing advanced energy technologies, research director for Pacific Gas and Electric Co, national and international energy consultant, Smart Energy Portal, “Germany’s Nuclear Decisions – Maybe Not the Optimal Timing??”, Sept 27, 2011]

Germany wants to be 'green' and non-nuclear and there's no question that Germany has been setting the bar for renewable energy. At present, over 20 percent of national production is from renewables, particularly wind. The goals are lofty - by 2020 Germany plans to produce 35% of electricity from local renewables and 50% by 2030. Significant goals indeed - considering that Germany is Europe’s largest electricity market.¶ At present Germany produces more electricity than it consumes, and has considerable excess generation capacity. Although, because of some internal transmission constraints, Germany imports small amounts of power.¶ This rosy picture could change dramatically in a few years due to both nuclear power policy decisions and Eurozone economics.¶ Germany is the fourth largest producer of nuclear power in the world. In 2000 following the country’s pace-setting start-up of wind and solar technology, and pressure by various green organizations, the government agreed to phase out all nuclear power plants by 2021. In September 2010, however, the German government reached a hard-fought deal to allow the nation’s 17 nuclear plants to run, on average, 12 years longer than planned, with some remaining in production until the 2030s.¶ Then came the Japanese Fukushima Daiichi nuclear disaster that turned the world perception of nuclear power safety on its ear. As a result, Germany changed its mind again and now plans to close all nuclear plants in the country by 2022. A tall order considering that nuclear power now provides almost one-third of the country's electricity generation.¶ Germany plans to replace the nukes with a combination of gas-fired and coal-fired electricity and increased imports.¶ Talk about not-in-my-backyard on a national scale! Germany will end up buying a lot of imported power, particularly from the French nuclear plants, while satisfying domestic anti-nuke, anti-coal sentiments.¶ Then there’s the never-ending Eurozone economic crisis. Germany is looked to as the shining knight to rescue Greece and several other nations from defaulting on international loans. But regardless of Germany’s intervention, things could go south in a hurry and the value of the euro could collapse. If it does, economists estimate a drop of up to 25% of German GDP in the first year after a major disruption of the European Monetary Union.¶ Germany’s European neighbors aren’t optimistic. “Germany will be even more dependent on fossil fuels and imports and its electricity will be more expensive and polluting,” French Industry Minister Eric Besson said. “German households pay twice as much for power than homes in France, where 80 percent of electricity comes from atomic plants.”¶ No matter how you look at it, this is not a good time to increase dependence on energy imports or to increase electric rates. We’ll see how much the German ratepayers are willing to shell out.¶ We may see Germany changing its nuclear power policies– again!

#### Eurozone collapse leads to global trade wars – specifically involves China

Reuters 11 (5-20, “Euro Woes Increase Risk of Trade Wars”, http://blogs.reuters.com/great-debate/2010/05/20/euro-woes-increase-risk-of-trade-wars/)

Europe won’t just be exporting deflation to the rest of the world, it will export serious trade tensions as well: first between the United States and China, and, possibly, eventually between Europe and the United States. The austerity required to get Greece and other weak euro zone nations’ budgets in shape will exert a powerful deflationary force, as many countries which formerly imported more than they exported will be forced to cut back. As well, the euro has dropped very sharply. Germany’s quixotic campaign against speculators — banning naked short selling against government debt and government credit default swaps — gave the euro its latest shove downward, but the trend has been strong for months. The euro is now about 15 percent below where it started the year against the dollar, making U.S. exports less competitive and adding to pressure on the United States to be the world’s foie gras goose: being force-fed everyone else’s exports while its own unemployment rate remains high. That Britain is now embarking on its own round of budget cuts will only make matters worse, adding up to one more important actor trying to consume less and export more courtesy of a devaluing currency. Perhaps the best outcome is rising trade and currency tensions between the United States and China, while at worst this could set the stage for broader conflicts and a round of tit-for-tat tariffs to match similar currency devaluations. Michael Pettis, a professor at Peking University, explains the issue succinctly on his blog, in which he says: “Make no mistake, if southern European trade deficits decline, someone somewhere must bear the brunt of the corresponding adjustment. The only question is who?” The scale of the adjustment is large; taken together Spain, Italy, Portugal and Greece account for about 16 percent of global trade deficits. Add in France, which will surely share some of the pain, and we get up to about 20 percent. You simply cannot have savage recessions and budget cutbacks in these countries without it exerting a powerful force on their trade partners. Clearly the first fault lines will not be across the Atlantic. Talk of the potential for coordinated intervention to support the euro, or at least to make its fall against the dollar a two-way market, attest to the strength of U.S.-European relationships. This is a group that managed the 2007 and 2008 conflagration without ending up at each others’ throats. CHINA MAY BALK AT REVALUATION Pettis points out that within China there is an attitude that the fall in the euro against the dollar, which has made the yuan correspondingly stronger against the euro, is an argument for caution by China in revaluing its currency. Remember too that the European Union comprises China’s largest export market, so it will suffer a double blow, once now by a rising currency and again going forward as Europe adjusts. U.S. Treasury Secretary Timothy Geithner is traveling to Beijing next week to press trade and currency issues. Expectations had been that this would lay the groundwork for some measure of a revaluation of the yuan, which is kept artificially low by the Chinese. The euro zone mess seems to have put paid to that immediate hope. Washington and Geithner are unlikely to want to make already fragile international markets even more so by talking tough next week, but, as the U.S. elections in November near, and, if U.S. unemployment fails to fall, the pressure to take action against China in the form of not just verbal battering but actual tariffs may become too much. I’d note that the U.S. primary elections on Tuesday showed voter anger is focused on incumbents in general and Washington in specific. It would not be a surprise for the administration to try to focus that anger outside the country. So, rising trade tensions with China, but there is also a meaningful chance that tensions will rise eventually between the United States and Europe. Thus far European efforts to address euro zone issues have been disorganized and riven by internal dissension. Germany did not, it appears, consult its partners about its short selling plan. While the European Central Bank’s excellent relationship with the Federal Reserve will help, there is a real chance that the euro suffers a disorganized meltdown and that Europe cannot agree among itself about how, or whether, to stop it. That, especially if combined with Chinese intransigence, could prove to be intolerable for the United States. Trade wars added greatly to the depth and length of the Great Depression. The world’s ability to avoid a similar fight has been one of the blessings of the last two years. Not everyone can export their way back into the black, at least not everyone at the same time. How that is resolved as Europe melts into another recession will be one of the key issues of 2010 and 2011.

#### That spills over into Chinese military conflict

Landy 7 (Ben, Director of Research and Strategy at the Atlantic Media Company, publisher of the Atlantic Monthly, National Journal, and Government Executive magazines April 3, http://chinaredux.com/2007/04/03/protectionism-and-war/#comments)

**The greatest threat for the 21st century** is that these economic flare-ups between the US and China will not be contained, but might spill over into the realm of military aggression between these two world powers**.** Economic conflict breeds military conflict. The **stakes of trade override the ideological power of the Taiwan issue**. China’s ability to continue growing at a rapid rate takes precedence, since there can be no sovereignty for China without economic growth. The United States’ role as the world’s superpower is dependent on its ability to lead economically. As many of you will know from reading this blog, I do not believe that war between the US and China is imminent, or a foregone conclusion in the future. I certainly do not hope for war. But I have little doubt that **protectionist policies** on both sides **greatly increase the likelihood of conflict–far more than increases in military budgets and anti-satellite tests.**

#### The impact is extinction

**Straits Times 2000** (6/25, “No One Gains In War Over Taiwan”, Lexis)

THE DOOMSDAY SCENARIO THE high-intensity scenario postulates a cross-strait war escalating into a full-scale war between the US and China. If Washington were to conclude that splitting China would better serve its national interests, then a full-scale war becomes unavoidable. Conflict on such a scale would embroil other countries far and near and -- horror of horrors -- raise the possibility of a nuclear war. Beijing has already told the US and Japan privately that it considers any country providing bases and logistics support to any US forces attacking China as belligerent parties open to its retaliation. In the region, this means South Korea, Japan, the Philippines and, to a lesser extent, Singapore. If China were to retaliate, east Asia will be **set on fire**. And the conflagration may not end there as opportunistic powers elsewhere may try to overturn the existing world order. With the US distracted, Russia may seek to redefine Europe's political landscape. The balance of power in the Middle East may be similarly upset by the likes of Iraq. In south Asia, hostilities between India and Pakistan, each armed with its own nuclear arsenal, could enter a new and dangerous phase. Will a full-scale Sino-US war lead to a nuclear war? According to General Matthew Ridgeway, commander of the US Eighth Army which fought against the Chinese in the Korean War, the US had at the time thought of using nuclear weapons against China to save the US from military defeat. In his book The Korean War, a personal account of the military and political aspects of the conflict and its implications on future US foreign policy, Gen Ridgeway said that US was confronted with two choices in Korea -- truce or a broadened war, which could have led to the use of nuclear weapons. If the US had to resort to nuclear weaponry to defeat China long before the latter acquired a similar capability, there is little hope of winning a war against China 50 years later, short of using nuclear weapons. The US estimates that China possesses about 20 nuclear warheads that can destroy major American cities. Beijing also seems prepared to go for the nuclear option. A Chinese military officer disclosed recently that Beijing was considering a review of its "non first use" principle regarding nuclear weapons. Major-General Pan Zhangqiang, president of the military-funded Institute for Strategic Studies, told a gathering at the Woodrow Wilson International Centre for Scholars in Washington that although the government still abided by that principle, there were strong pressures from the military to drop it. He said military leaders considered the use of nuclear weapons mandatory if the country risked dismemberment as a result of foreign intervention. Gen Ridgeway said that should that come to pass, we would see the **destruction of civilisation**. There would be no victors in such a war. While the prospect of a **nuclear** **Armaggedon** over Taiwan might seem inconceivable, it cannot be ruled out entirely, for China puts sovereignty above everything else.

#### Trade conflicts escalate to global war

**Patrick 09** – Director of the Program on International Institutions & Global Governance CFR

(Stewart-, March 13, National Interest, “Protecting Free Trade”, [http://www.nationalinterest.org/Article.aspx?id= 21084](http://www.nationalinterest.org/Article.aspx?id=21084); Jacob)

President Obama has committed to working with U.S. trade partners to avoid “escalating protectionism.” He is wise to do so. As never before, U.S. national security requires a commitment to open trade.

President Obama and his foreign counterparts should reflect on the lessons of the 1930s—and the insights of Cordell Hull. The longest-serving secretary of state in American history (1933–1944), Hull helped guide the United States through the Depression and World War II. He also understood a fundamental truth: “When goods move, soldiers don’t.”

In the 1930s, global recession had catastrophic political consequences—in part because policymakers took exactly the wrong approach. Starting with America’s own Smoot Hawley Tariff of 1930, the world’s major trading nations tried to insulate themselves by adopting inward looking protectionist and discriminatory policies. The result was a vicious, self-defeating cycle of tit-for-tat retaliation. As states took refuge in prohibitive tariffs, import quotas, export subsidies and competitive devaluations, international commerce devolved into a desperate competition for dwindling markets. Between 1929 and 1933, the value of world trade plummeted from $50 billion to $15 billion. Global economic activity went into a death spiral, exacerbating the depth and length of the Great Depression.

The economic consequences of protectionism were bad enough. The political consequences were worse. As Hull recognized, global economic fragmentation lowered standards of living, drove unemployment higher and increased poverty—accentuating social upheaval and leaving destitute populations “easy prey to dictators and desperadoes.” The rise of Nazism in Germany, fascism in Italy and militarism in Japan is impossible to divorce from the economic turmoil, which allowed demagogic leaders to mobilize support among alienated masses nursing nationalist grievances.

Open economic warfare poisoned the diplomatic climate and exacerbated great power rivalries, raising, in Hull’s view, “constant temptation to use force, or threat of force, to obtain what could have been got through normal processes of trade.” Assistant Secretary William Clayton agreed: “Nations which act as enemies in the marketplace cannot long be friends at the council table.”

This is what makes growing protectionism and discrimination among the world’s major trading powers today so alarming. In 2008 world trade declined for the first time since 1982. And despite their pledges, seventeen G-20 members have adopted significant trade restrictions. “Buy American” provisions in the U.S. stimulus package have been matched by similar measures elsewhere, with the EU ambassador to Washington declaring that “Nobody will take this lying down.” Brussels has resumed export subsidies to EU dairy farmers and restricted imports from the United States and China. Meanwhile, India is threatening new tariffs on steel imports and cars; Russia has enacted some thirty new tariffs and export subsidies. In a sign of the global mood, WTO antidumping cases are up 40 percent since last year. Even less blatant forms of economic nationalism, such as banks restricting lending to “safer” domestic companies, risk shutting down global capital flows and exacerbating the current crisis.

If unchecked, such economic nationalism could raise diplomatic tensions among the world’s major powers. At particular risk are U.S. relations with China, Washington’s most important bilateral interlocutor in the twenty-first century. China has called the “Buy American” provisions “poison”—not exactly how the Obama administration wants to start off the relationship. U.S. Treasury Secretary Timothy Geithner’s ill-timed comments about China’s currency “manipulation” and his promise of an “aggressive” U.S. response were not especially helpful either, nor is Congress’ preoccupation with “unfair” Chinese trade and currency practices. For its part, Beijing has responded to the global slump by rolling back some of the liberalizing reforms introduced over the past thirty years. Such practices, including state subsidies, collide with the spirit and sometimes the law of open trade.

The Obama administration must find common ground with Beijing on a coordinated response, or risk retaliatory protectionism that could severely damage both economies and escalate into political confrontation. A trade war is the last thing the United States needs, given that China holds $1 trillion of our debt and will be critical to solving flashpoints ranging from Iran to North Korea.

In the 1930s, authoritarian great-power governments responded to the global downturn by adopting more nationalistic and aggressive policies. Today, the economic crisis may well fuel rising nationalism and regional assertiveness in emerging countries. Russia is a case in point. Although some predict that the economic crisis will temper Moscow’s international ambitions, evidence for such geopolitical modesty is slim to date. Neither the collapse of its stock market nor the decline in oil prices has kept Russia from flexing its muscles from Ukraine to Kyrgyzstan. While some expect the economic crisis to challenge Putin’s grip on power, there is no guarantee that Washington will find any successor regime less nationalistic and aggressive.

Beyond generating great power antagonism, misguided protectionism could also exacerbate political upheaval in the developing world. As Director of National Intelligence Dennis Blair recently testified, the downturn has already aggravated political instability in a quarter of the world’s nations. In many emerging countries, including important players like South Africa, Ukraine and Mexico, political stability rests on a precarious balance. Protectionist policies could well push developing economies and emerging market exporters over the edge. In Pakistan, a protracted economic crisis could precipitate the collapse of the regime and fragmentation of the state. No surprise, then, that President Obama is the first U.S. president to receive a daily economic intelligence briefing, distilling the security implications of the global crisis.

What guidance might Cordell Hull give to today’s policymakers? To avoid a protectionist spiral and its political spillovers, the United States must spearhead multilateral trade liberalization involving all major developed and developing countries.

#### Coal locks in European energy dependence

**Wynn 12** [“Coal poses EU power price risk: Wynn”, Gerard Wynn, Reuters market analyst Senior Environmental Markets Correspondent, Nov 20, 2012]

A return to rising world coal prices next year would underscore the European Union's energy dependence, given global gas prices also appear on a long-term upward trend.¶ European coal import prices have this year fallen following a shale gas boom which suppressed U.S. power prices and coal demand.¶ But the forward curve projects steadily rising benchmark prices, presumably based on expectations of returning demand from Asian emerging economies including China where government stimulus efforts are expected to kick in (see Chart 1).¶ The forward curve suggests a return to levels seen either side of peak European coal import prices in 2011.¶ That is bad news for European wholesale power prices recently suppressed in countries able to substitute gas for cheaper coal.¶ Higher coal prices would remove a buffer against higher gas prices and expose the EU vulnerability to globally traded energy.¶ Global traded LNG prices have risen on the back of demand from Japan (following the Fukushima nuclear crisis) which has replaced a U.S. collapse (following a domestic shale gas boom).¶ That rising trajectory in LNG prices may now be a long-term trend, reversing a previous dip.¶ "There is no guarantee that with recovering demand for natural gas in the EU, relatively cheap LNG ... will continue to be as easily or cheaply available as in recent years," said the EU quarterly market report.¶ "The significant falls in imports of LNG currently being observed in the EU (in excess of falling consumption) could be a first warning sign," it said.

#### That causes Russian aggression

Zenyo Baran, Autumn 2007. Senior fellow and director of the Center for Eurasian Policy at the Hudson Institute in Washington, D.C. “EU Energy Security: Time to End Russian Leverage,” Washington Quarterly 30.4, http://mes.reviewhudson.org/files/publications/07autumn\_baran.pdf.

Much has been made of President Vladimir Putin’s recent aggressive posturing against Europe and the United States. In the past few months, the Russian leader imposed a “moratorium” on the Conventional Armed Forces in Europe (CFE) Treaty, compared U.S. government policies to those of the Third Reich, and threatened to aim nuclear-tipped missiles at European targets again. These developments are certainly troubling, but the days when NATO troops looked warily across the Folda Gap in Germany for signs of invading Soviet tanks are long gone. Russian power and influence is no longer measured in ballistic missile accuracy or bomber production but in miles of pipeline constructed and barrels of oil per day exported, and for Europe, this energy invasion has already begun. Questions regarding the security and sustainability of energy supply have mostly been left to individual EU member states and to the invisible hand of the market. Many European leaders preferred not to discuss the geopolitics of energy, instead delegating this portfolio to their economic ministries. Moreover, there is little unity among member states’ energy policies. Russia, the European Union’s primary oil and gas provider, has deliberately taken advantage of this lack of cohesion to gain favorable energy deals and heighten European dependence on Russian supplies. Moscow is pursuing a divide and conquer strategy of amassing bilateral deals with member states. This disunity has also allowed Moscow to preemptively block European attempts to construct transport routes for Caspian and Central Asian oil and gas that do not involve Russia. Given Russia’s high-level political involvement in energy issues, the EU needs a corresponding degree of intensity. Specifically, Europe must realize the very real foreign and security policy ramifications that the supply of energy has. Enhancing cooperation on energy security within the EU is essential to withstand Russian pressure. Europe’s Troubling Dependence The lack of reliable and sustainable European access to energy represents a clear threat to the continent’s security. Under the leadership of Putin, the Kremlin has pursued a strategy whereby Europe’s substantial dependence on Russian energy is leveraged to obtain economic and political gains. If this situation continues, the EU will find itself in further danger, as its dependence leaves it beholden to Russian interests. There simply is no readily available alternative to the supplies the EU receives from Russia, particularly natural gas. Unlike oil, gas is extremely difficult and costly to ship via tankers; pipelines are the preferred method of transportation. Thus, if a supplier refuses to provide gas or charges an unreasonable price, the consumer cannot quickly or easily turn to another source. The consumer state would have no choice but to accept the supplier’s conditions or go without natural gas, an option that is all but unacceptable for most. The unjust manipulation or interruption of energy supplies is as much a security threat as military action is, especially since the EU relies on Russia for more than 30 percent of its oil imports and 50 percent of its natural gas imports. 1 This dependence is not distributed evenly. As one heads eastward, Russia’s share of the energy supply grows ever larger. No fewer than seven eastern European countries receive at least 90 percent of their crude oil imports from Russia, and six EU nations are entirely dependent on Russia for their natural gas imports. The Ukrainian gas crisis in January 2006 catapulted energy security to the forefront of the EU agenda. On the very day it took over the presidency of the Group of Eight (G-8)—a presidency that had announced energy security as its key theme—Russia halted natural gas deliveries to Ukraine. Because the gas pipelines crossing Ukraine carry supplies destined for EU markets, this shutdown resulted in significant supply disruptions for several member states, raising awareness that dependence on Russia has increased Europe’s geopolitical vulnerability. Several EU states have experienced the misfortune of Russian supply cuts directly. Disputes between Russia and the Baltic states have led to the halt of pipeline deliveries of oil multiple times. In January 2003, Russia ceased supplying oil via pipeline to Latvia’s Ventspils Nafta export facility. This embargo, which followed Riga’s unwillingness to sell the facility to a Russian energy company, continues to this day. In July 2006, Moscow shut down a pipeline supplying Lithuania’s Mazeikiu Nafta refinery, which is the largest company in Lithuania and one of the biggest oil refineries in central and eastern Europe. As with Ventspils Nafta, this shutdown came after a Russian company failed to obtain the energy infrastructure it coveted. Moscow has further sought to increase Europe’s dependence on Russian energy supplies by acquiring significant stakes in the energy distribution companies and infrastructure of EU member states, typically through its proxy, Gazprom. This massive energy company—the world’s largest—has control over the Russian gas pipeline network and consequently handles all Russian and Central Asian exports, either directly or through wholly owned subsidiaries. Such a preponderance of power would be troubling enough if the company were transparent, privately owned, and played by the rules of the free market, but Gazprom is none of those things. It is majority state owned and has deep ties to the Russian government. Many of the company’s executive management and board members also occupy or previously occupied key positions within the Kremlin. For many years, Gazprom has owned significant portions of energy companies throughout the former Soviet Union. It is the largest or second-largest shareholder in the gas utilities of Estonia, Latvia, and Lithuania. Recently, Gazprom has been expanding its influence even further into the domestic gas distribution networks of western Europe. In the past two years, Gazprom has signed deals with Eni (Italy), Gasunie (the Netherlands), BASF (Germany), E.ON Ruhrgas (Germany), and Gaz de France. Desperate for access to energy and the profits it brings, European companies are played against each other by the Kremlin in order to secure more advantageous conditions for Russia. If one company does not want to agree to Moscow’s terms, a competitor will gladly accept them, leaving the first company with nothing. In addition to the economic disadvantages of such dependence, the broader foreign policy goals of EU states also suffer. Specifically, EU members limit their criticisms of Moscow, lest they be given a raw deal at the negotiating table. Russia’s increasingly tainted record on transparency, responsible governance, and human rights is thus allowed to stand unchallenged and unquestioned. Dependency also erodes EU support for key allies in Europe and Asia. Azerbaijan, Georgia, Kazakhstan, Turkmenistan, and Ukraine—all crucial energy producers or transit countries—have each been subject to intimidation by Moscow. Instead of standing up to this harassment, Europe’s dependence compels its leaders to look the other way. Most disturbing of all is that this dependence even leads the EU to turn a blind eye when Moscow utilizes these tactics against fellow EU members. The July 2006 shutdown of the Lithuanian pipeline, for example, drew little protest outside of Poland and the Baltic states. Russia claimed that this cutoff was the result of technical difficulties yet refused all offers from third parties to examine the damaged pipe or assist repairs in any way. Although this incident is suspicious enough on its own, it becomes a clear case of political manipulation given Russia’s status as a repeat offender. Many times over the past decade, Moscow has utilized near-identical tactics in countries it considers to be its near abroad. It has repeatedly cut off energy supplies during a political dispute, smugly blamed technical difficulties for the problem, and eventually shifted supplies to another destination unless the victim acceded to the Kremlin’s demands. Despite this history and repeated pleas from President Valdas Adamkus, the response from most western European countries was rather muted during the Lithuanian shutdown. The countries of the West have never experienced these strong-arm tactics firsthand and fail to view it as anything more than an economic dispute. Moreover, they were too concerned that standing up for Lithuania would ruin their chances to get preferential access to Russian oil and gas resources. By design, the Russian strategy is driving a wedge between eastern and western Europe, exacerbating the challenges the EU faces in devising a common energy policy, as was seen during the dispute between Poland and Germany ahead of the June EU summit. This diplomatic row was ostensibly over Russia’s failure to remove its embargo on Polish meat products but more broadly involved the perceived reluctance of Berlin to stand up to Moscow on a whole host of issues, not the least of which was energy. The EU’s inability to take Russia to task for its illiberal market actions threatens European energy security in another way. It decreases efficiency in an already inefficient Russian energy industry, raising costs for consumers. Russia’s increasingly state-owned energy industry is largely unregulated. Without competitive market forces, companies such as Gazprom have no reason to behave like commercially minded entities. The absence of market stimuli is having detrimental effects on Russian productivity. Between 1998 and 2005, output in Russia’s then-mostly privately owned oil sector rose by 50 percent. 2 During that same period, production in the gas sector (Gazprom) barely grew at all. Since 2004, when the Kremlin began its consolidation over the oil sector in earnest, Russian oil production has leveled off as well. 3 Due to the extremely close relationship between the energy industry and the Kremlin, Russia’s oil and gas companies can pursue strategies that make little economic sense but that serve the long-term interests of the Russian state, namely, ensuring European dependence on Russian energy supplies. For example, Russia’s undersea Nord Stream pipeline will cost at least three times more than a proposed overland route through Lithuania and Poland would have. Given the environmental sensitivity of the Baltic Sea, some industry insiders are predicting costs as high as $10 billion or even $15 billion. 4 By divorcing western Europe’s gas supply from eastern Europe’s, however, the undersea route grants Moscow the ability to manipulate the European energy market more effectively. Needless to say, the unnecessarily high cost of the pipeline’s construction will be passed on to European consumers. Many industry experts have expressed concern that corruption and inefficiency, coupled with Moscow’s refusal to allow significant foreign investment in the energy sector, will soon lead the Russian oil and gas industry to burn out. 5 Instead of developing new oil and gas fields or investing in its energy infrastructure, Russia has utilized windfall profits to pursue the aggressive policy of expansion and acquisition described above. Unless Moscow is able to secure additional gas supplies from fields in Central Asia, it may struggle to meet its commitments to Europe, which is why maintaining full control over Central Asia’s export routes is so critical for the Kremlin. Engaging the Caspian Enshrined as the second of the three pillars of the EU, the Common Foreign and Security Policy (CFSP) states that the EU should seek to promote democracy, rule of law, and respect for human rights within its borders and abroad. Yet, dependence on Russian energy supplies undermines Europe’s efforts to foster the ideals of good governance, market transparency, and democracy both in Russia and in Russia’s neighbors. Although the establishment of these principles in energy suppliers is a worthy goal in its own right, doing so will also create a more stable environment for energy sector development, thereby improving European security. Diversifying oil and gas supplies by constructing pipelines directly from the Caucasus and Central Asia to Europe would not only decrease Russia’s influence on EU countries but would also loosen Moscow’s grip on Europe’s neighbors. If the EU wishes to foster true reform within former Soviet states, it must offer them a non-Russian perspective, which can best be done through cooperation on joint energy projects. In the Caspian region, this strategy has been pursued with success by the United States. In the late 1990s, the United States pushed hard for the construction of several oil and gas pipelines that would carry Caspian energy westward without transiting Russia. It did so to break Russia’s monopoly on the region’s energy transportation system, thereby giving the Caspian countries greater economic and political independence from Moscow. Naturally, this proposal prompted strong objections and highpressure tactics by the Russian government.

#### That’s key to EU-Russian stability.

Ronald Asmus, Jan/Feb 2008. Executive Director of the Transatlantic Center at the German Marshall Fund of the United States, in Brussels. From 1997 to 2000, he served as U.S. Deputy Assistant Secretary of State for European Affairs. “Europe's Eastern Promise; Rethinking NATO and EU Enlargement,” Foreign Affairs 87.1, http://digilib.lib.unipi.gr/ket/bitstream/ket/739/1/Europe's\_Eastern\_Promise\_Asmus.pdf.

In light of these new circumstances in Russia, enlargement needs to be rethought from the ground up, starting with its strategic rationale. After the accession of a band of countries from the Baltic states in the north to Bulgaria and Romania in the south, many in the West assumed that the enlargement project was almost complete, with the western Balkans constituting the last piece of unfinished business. They were surprised to suddenly find new countries from Eurasia, and specifically the wider Black Sea region, starting to knock on the doors of NATO and the EU -- and unsure how to respond. In dealing with these new candidate countries, the West must stick to the values and diplomatic principles it laid down in the 1990s, including the notion that countries are free to choose their alliances. But that alone is unlikely to be enough, because although these countries clearly consider themselves European, many Europeans do not feel the same historical or moral commitment to them or see a compelling strategic need to integrate them. Thus, in addition to moral and political arguments, the United States and Europe need to articulate a strong strategic rationale for anchoring them to the West. That argument is straightforward. The challenge of securing Europe's eastern border from the Baltics to the Black Sea has been replaced by the need to extend peace and stability along the southern rim of the Euro-Atlantic community -- from the Balkans across the Black Sea and further into Eurasia, a region that connects Europe, Russia, and the Middle East and involves core security interests, including a critical energy corridor. Working to consolidate democratic change and build stability in this area is as important for Western security today as consolidating democracy in central and eastern Europe was in the 1990s. It is not only critical to expanding the democratic peace in Europe but also vital to repositioning the West vis-à-vis both Central Asia and the Middle East. This strategy presents an opportunity to redraw the strategic map of Europe and Eurasia in a way that enhances the security of countries on Europe's periphery as well as that of the United States and Europe. The United States and Europe also need to rethink what anchoring means in practice. In the 1990s, it meant pursuing membership in NATO and the EU roughly in parallel. Now the West needs to be more flexible and take a long-term view. The goal is to tie these countries as closely to the West as politics and interests on both sides allow. For some countries, this may mean eventual membership in both NATO and the EU; for others, it may mean membership only in NATO; and for the rest, it may mean membership in neither but simply much closer relations. Policy will have to be much more à la carte than prix fixe. The link between NATO membership and EU membership should be relaxed, if not dropped. The EU has enough on its plate sustaining its commitments to the western Balkans and Turkey; anything beyond that is probably a nonstarter for the time being. NATO will once again have to take the lead in anchoring countries such as Georgia and others in the wider Black Sea region. The West must also rethink how it should engage and reach out to these countries. If membership is less plausible as a short-term option, then the quality of ties short of membership must be improved to compensate. Outreach must grow in importance and may increasingly become the centerpiece of U.S. and European strategy. At the moment, the fear of future enlargement is one factor actually holding allies back, with institutions afraid of taking even small steps down what some fear could be a slippery slope. Yet precisely because the countries in question are weaker and more endangered, NATO and the EU should actually be reaching out and engaging them earlier. They need the security umbrella and engagement of the West as much, if not more, than the countries of central and eastern Europe did. The way out of this dilemma is to consider membership a long-term goal and focus in the mean time on strengthening Western outreach and engagement. This means recasting policy tools to address the different needs of the countries that are less developed politically and economically. Tools such as NATO's "membership action plan" should be extended earlier and tied less closely to actual membership commitments, thus allowing these countries to benefit from guidance and engagement while downplaying the question of the end goal. At the same time, the EU needs to enhance its own tools, such as the Common Foreign and Security Policy and the European Neighborhood Policy, as well as reach out to these countries more directly by offering them political and economic support. When communism collapsed, NATO and the EU had little idea how to reach out to postcommunist countries and anchor them to the West. Bureaucrats in both institutions said it could not be done. But political will and strategic imagination prevailed, and fresh approaches were developed. Political will can do the same today. As for Russia, neither Washington nor Brussels wants a confrontation with Moscow at a time when they face daunting challenges beyond Europe. But this does not mean the West should abandon its belief that the spread of democracy along Russia's borders contributes to peace and stability just because the current authoritarian rulers in Moscow disagree. Nor should the West abandon its principles and succumb to the sphere-of-influence thinking currently emanating from Moscow. If the United States and Europe still hope that democracy will eventually take root in Russia, they must recognize that consolidating a proWestern, democratic Ukraine would indirectly encourage democratization in Russia. Of course, antidemocratic forces in Russia will oppose such a move. After all, Moscow only acquiesced in previous rounds of NATO and EU enlargement because it concluded that the United States and Europe were determined to carry them out and that its efforts to oppose the West would be futile. Western unity on issues such as the future of Ukraine is therefore of the utmost importance. Still, holding true to NATO's and the EU's core principles and expanding these organizations' reach does not mean starting a new Cold War. The West and Moscow should look for other areas in which their interests are more aligned, such as expanding trade and investment or controlling nuclear proliferation and building a new arms control regime. The key question is whether Russia -- when faced with a unified West -- will start to look for common ground. As strong as Russia may appear at the moment, it remains a country with real long-term structural weaknesses and problems. It, too, needs friends and allies, and the United States and Europe should be among them. UNCERTAIN FUTURES Three very different scenarios for the future of Western policy toward Europe's periphery reveal just how high the stakes are in this region. In the bestcase scenario, the United States and Europe would regroup under the next U.S. president and launch a new era of transatlantic cooperation by overcoming differences on Iraq, avoiding disagreements over Iran, and stabilizing Afghanistan. This renaissance would include a new and ambitious democratic-enlargement strategy, and the results would be significant. Securing independence for Kosovo without turning Serbia against the West would facilitate the successful integration of the western Balkans into NATO and the EU. In Turkey, the AKP-led government would continue democratic reforms, bringing the country closer to EU accession. Georgia and Ukraine would continue to move closer to the West as well. That prospect would help create positive pressure for democratic change in Azerbaijan and encourage Armenia's reorientation toward the West. By 2012, a reunified West would have begun to build an arc of democratic stability eastward into Eurasia and especially the wider Black Sea region. Realizing that its real adversaries lie elsewhere, Russia would eventually have no choice but to reassess its policy and seek a new rapprochement with the West. A less optimistic scenario is stagnation. In this case, the United States and Europe would regain some political momentum after 2008 but fail to achieve any significant democratic breakthroughs. A new U.S. administration would manage to stabilize and then extricate itself from Iraq, but transatlantic tensions over Iran and other Middle Eastern issues would persist. Kosovo would achieve independence, but in a manner that leaves Serbia alienated and unable to find its way back onto the path toward EU accession. In the western Balkans, only Croatia would remain on track for both EU and NATO membership. Turkey's prospects for joining the EU would fade, and reforms in Georgia and Ukraine would stall. Azerbaijan would remain an autocratic pro-Western ally increasingly vulnerable to growing radicalization from within. By 2012, the West would have patched up relations across the Atlantic but without breakthroughs in the Balkans or Turkey -- let alone in Ukraine or the wider Black Sea region. All of this would lead to a more competitive relationship with Russia, resulting in stalemate and a new chill in relations with Moscow. In the worst-case scenario, rather than the West consolidating new democratic breakthroughs, Russia would succeed in a strategy of rollback. The United States and Europe would not achieve a meaningful rapprochement, and they would fail to consolidate democracy in the western Balkans. Kosovo would become independent, but without agreement from all sides. This would launch Serbia on a new nationalist trajectory, bringing further instability to the region. U.S. failure in Iraq would lead to partition, estranging Turkey and prompting Ankara to invade northern Iraq and further loosen its ties to the West. This, in turn, would badly damage Turkey's already strained relations with both Washington and Brussels. Ukraine would drift back to autocracy, and Georgia, the one liberal democratic experiment in the Black Sea region, would lose reform momentum and teeter toward failure. Last November's declaration of a state of emergency in Tbilisi was a reminder of how fragile and vulnerable this experiment is. Using its energy supplies and influence, Russia would emerge as an authoritarian capitalist alternative to the West, attracting autocratic leaders throughout Europe and Eurasia. Rather than a renaissance of the transatlantic alliance, the result would be a retreat of democracy and a further splintering of the democratic West. As these scenarios make clear, the western Balkans, Georgia, Ukraine, and the wider Black Sea region are less stable and more at risk today than central and eastern Europe were a decade ago. And the stakes are high. A world in which Ukraine has successfully anchored itself to the West would be very different from one in which it has failed to do so. A world in which Georgia's success has sparked democratic progress in the region and helped stabilize the southern flank of the Euro-Atlantic community would be a much safer one than a world in which Georgia has become an authoritarian state in Russia's sphere of influence. And a world in which the democratic West is ascendant would be very different from one in which an autocratic, nationalist Russia is on the rise.

#### Nuclear war

Roger **McDermott,** 12/6/**2011.** Honorary senior fellow, department of politics and international relations, university of Kent at Canterbury and senior fellow in Eurasian military studies, Jamestown Foundation. “General Makarov Highlights the “Risk” of Nuclear Conflict,” Eurasia Daily Monitor, <http://www.jamestown.org/programs/edm/single/?tx_ttnews%5Btt_news%5D=38748&tx_ttnews%5BbackPid%5D=27&cHash=dfb6e8da90b34a10f50382157e9bc117>.

In the current election season the Russian media has speculated that the Defense Minister Anatoliy Serdyukov may be replaced, possibly by Dmitry Rogozin, Russia’s Ambassador to NATO, which masks deeper anxiety about the future direction of the Armed Forces. The latest rumors also partly reflect uncertainty surrounding how the switch in the ruling tandem may reshuffle the pack in the various ministries, as well as concern about managing complex processes in Russian defense planning. On November 17, Russia’s Chief of the General Staff, Army-General Nikolai Makarov, offered widely reported comments on the potential for nuclear conflict erupting close to the country’s borders. His key observation was controversial, based on estimating that thepotential for armed conflict along the entire Russian periphery had grown dramatically over the past twenty years (Profil, December 1; Moskovskiy Komsomolets, November 28; Interfax, November 17). During his speech to the Defense Ministry’s Public Council on the progress and challenges facing the effort to reform and modernize Russia’s conventional Armed Forces, Makarov linked the potential for local or regional conflict to escalate into large-scale warfare “possibly even with nuclear weapons.” Many Russian commentators were bewildered by this seemingly “alarmist” perspective. However, they appear to have misconstrued the general’s intention, since he was actually discussing conflict escalation (Interfax, ITAR-TASS, November 17; Moskovskiy Komsomolets, Krasnaya Zvezda, November 18). Makarov’s remarks, particularly in relation to the possible use of nuclear weapons in war, were quickly misinterpreted. Three specific aspects of the context in which Russia’s most senior military officer addressed the issue of a potential risk of nuclear conflict may serve to necessitate wider dialogue about the dangers of escalation. There is little in his actual assertion about the role of nuclear weapons in Russian security policy that would suggest Moscow has revised this; in fact, Makarov stated that this policy is outlined in the 2010 Military Doctrine, though he understandably made no mention of its classified addendum on nuclear issues (Kommersant, November 18). Russian media coverage was largely dismissive of Makarov’s observations, focusing on the idea that he may have represented the country as being surrounded by enemies. According to Kommersant, claiming to have seen the materials used during his presentation, armed confrontation with the West could occur partly based on the “anti-Russian policy” pursued by the Baltic States and Georgia, which may equally undermine Moscow’s future relations with NATO. Military conflict may erupt in Central Asia, caused by instability in Afghanistan or Pakistan; or western intervention against a nuclear Iran or North Korea; energy competition in the Arctic or foreign inspired “color revolutions” similar to the Arab Spring and the creation of a European Ballistic Missile Defense (BMD) system that could undermine Russia’s strategic nuclear deterrence also featured in this assessment of the strategic environment (Kommersant, November 18). Since the reform of Russia’s conventional Armed Forces began in late 2008, Makarov has consistently promoted adopting network-centric capabilities to facilitate the transformation of the military and develop modern approaches to warfare. Keen to displace traditional Russian approaches to warfare, and harness military assets in a fully integrated network, Makarov possibly more than any senior Russian officer appreciates that the means and methods of modern warfare have changed and are continuing to change (Zavtra, November 23; Interfax, November 17). The contours of this evolving and unpredictable strategic environment, with the distinctions between war and peace often blurred, interface precisely in the general’s expression of concern about nuclear conflict: highlighting the risk of escalation. However, such potential escalation is linked to the reduced time involved in other actors deciding to intervene in a local crisis as well as the presence of network-centric approaches among western militaries and being developed by China and Russia. From Moscow’s perspective, NATO “out of area operations” from Kosovo to Libya blur the traditional red lines in escalation; further complicated if any power wishes to pursue intervention in complex cases such as Syria. Potential escalation resulting from local conflict, following a series of unpredictable second and third order consequences, makes Makarov’s comments seem more understandable; it is not so much a portrayal of Russia surrounded by “enemies,” as a recognition that, with weak conventional Armed Forces, in certain crises Moscow may have few options at its disposal (Interfax, November 17). There is also the added complication of a possibly messy aftermath of the US and NATO drawdown from Afghanistan and signs that the Russian General Staff takes Central Asian security much more seriously in this regard. The General Staff cannot know whether the threat environment in the region may suddenly change. Makarov knows the rather limited conventional military power Russia currently possesses, which may compel early nuclear first use likely involving sub-strategic weapons, in an effort to “de-escalate” an escalating conflict close to Russia’s borders. Moscow no longer primarily fears a theoretical threat of facing large armies on its western or eastern strategic axes; instead the information-era reality is that smaller-scale intervention in areas vital to its strategic interests may bring the country face-to-face with a network-centric adversary capable of rapidly exploiting its conventional weaknesses. As Russia plays catch-up in this technological and revolutionary shift in modern warfare capabilities, the age-old problem confronts the General Staff: the fastest to act is the victor (See EDM, December 1). Consequently, Makarov once again criticized the domestic defense industry for offering the military inferior quality weapons systems. Yet, as speed and harnessing C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) become increasingly decisive factors in modern warfare, the risks for conflict escalation demand careful attention – especially when the disparate actors possess varied capabilities. Unlike other nuclear powers, Russia has to consider the proximity of several nuclear actors close to its borders. In the coming decade and beyond, Moscow may pursue dialogue with other nuclear actors on the nature of conflict escalation and de-escalation. However, with a multitude of variables at play ranging from BMD, US Global Strike capabilities, uncertainty surrounding the “reset” and the emergence of an expanded nuclear club, and several potential sources of instability and conflict, any dialogue must consider escalation in its widest possible context. Makarov’s message during his presentation, as far as the nuclear issue is concerned, was therefore a much tougher bone than the old dogs of the Cold War would wish to chew on.

### Plan

#### The United States federal government should provide initial funding for integral fast reactors using the S-PRISM design in the United States.

### Solvency

#### Initial funding solves investor confidence and creates rapid deployment

**Lovering 12** [Jessica Lovering is a policy analyst, and Max Luke is a policy associate, in the Breakthrough Institute’s Energy & Climate program. Barry Brook is a Breakthrough Senior Fellow, November 16, 2012, “How U.S.-European Cooperation Can Deliver Cheaper, Safer Nuclear Energy”, Breakthrough Institute]

Advanced nuclear technologies and small modular reactors (SMRs) are being actively researched and designed, particularly in nations where governments recognize the strategic necessity of nuclear energy in the future energy mix – China, South Korea, United Arab Emirates, and others. Further research is required to understand how governments can best advance next generation nuclear designs, but many of the policies that have helped renewable technologies succeed – federally backed loan guarantees, feed-in tariffs, access to public lands for demonstration projects, and others – show signs of promise.¶ Yet the initial development and deployment of advanced nuclear, which is required to give confidence to commercial utilities to build these at a large scale, is not occurring fast enough. It is time that the United States and European countries recognize advanced nuclear as a potentially crucial component of a clean-energy transition. Without the rapid deployment of nuclear power, our energy needs will probably continue to be met predominately by fossil fuels, and the oft-cited 2°C global warming target will almost certainly not be met.

#### Plan’s mechanism results in successful commercial demonstration

**Kirsch et all 9** [Steve Kirsch, Bachelor of Science and a Master of Science in electrical engineering and computer science from the Massachusetts Institute of Technology, “The Integral Fast Reactor (IFR) project: Q&A”, collaborative attempt to answer questions regarding the integral fast reactor, contribution material, peer editing and review by George Stanford, PhD, a physicist, retired from Argonne National Laboratory, B.Sc. with Honours, Acadia University, M.A.,Wesleyan University, Ph.D. in experimental nuclear physics, Yale University, Tom Blees, Science Council for Global Initiatives, Carl Page, computer science professor at MSU, page last modified 2013]

Q. What's the next step?¶ The commercial demonstration should be a top national priority. A private consortium involving GE might be able to do it as well.¶ Ideally, Congress should fund DOE to have GE build a demonstration plant built. In order to expedite certification and licensing by the NRC, the most expeditious way would be to build a reactor vessel for $50 million, stick it at a university or national lab, and instead of filling it with sodium fill it with water. Build a mockup of the fuel assemblies, also out of non-radioactive material, and use that setup-which would require no licensing-as a prototype to demonstrate to the NRC the efficacy of the systems. For example, the NRC would say, what happens if you drop a fuel assembly when refueling. So you'd go over and run through it with the prototype. Once the thing is certified, you could drain it and use it in an actual power plant, where a single module would produce 380 MWe. They're designed to be built in power blocks of 2 reactor vessels each, feeding one large turbine that would put out 760 MW. You could fire up the first power block as soon as it's ready, even as you build further ones at the same facility. All would share a central control room and recycling facility.

#### That facilitates global expansion of the IFR

**Kirsch et all 9** [Steve Kirsch, Bachelor of Science and a Master of Science in electrical engineering and computer science from the Massachusetts Institute of Technology, “The Integral Fast Reactor (IFR) project: Q&A”, collaborative attempt to answer questions regarding the integral fast reactor, contribution material, peer editing and review by George Stanford, PhD, a physicist, retired from Argonne National Laboratory, B.Sc. with Honours, Acadia University, M.A.,Wesleyan University, Ph.D. in experimental nuclear physics, Yale University, Tom Blees, Science Council for Global Initiatives, Carl Page, computer science professor at MSU, page last modified 2013]

Q. If this is really so good, how come GE isn't building S-PRISM on their own nickel?¶ Nobody wants to risk it since it isn't a slam dunk. You don't get a reward if you solve global warming. And government funding doesn't seem to be so easy. DOE tried to get funding for GNEP (which included IFR technology) and got shot down (so far).¶ GE is a large conservative corporation. They already service a fleet of lightwater reactors, are building more of them around the world, and have the promise of yet more. It's hard enough in this country to move into new levels of reactor technology without trying to leapfrog straight into the 4th generation. Their 3rd generation ESBWR is in the 5th round of NRC certification, whereas the S-PRISM (a souped up and more developed version of the PRISM) isn't at the starting gate. These things take years at the glacial pace of the NRC, though of course if President Obama decided to go all Manhattan project on it we could most definitely get there quickly enough. If GE started pushing 4th generation breeder reactors, can you imagine the hue and cry from the antie groups? What's their incentive to do that? If they're convinced that ultimately we'll end up at 4th generation reactors anyway and they can make plenty of dough and keep a low profile just taking the go slow approach, don't you imagine that's exactly what they'll do? Besides, conceivably another country with whom we have nuclear technology sharing agreements might very well certify and build it before the NRC ever gets out of the starting gate, which would make it much easier for the eventual NRC certification.¶ Q. If this is really so good, how come someone in government isn't trying to get it restarted?¶ The DOE is attempting to resuscitate fast-reactor technology, as part of the GNEP (Global Nuclear Energy Partnership) initiative. See¶ http://www.gnep.energy.gov/gnepPRs/gnepPR011007.html, and http://www.gnep.energy.gov/.¶ The IFR is one form of fast-reactor technology (metallic fuel with pyroprocessing), but there are others -- inferior, according to the IFR scientists. The important thing these days is to get the U.S. back into a leadership role in the development and management of nuclear power, recognizing that recycling in fast reactors is necessary if the long-lived waste is to be consumed, and if the full energy potential of the uranium is to be exploited. The GNEP would resuscitate fast-reactor technology in this country.¶ Q. Critics claim fast reactors are “expensive to build, complex to operate, susceptible to prolonged shutdown as a result of even minor malfunctions, and difficult and time-consuming to repair.”¶ I'm not aware of anyone who is an expert on Integral Fast Reactor technology (who actually really understands the science) who has this view. One Nobel prize winning physicist who was recently briefed on the IFR (Burton Richter, former Director of SLAC) told me that, at best, there is insufficient scientific evidence to make such a statement. Is there someone who knows the fast reactor science as well as Dr. Chang or Dr. Till who holds that view? Certainly not the MIT study (as they admitted up front). So whose expert opinion are you relying on here?¶ Secondly, if your statement was true, then aren't these statements directly in direct conflict with the facts? If the critics are to be relied upon, then none of the following would have been possible at all:¶ – The Monju reactor was undamaged by the fire (rated 1 on a scale of 0 to 7, with 7 being the most serious accident), and has been kept shut down for political reasons. I think it has been given the go-ahead to start up.¶ – The EBR-II fast reactor worked flawlessly for many years (http://www.world-nuclear.org/info/inf98.html 31 years from 1963-1994)¶ – The Phenix fast reactor in France has been on-line for decades.¶ – The Superphenix reactor was shut down for political reasons, after it finally had its problems behind it and was working well.¶ – The Russian BN-600 has been working well for decades.¶ Ray Hunter was for the past 29 years as the former Deputy Director of the Office of Nuclear Energy, Science and Technology in the U.S. Department of Energy (DOE). Should his view count? Here's what he wrote to me:¶ My name is Ray Hunter. I am the former Deputy Director of the Office of Nuclear Energy, Science and Technology in the U.S. Department of Energy (DOE). I spent more than 29 years in DOE and the predecessor agencies working on developing advanced nuclear reactors for civilian nuclear power applications. After evaluating several alternatives, I came to the conclusion that a sodium cooled fast reactor using metal fuel and non aqueous reprocessing offered the best option to compliment and eventually replace Light Water Reactors (LWR’s). The basis for my conclusion was the successful proof of principle demonstration work completed by Argonne National Laboratory. It is important to understand that there were had two versions of the IFR concept; the second version involved a sodium cooled reactor using mixed uranium oxide and plutonium oxide fuel and aqueous reprocessing. The second version required separating Plutonium-239 for fabrication into new fuel which was considered to be a major proliferation issue. Unfortunately, the Clinton administration considered all fast reactors concepts as too much of a proliferation risk and cancelled all work on fast reactors. Actually, the decision to forgo processing of LWR fuel as enacted into law by 1982 Radioactive Waste Management Policy Act was the precursor for ending fast reactor technology development. The Department did continue to support in corporation with industry advanced LWR designs for future use. These advanced designs have been approved by the Nuclear Regulatory Commissions but none have been ordered in the U.S. because of the unresolved waste issue and the economic risk of trying to build and license a nuclear power plant in the U.S. Versions of these advanced LWR designs have already been built and are operating in Japan and South Korea.¶ The ill conceived U.S. policy of a once through LWR fuel cycle has never been adopted by any other nuclear power nation. According to Senator Reid, Yucca Mountain will not proceed as long as his any say in the matter. Until there is a path forward on LWR spent fuel, it is unlikely any new nuclear plant will be built in the U.S. The technical facts clearly show that the most cost effective and environmentally sound way to deal with LWR spent fuel is use the IFR concept with metal fuel and non aqueous reprocessing. While the proposed GNEP concept does not require plutonium separation, it is still based on oxide fuel and aqueous reprocessing which does allay proliferation concerns. Also, the GNEP concept is being offered as global solution for minimizing nuclear proliferation based on certain countries doing reprocessing including the U.S. but our current law precludes it. ¶ I am attaching a recent letter I sent to Senator Reid. In my judgment, we need to focus on the waste issue to break the logjam on nuclear power in the U.S. We don’t need to deploy the IFR in the private sector for the foreseeable future to get the benefits of expanded nuclear power use. If inviting the IAEA to oversee IFR facilities at government sites would promote acceptance of reprocessing, then we should proceed accordingly. Any thoughts you have on this matter would be appreciated.¶ Q. A lot of critics claim the plants will be too expensive to build.¶ The cost of a power plant is often expressed in terms of dollars per kilowatt of capacity. Every $1,000/kWe in initial cost adds, very roughly, one cent per kilowatt-hour to the cost of the electricity (assuming a 40-year write-off period and an interest rate of 8.5% per year).¶ The cost of a nuclear plant is very hard to predict these days, because it depends heavily on the regulatory climate. In more detail, here's something Eric Loewen (GE) has written on the subject of cost:¶ . . . This is not to say that PRISM or any other nuclear reactor will be inexpensive when built in the United States. The same GE Hitachi reactors that were built in Japan in the late 90s for about $1,400/kW are estimated to cost several times that much in the USA. Considering that the actual cost of raw materials is an insignificant portion of that price (about $35/kW), and that interest rates are at record low levels, the significantly higher price tags being bandied about by private utility companies reflects a regulatory/corporate/governmental environment that needs fixing. Part of the problem could be solved by a commitment to nuclear power from the federal government, streamlined licensing procedures for standardized designs, and shielding from interminable lawsuits like those that crippled the nuclear power industry in the 70s and 80s. ¶ There is nothing inherently uneconomical about nuclear power. Japan imports virtually all their building materials and has high labor costs. If they can build GE ABWR plants for a very reasonable price, there is no reason why the USA shouldn't be able to do the same.¶ Q. How many IFR plants do we need to replace all the coal plants in the US?¶ There are 200 nuclear plants now supplying 20% of our power. Coal provides about half our power. So you'd need about 400 new nuclear plants to displace all the coal plants.

#### The plan solves cost-competitiveness and international adaptation –

#### a. Gradual upsizing

**Till 11** [“PLENTIFUL ENERGY ¶ The Story of the Integral Fast Reactor¶ The complex history of a ¶ simple reactor technology, ¶ with emphasis on its ¶ scientific basis for non-specialists¶ CHARLES E. TILL, Nuclear physicist and associate lab director at Argonne National Laboratory West, and YOON IL CHANG”]

Some notion of likely cost competitiveness can be gained from past fast reactor ¶ construction experience, but the information available is limited. It can be said that ¶ the capital costs per MWe of the early fast reactors built around the world were ¶ much higher than those of LWRs. But the comparisons are not by any means direct ¶ and unambiguous. In comparison to the LWR, every difference between the two ¶ adds a cost increment to the fast reactor. With one significant exception, they were ¶ much smaller in size and electrical capacity than the LWRs built for commercial ¶ electricity generation. There were only a few of them. They were built as ¶ demonstration plants, by governments underwriting fast reactor development. There ¶ was basically one demonstration per country, with no follow-on to take advantage ¶ of the experience and lessons learned. Nor were they scaled up and replicated. The ¶ LWR had long since passed the stage where first-of-a-kind costs were involved, and ¶ had the advantage of economies of scale as well. Further, their purpose was ¶ commercial, with the attendant incentive to keep costs down. None of this has ¶ applied to fast reactors built to the present time.¶ Experience with thermal reactor types, as well as other large-scale construction, ¶ has shown that capital cost reduction follows naturally through a series of demonstration plants of increasing size once feasibility is proven. This has been ¶ true in every country, with exceptions only in the periods when construction ¶ undergoes lengthy delays due to organized anti-nuclear legal challenges. But this ¶ phased approach of multiple demonstration plants is no longer likely to be ¶ affordable, and in any case, with the experience worldwide now, it is probably ¶ unnecessary for a fast reactor plant today. Estimating the ―settled down‖ capital ¶ cost potential is not an easy task without such experience. Nevertheless, as the ¶ economic competitiveness of the fast reactor is taken to be a prerequisite to ¶ commercial deployment, we do need to understand the capital cost potential of the ¶ fast reactor and what factors influence it. 275

#### b. International cooperation and modeling

**Blees et al** 11 (Tom Blees1, Yoon Chang2, Robert Serafin3, Jerry Peterson4, Joe Shuster1, Charles Archambeau5, Randolph Ware3, 6, Tom Wigley3,7, Barry W. Brook7, 1Science Council for Global Initiatives, 2Argonne National Laboratory, 3National Center for Atmospheric Research, 4University of Colorado, 5Technology Research Associates, 6Cooperative Institute for Research in the Environmental Sciences, 7(climate professor) University of Adelaide, "Advanced nuclear power systems to mitigate climate change (Part III)," 2/24/11) <http://bravenewclimate.com/2011/02/24/advanced-nuclear-power-systems-to-mitigate-climate-change/-http://bravenewclimate.com/2011/02/24/advanced-nuclear-power-systems-to-mitigate-climate-change/>

There are many compelling reasons to pursue the rapid demonstration of a full-scale IFR, as a lead-in to a subsequent global deployment of this technology within a relatively short time frame. Certainly the urgency of climate change can be a potent tool in winning over environmentalists to this idea. Yet political expediency—due to widespread skepticism of anthropogenic causes for climate change—suggests that the arguments for rolling out IFRs can be effectively tailored to their audience. Energy security—especially with favorable economics—is a primary interest of every nation.¶ The impressive safety features of new nuclear power plant designs should encourage a rapid uptick in construction without concern for the spent fuel they will produce, for all of it will quickly be used up once IFRs begin to be deployed. It is certainly manageable until that time. Burying spent fuel in non-retrievable geologic depositories should be avoided, since it represents a valuable clean energy resource that can last for centuries even if used on a grand scale.¶ Many countries are now beginning to pursue fast reactor technology without the cooperation of the United States, laboriously (and expensively) re-learning the lessons of what does and doesn’t work. If this continues, we will see a variety of different fast reactor designs, some of which will be less safe than others. Why are we forcing other nations to reinvent the wheel? Since the USA invested years of effort and billions of dollars to develop what is arguably the world’s safest and most efficient fast reactor system in the IFR, and since several nations have asked us to share this technology with them (Russia, China, South Korea, Japan, India), there is a golden opportunity here to develop a common goal—a standardized design, and a framework for international control of fast reactor technology and the fissile material that fuels them. This opportunity should be a top priority in the coming decade, if we are serious about replacing fossil fuels worldwide with sufficient pace to effectively mitigate climate change and other environmental and geopolitical crises of the 21st century.

#### c. Modularity

**Blees 9** [“Integral Fast Reactors for the masses”, Brave New Climate, Posted on 12 February 2009 on post by Barry Brook, Professor of Climate Change @ University of Adelaide, Tom Blees, National Center for Atmospheric Research]

IFRs would be wholly modular, both the reactors and recycling facilities, built in factories and assembled on site. Thus the fabrication of the modules could be distributed among companies around the world (Siemens, GE, Westinghouse, AREVA, Toshiba, etc) and would certainly benefit from economies of scale, as well as improved quality control.¶ In my book I assumed a cost of $2,000/kilowatt for the capital cost of the plant. As a comparison, private utility companies in the USA, where we suffer from a system that is broken on a host of levels, claim it will cost from $6-9,000/kilowatt.

**(stopped here)**

Yet GE was able to build their ABWR nuclear plants in Japan for about $1,400/kW. Clearly the USA (and GE is a U.S. company, and remember Japan imports virtually all the materials and has high labor costs) could do better if they got sane about their regulatory, political, and corporate mess.¶ It’s been alleged that the cost of nuclear power plants are rising stratospherically because of the increasing cost of commodities, but that’s simply not true. Per Peterson, professor of nuclear engineering at the University of California in Berkeley, recently went back and calculated the materials costs for 70s-era nuclear power plants, which used far more materials/kW than the new IFRs would, but he plugged in commodities costs from 2008. The result: The cost per kilowatt comes to about $34! Virtually all of the cost of a nuclear plant comes from fabrication, labor, and profits, not from materials costs. And having a cushion from $34 to $2,000 should be seen as entirely realistic in a situation where something is built in factory-fabricated modules. In fact, should we begin deploying IFRs worldwide, the cost should be able to be considerably less than $2,000/kW.

## 2ac

### Uranium 2AC

#### Peak uranium by the end of the decade – plan solves

**Crawford 11** [“Peak Uranium By 2015?”, 6/22/11, Black Swan Insights, Nathaniel Crawford—B.A. from Occidental College, 9 years of experience in financial markets, as stock trader, bonds trader, investor, and analyst]

A new research report says yes. The report goes on to say that short of a complete nuclear phase-out, the world will run out of uranium by the end of the decade. Here are the major conclusions:¶ • A production decline from essentially all mines operating on particular deposits is unavoidable during the present decade.¶ • This decline can only be partially compensated by the planned new mines.¶ • Assuming that all new uranium mines can be opened as planned, annual mining will be increased from the 2010 level of 54 ktons to about 58 ± 4 ktons in 2015.¶ • After 2015 uranium mining will decline by about 0.5 ktons/year up to 2025 and much faster thereafter. The resulting maximal annual production is predicted as 56 ± 5 ktons (2020), 54 ± 5 ktons (2025) and 41 ± 5 ktons (2030).¶ Assuming that the demand side will be increased by 1% annually, we predict both shortages of uranium and (inflation-adjusted) price hikes within the next five years.¶ ........¶ Therefore, assuming that a global slow phase-out scenario will not be chosen on a voluntary basis, we predict that the end of the cheap uranium supply will result in a chaotic phase-out scenario with price explosions, supply shortages and blackouts in many countries.¶ To read the full report: click here¶ The report contends that the only way for supply to keep up with demand would be if the US and Russia recycle their nuclear weapons into low enriched uranium fuel. The Russians have been doing this since 1993 under the Megatons to Megawatts program, but the program is expected to end in 2013. The Russians have indicated that they do not expect to renew the program.

**Peak uranium causes nuclear war**

**Konstantiov 12 –** professor of math at Moscow State and member of numerous scientific/geological councils

(Mihail Konstantiov, Professor of Mathematics with the University of Architecture, Civil Engineering and Geodesy (UACEG), Bulgaria, Vice-Chancellor of UACEG (1999-2003), Member of scientific councils and commissions, Member of the Board of IICREST. He has authored 30 books and over 500 scientific papers. He has participated in international scientific projects of EU and NATO and realized research and lecturing visits in British, German and French universities. Prof. Konstantinov has been Member and Vice Chair of the Central Election Commission of Bulgaria and Voting coordinator of OSCE (1997-) as well as the Bulgarian representative at the Council of Europe on electronic voting. In addition to his scientific publications, he has authored more than 300 articles in Bulgarian editions devoted to social and political issues with emphasis on election practice and legislation., “Uranium time bomb ticking”, Europost, 2-11-2012, http://www.europost.bg/article?id=3763)

In 1945, the US had three nucle­ar bombs - two plu­to­ni­um-based devi­ces and a ura­ni­um-based one. The first one was det­o­nat­ed on a test site in New Mex­i­co, and the sec­ond and third ones over Jap­a­nese ter­ri­to­ry. On 6 August 1945, the then-only ura­ni­um-based bomb was thrown over the Jap­a­nese city of Hiro­shi­ma. What hap­pened is well known and I will not re-tell it. More­over, this sto­ry deals with nucle­ar weap­ons but they are not the main char­ac­ters. Almost 20 years ago, an agree­ment was inked under which the US under­took to help dis­man­tle Rus­sian nucle­ar war­heads and con­vert the ura­ni­um from them into fuel for nucle­ar reac­tors. The rea­son is sim­ple - the pro­ce­dure is expen­sive, Rus­sia was weak and poor at the time, and in addi­tion, Amer­i­can tech­nol­o­gy back then was sig­nif­i­cant­ly ahead of the Rus­sian one. The amounts of con­vert­ed ura­ni­um are mas­sive - more than 500 ton­nes. Thus Rus­sian ura­ni­um turns into fuel for US nucle­ar pow­er plants. At present, this fuel is used to pro­duce 10% of the elec­tri­cal pow­er in the US. This is more than the ener­gy pro­duced from renew­a­ble sour­ces, such as sun, wind and water, there. This idyll, how­e­ver, is com­ing to its end. First, the US-Rus­sia agree­ment for Rus­sian war­heads con­ver­sion expires next year and Rus­sia is high­ly unlike­ly to extend it. More­over, Rus­sians now have good tech­nol­o­gy for that pur­pose and will prob­a­bly want to leave their ura­ni­um for them­selves. And sec­ond, if the agree­ment is extend­ed, the amounts of war­heads sub­ject to dis­man­tling will soon be exhaust­ed any­way as the agreed lim­its are reached. Glob­al mar­kets have already start­ed sus­pect­ing what is going to hap­pen with the expir­ing US-Rus­sia agree­ment for war­head ura­ni­um. And not only with it. Indeed, ura­ni­um oxide pri­ces have gone wild sur­ging to almost $70/lb (1lb is 454 gr.) in Jan­u­ary this year from $40/lb in Sep­tem­ber 2011. Such a 70% ral­ly in ura­ni­um price over just 3-4- months is not sus­tain­a­ble and even a cer­tain edg­ing down can be expect­ed. Still, the **trend** is clear - ura­ni­um dearth is loom­ing, as well as dearth of oth­er stra­te­gic nat­u­ral resour­ces. We have repeat­ed­ly stat­ed this but let us under­score it again. The glob­al cri­sis is **most of all** a resource cri­sis. It is finan­cial inso­far as it has became clear that the sys­tem allow­ing some peo­ple to print mon­ey while oth­ers work and bring them oil and oth­er goods will not last for good. The antic­i­pat­ed ura­ni­um short­age in the com­ing dec­ade is tru­ly strik­ing and is esti­mat­ed at 500m lb! One of the rea­sons is the fast devel­op­ing econ­o­mies of Chi­na and India, along with oth­er coun­tries like Bra­zil and Tur­key. It is where the bulk of the 147 reac­tors expect­ed to become oper­a­tion­al in these 10 years will be locat­ed. **A major consum­er** of ura­ni­um, the US cur­rent­ly has a demand for 60m lb a year but pro­du­ces only 3m lb. Still, this is the way things are at present. And what will hap­pen aft­er the US Nucle­ar Reg­u­la­to­ry Com­mis­sion reviews and poten­tial­ly approves new nucle­ar reac­tor pro­pos­als? They are 26 or so. And more are in the pipe­line. The sit­u­a­tion in India is even more dra­mat­ic - an increase in the share of nucle­ar ener­gy in elec­tric­i­ty pro­duc­tion is expect­ed from 2.5% at present to 25%. In oth­er words, India will need 10 times as much ura­ni­um as it does now if the far-reach­ing plan is put to prac­tice. Chi­na has more hum­ble aspi­ra­tions and is gear­ing to raise the share of nucle­ar facil­i­ties in elec­tric­i­ty pro­duc­tion only ...three times. And Chi­na, much like the US, does not have suf­fi­cient domes­tic sup­ply. We can con­tin­ue with sta­tis­tics, but things are evi­dent any­way. A war is around the cor­ner. In the best-case sce­nar­io, this will be a price war over ura­ni­um and in par­tic­u­lar ura­ni­um oxide. Pri­ces in the order of $100 or even $200/lb no longer seem far-fetched. Price lev­els of $500-$1000-$2000/lb have even been men­tioned and this will have its swift and dras­tic impli­ca­tions. Still, if a reac­tor costs $4bn, why not pay $1000/lb of ura­ni­um? Or else, the 4-bil­lion invest­ment will go down the drain. Anoth­er explod­ing glob­al mar­ket is the one for rare earth ele­ments with hard-to-pro­nounce Lat­in names such as Neo­dym­i­um, Ceri­um, Lan­tha­num, Gal­li­um, Gado­lin­i­um, Thu­li­um… If we have a look at Men­de­leev's peri­od­ic table, they are squeezed some­where at the bot­tom. But then, all the elec­tron­ics around us, all com­put­ers, fibre optics, all sat­el­lites and in gen­er­al every­thing under­ly­ing our high-tech civ­il­i­za­tion would be utter­ly impos­si­ble but for these exot­ic hard-to-extract ele­ments. The price of each of them has dou­bled and tri­pled in a year alone. And the pri­ces of some of them have soared six­fold in the same peri­od. Com­pared with rare earth ele­ments, gold and plat­i­num are like a tame kit­ten. It nat­u­ral­ly eats and swells but at a rate of only up to 40% a year. And what about the lith­i­um under­ly­ing the idea of elec­tric vehi­cles stag­ing a mass entrance into our dai­ly life and econ­o­my if and when oil is exhaust­ed? But it is in rare ele­ments where the secret of future skir­mish­es over resour­ces lies. Because across the world, they are real­ly hard to extract but Chi­na holds 97% of their glob­al pro­duc­tion! No mis­take, Chi­na pro­du­ces 33 times as much rare met­als as the rest of the world. This may as well be changed some day as cur­rent­ly huge efforts and mon­ey are put into look­ing for rare met­als around the globe. Hypo­thet­i­cal­ly, only a third of the res­erves is in Chi­na with the oth­er two thirds lying some­where else. Too bad it is any­one's guess where, although Cana­da, South Afri­ca and some Afri­can coun­tries are con­sid­ered prom­is­ing in this regard. Still, for the time being this is how things are: Chi­na has almost every­thing and the rest of the world hard­ly any­thing. Does any­one have any doubts why Chi­na has the ambi­tion to become the top dog? Of course, the world is by no means tread­ing water in one oth­er respect: sub­sti­tute tech­nol­o­gies are sought for that would not be so crit­i­cal­ly depend­ent on rare earth ele­ments, yet, more in the long rath­er than short run. By the way, why are we dis­cuss­ing ura­ni­um pri­ces along with all oth­er sorts of pri­ces in US dol­lars? The answer is clear: because the dol­lar is the glob­al reserve cur­ren­cy. The rea­son for this, though, is more com­pli­cat­ed. True, the US is the larg­est econ­o­my for the time being. But it is also among the most indebt­ed coun­tries in the world. And its debt is increas­ing­ly sur­ging. Still, this is not the most impor­tant. The most impor­tant thing is that the US has the most pow­er­ful, most mobile and one of the most effect­ive armies in the world. Lit­tle like­ly is it for some­one to reject the US dol­lar as a reserve cur­ren­cy while the 82nd Air­borne Divi­sion of the US Army, based at Fort Bragg North Car­o­li­na, is the holy ter­ror it is at the moment. And there is much more to it than the 82nd Divi­sion. So the time bomb of ura­ni­um and rare earth ele­ments dearth is tick­ing. And lit­tle idea do we have of the time it is set for. Or wheth­er, when it final­ly goes off, some­body might remem­ber the first mas­sive appli­ca­tion of ura­ni­um, which turned thou­sands into ash­es some 67 years ago. **And be temp­ted to use it again**. For 67 years now, we have been show­ing rea­son and sur­viv­ing. Let us hope fierce defi­cien­cy of nat­u­ral resour­ces, food and water that is loom­ing will not take it away from us.

### Water Wars 2AC

#### Global adaption of the plan solves water wars

**Blees 11** [“Nuclear power and climate change – what now?”, May 28, 2011, Brave New World, Tom Blees. Tom an advanced energy systems consultant from Davis, California, and author of Prescription for the Planet – The Painless Remedy for Our Energy & Environmental Crises. Tom is also the president of the Science Council for Global Initiatives , an international think tank of distinguished scientists dedicated to creating an environmentally sound energy-rich future for the entire human race]

Whatever one believes about the causes of climate change, there is no denying that glaciers around the world are receding at an alarming rate. Billions of people depend on such glaciers for their water supplies. We have already seen cases of civil strife and even warfare caused or exacerbated by competition over water supplies. Yet these are trifling spats when one considers that the approaching demographic avalanche will require us to supply about three billion more people with all the water they need within just four decades.There is no avoiding the fact that the water for all these people—and even more, if the glaciers continue to recede, as expected—will have to come from the ocean. That means a deployment of desalination facilities on an almost unimaginable scale. Not only will it take staggering amounts of energy just to desalinate such a quantity, but moving the water to where it is needed will be an additional energy burden of prodigious proportions. Given the formidable energy requirements for these water demands alone—not to mention the energy demands of the developing countries for all their other needs—any illusions about wind turbines and solar panels being able to supply all the energy humanity requires should be put to rest. Fortunately for all of us, the nuclear power technologies that can safely provide all the carbon-free energy that humanity will desire in the years to come have already been invented.

#### Extinction

**Coddrington 10** (7/1, http://www.tomorrowtoday.co.za/2010/07/01/a-looming-crisis-world-water-wars/

PhD-Business Adminstration & Guest lecturer at top business schools, including the London Business School, Duke Corporate Education and the Gordon Institute of Business Science.)

People go to war when their way of life is threatened. I have written before about the many issues we face in the coming years that threaten our way of life. These include global warming/climate change, pollution, pandemics, nuclear bombs, intelligent machines, genetics, and more. More and more I am becoming convinced that the next major regional/global conflict will be over water. We are much more likely to have water wars in the next decade than nuclear ones. And I were to guess, I’d say that it is most likely to happen in around North East Africa. This is a region with its own internal issues. But it also has the foreign involvement of America, China, the Middle Eastern Arab nations, and (increasingly) Israel. Quite a potent mix… Last week, Addis Ababa, Ethiopia hosted the 18th regular meeting of the Council of Ministers of Water Affairs of the Nile Basin countries. In the lead up to the conference, Ethiopia, Rwanda, Uganda, Tanzania and Kenya, the five countries that are all upstream of Egypt and Sudan concluded a water-sharing treaty – to the exclusion of Egypt and Sudan. This has obviously reignited the longstanding dispute over water distribution of the world’s longest river in the world’s driest continent. Egypt is currently the largest consumer of Nile water and is the main beneficiary of a 1929 treaty which allows it to take 55.5 billion cubic metres of water each year, or 87% of the White and Blue Nile’s flow. By contrast, Sudan is only allowed to draw 18.5 billion cubic metres. On attaining independence Sudan refused to acknowledge the validity of the Nile water treaty and negotiated a new bilateral treaty with Egypt in 1959. Kenya, Tanzania and Uganda also expressly refused to be bound by the treaty when they attained independence, but have not negotiated a new treaty since then. Under the 1929 treaty, Egypt has powers over upstream projects: The Nile Waters Agreement of 1929 states that no country in the Nile basin should undertake any works on the Nile, or its tributaries, without Egypt’s express permission. This gives Egypt a veto over anything, including the building of dams on numerous rivers in Kenya, Burundi, Rwanda, Tanzania, Ethiopia, and by implication Egypt has control over agriculture, industry and infrastructure and basic services such as drinking water and electricity in these countries. This is surely untenable. But if the other countries broke the treaty, would Egypt respond with force? Since the late 1990s, Nile Basin states have been trying unsuccessfully to develop a revised framework agreement for water sharing, dubbed the Nile Basin Initiative (NBI). In May 2009, talks held in Kinshasa broke down because Egypt and Sudan’s historical water quotas were not mentioned in the text of the proposed agreement. Water ministers met again in July 2009 in Alexandria, where Egypt and Sudan reiterated their rejection of any agreement that did not clearly establish their historical share of water. This is an untenable position. Upstream states accuse Egypt and Sudan of attempting to maintain an unfair, colonial-era monopoly on the river. Egyptian officials and analysts, however, defend their position, pointing out that Egypt is much more dependent on the river for its water needs than its upstream neighbours. Egypt claims that Nile water accounts for more than 95% of Egypt’s total water consumption, although they appear to be working hard to reduce both their water usage (they’re stopping growing rice, for example) and their dependence on the Nile.

### China Exports DA

#### Not zero-sum – benefits accrue to international firms

**Yurman 10** [“China’s ambitious nuclear energy program”, Dec 2, 2010, ANS Nuclear Café, “Capacity planning targets keep going up”, By Dan Yurman]

The Financial Times reported that at least 30 percent of the new reactors built in China in the next 10 years will be based on the AP1000 design. It will take years, however, for China to absorb the technology as well as train thousands of new engineers to master it. During this time, Westinghouse can expect to continue to be deeply involved in China’s massive nuclear program. From a safety perspective, China will need Westinghouse know-how to ensure accidents don’t derail its ambitious expansion plans. As a result, Westinghouse remains bullish that it will get more orders for new reactors from China.

#### Other countries will beat China in the exports game – South Korea

**Blank 10** [Steven, professor at the strategic studies institute, Army War College, 6/16/10

“China puts down marker in nuclear power race”, Asia Times Online]

However, since then there has been a veritable explosion of competition among Asian and European providers (including the United States) to sell nuclear technology abroad, not least to India. South Korea's shocking victory over France in the competition to sell to the United Arab Emirates has had major effects abroad in this context. South Korea clearly aims to be a major nuclear power exporter. Its firms like Korea Electric Power Co are active in India, China, Jordan, and Turkey [5]. South Korea aims to capture 20% of the global market by 2030 and export 80 nuclear reactors [6]. South Korean President Lee Myung-bak has publicly expressed his belief that this deal with the United Arab Emirates will facilitate other exports abroad.

#### Alt causes solve and hurt soft power

**Lagerkvist 11** [“The coming collapse of China’s soft power”, March 23, 2011, Johan Lagerkvist, Senior research fellow at the Swedish Institute of International Affairs]

It has begun¶ This post is not arguing that the Chinese state is crumbling, that an economic collapse is imminent, or that China’s rise is over. To the contrary, the Chinese Party-state is very much in the driver’s seat. It is diligently monitoring developments in Chinese economy and society, intent at not overlooking any rocking of the state ship. This, however, comes at great costs to the internal security budget and China’s image abroad. I am purely looking at China’s attractiveness as a world power, model, and shaper of values and goodwill. ¶ You may recall how many journalists and analysts hailed Chinese President Hu Jintao’s state visit to the United States in January — full of the trappings worthy of a wannabe world leader - as the most important Sino-US meeting in years. During the visit a state-orchestrated Chinese campaign designed to persuade Americans that China’s rise will be beneficial and peaceful was also launched. The “China experience” advertisement was displayed in New York City’s Times Square. It showcased Chinese achievements in sports, the business world and space research. Yet, it seems hard to convince Americans that China’s rise is a non-threatening enterprise. A January 2011 poll conducted by the Pew Institute puts China as the greatest threat to the United States—followed by North Korea and Iran.

#### Soft power is impossible to quantify and Chinese export assertiveness undermines it

**Lagerkvist 11** [“The coming collapse of China’s soft power”, March 23, 2011, Johan Lagerkvist, Senior research fellow at the Swedish Institute of International Affairs]

Soft power is a quite amorphous and scientifically somewhat vague concept. It’s become popular and easy to use by one and all. Basically it seems to be anything that’s is not military hard power. The inventor of the successful concept of soft power, Joseph Nye, thinks that China is doing the right thing for a rapidly rising power. It has to convince the outside world that it need to fear China’s rise, and direct the attention of others away from its growing hard power. However, it’s hard to build and difficult to implement as a policy within a system consisting of such diverse and contradictory interests as Chinese officialdom. How do you craft an entertainment industry like Hollywood and Bollywood , and a message industry such as Madison Avenue to serve your country and – your state — in a short time? Arguably, these cultural institutions take time to build, and they are usually more solid if they are organically constructed by the market, rather than by power hungry politicians. Cultural institutes such as the British Council, the Spanish Cervantes Institute, and China’s booming venture of Confucius institutes have, comparatively speaking, a marginal impact. Yet, policymakers and not so few analysts love the term – as it may lend some analytical credence and inspiration to their daily work. And as colleagues at the Swedish Institute of International Affairs, Linus Hagstrom, Johan Eriksson, Ludvig Norman have argued, soft power is both a political and a scientific concept. Nowadays, perhaps even more a political and popular culture concept. (1) It goes without saying that some policymakers, such as former US Secretary of Defense Donald Rumsfeld, a true believer in hard power, don’t like it. Many Chinese analysts and policy-makers have embraced the concept wholeheartedly, despite the fact that the overwhelming majority of Chinese international relations experts are realists at heart. In recent years, Chinese academic journals have been flooded with articles analyzing China’s soft power. It fits just too well with building the image of China’s “peaceful rise” and China’s purported desire to build a “harmonious world.” In his speech to the 17th Communist Party Congress in 2007, President Hu Jintao mentioned that China needs to strengthen its soft power. One of China’s most renowned political scientists, Professor Yan Xuetong of Qinghua University, confidently wrote in an article in Contemporary International Relations (No.1, 2008) that China would surpass the United States in terms of its soft power in 3 to 5 years. It may seem ridiculous now, but it’s important to note that his argument was made during the US led “war on terror,” before the Lhasa riots in Tibet in 2008, the subsequent hard-line turn in Chinese domestic politics, and a more assertive posture in international relations. ¶ The reasons for the collapse of Chinese soft power¶ What are the reasons undergirding the decline of Chinese soft power? I would like to suggest five fundamental reasons. There are quite a few sub-reasons. I am sure you can come up with a few of your own.¶ \* A new Chinese assertiveness vis-à-vis neighbors Japan, South Korea, India, and ASEAN countries in its foreign policy behavior during 2010 indicated a new posture, or rather an older Chinese stance predating the previously skillful regional diplomacy of “good neighborliness.” With the statement that the South China Sea was a “core interest” area of China on par with Taiwan and Tibet, the good neighbor atmosphere deteriorated fast, prompting ASEAN countries so seek US support for their security arrangements – in the light of China’s potentially ”unpeaceful rise.” Needless to say, this new assertiveness of China has not gone unnoticed in other parts of the world.

#### No warrant for why nuclear is key – other energy or economic sectors can fill in for Chinese economic influence abroad

#### They’ll develop thorium

**Martin 11** [Richard Martin, “China Takes Lead in Race for Clean Nuclear Power”, 2/1/11, Wired]

China has officially announced it will launch a program to develop a thorium-fueled molten-salt nuclear reactor, taking a crucial step towards shifting to nuclear power as a primary energy source.¶ The project was unveiled at the annual Chinese Academy of Sciences conference in Shanghai last week, and reported in the Wen Hui Bao newspaper (Google English translation here).

#### That can be weaponized

**FEA no date** \*Friends of the Earth Australia is a group that campaigns for environmental sustainability [http://www.foe.org.au/anti-nuclear/issues/nfc/power-weapons/thorium, “thorium and wmd proliferation risks”]

Thorium fuel cycles are promoted on the grounds that they pose less of a proliferation risk compared to conventional reactors. However, whether there is any significant non-proliferation advantage depends on the design of the various thorium-based systems. No thorium system would negate proliferation risks altogether.¶ Neutron bombardment of thorium (indirectly) produces uranium-233, a fissile material which can be used in nuclear weapons (1 Significant Quantity of U-233 = 8kg).¶ The USA has successfully tested weapon/s using uranium-233 cores.

#### Can’t be sold competitively – so China will abandon and push current-gen tech

Katusa, ’12 [Marin, Chief Energy Investment Strategist, Casey Research, Market Oracle, 2-14, “Why Not Thorium Fueled Nuclear Reactors Instead of Uranium?” http://www.marketoracle.co.uk/Article33137.html]

Well, maybe quite a bit of support. One of the biggest challenges in developing a thorium reactor is finding a way to fabricate the fuel economically. Making thorium dioxide is expensive, in part because its melting point is the highest of all oxides, at 3,300° C. The options for generating the barrage of neutrons needed to kick-start the reaction regularly come down to uranium or plutonium, bringing at least part of the problem full circle. And while India is certainly working on thorium, not all of its eggs are in that basket. India has 20 uranium-based nuclear reactors producing 4,385 MW of electricity already in operation and has another six under construction, 17 planned, and 40 proposed. The country gets props for its interest in thorium as a homegrown energy solution, but the majority of its nuclear money is still going toward traditional uranium. China is in exactly the same situation – while it promotes its efforts in the LFTR race, its big bucks are behind uranium reactors. China has only 15 reactors in operation but has 26 under construction, 51 planned, and 120 proposed.

#### No impact to soft power

**Ford, 10** (4/29, Peter, Christian Science Monitor, “On eve of Shanghai Expo 2010, China finds 'soft power' an elusive goal; Chinese authorities have seized on the Shanghai Expo 2010 - the largest in history - as another chance to enhance 'soft power' that is generated by the spread of cultures, values, diplomacy, and trade. The expo opens this weekend” Lexis)

At the heart of the Shanghai World Expo stands the host nation's pavilion, a giant latticed crown painted crimson. Packed with exhibits portraying daily Chinese life, China's ethnic diversity, and the standard bearers of Chinese philosophy, the display shows China's friendliest face to the world. Hard on the heels of the Beijing Olympics, the authorities here have seized on the Expo - the largest in history - as another chance to improve the rising giant's international image. Learning how to win friends and influence people is a task to which the government has attached the highest priority in recent years.

It appears, however, to be failing. A BBC poll released in April found that only one-third of respondents in 14 countries believe China is a positive influence, down from one-half just five years ago. IN PICTURES: Shanghai World Expo 2010 "The government is putting a lot of resources and a lot of attention into boosting China's 'soft power,' but they've got a lot of problems with the message," says David Shambaugh, head of the China Policy Program at George Washington University in Washington. "The core aspects of their system" - such as one-party rule, media censorship, and suppression of critics - "are just not appealing to outsiders." Chinese policymakers and academics are increasingly fascinated by "soft power," whereby nations coopt foreign governments and citizens through the spread of their cultures, values, diplomacy, and trade, rather than coerce them by military might. Frustrated by Western domination of global media, from entertainment to news, and by what it sees as unfair coverage, China has launched a $6.6 billion campaign to tell its own story to the world by building its own media empires. Li Changchun, the ruling Communist Party's top ideology official, was blunt in a 2008 speech: "Whichever nation's communications capacity is the strongest, it is that nation whose culture and core values spread far and wide ... that has the most power to influence the world," he said. Is the message convincing? But this is not enough, says Li Xiguang, head of the International Center for Communications Studies at Tsinghua University in Beijing.

#### A. American exports

Reuters, 12 [April 19th, “U.S. coal exports to China may double in 2012: Xcoal”, http://www.reuters.com/article/2012/04/19/us-coal-idUSBRE83I0AK20120419]

(Reuters) - U.S. coal exports to [China](http://www.reuters.com/places/china) could more than double to over 12 million tonnes in 2012 thanks to depressed freight rates and a fall in domestic demand in the United States, the chief of top U.S. coal exporter Xcoal Energy & Resources said.¶ The expected increase in coal shipments could further push down coal prices in Asia where a supply glut following a deluge from the United States and Colombia has forced prices to slump recently.¶ Australian Newcastle-grade coal has dropped $10 a tonne since end-February, the Indonesian coal reference price is down to its lowest in 16 months and South African coal has shed $5.¶ "Exports to China could reach over 12 million tonnes this year based on the annualized numbers," Chief Executive Ernie Thrasher told Reuters in an interview on Wednesday.¶ "We only have data for January and February now, but all anecdotal evidence so far suggests that there are no signs of that diminishing as the year goes on," he said.¶ "I think there is enough demand in Asia to absorb enough U.S. cargoes to stem a decline in prices."¶ Many U.S. coal sellers have set their eyes on Asia as a shrinking domestic market and tepid demand in Europe have pushed them to look for new customers outside of their traditional markets.

#### B. Demand

Summer, 9/17/12 [ Dave, What is the Future for China's Coal Industry”, http://oilprice.com/Energy/Coal/What-is-the-Future-for-Chinas-Coal-Industry.html ]‘

In 2007 Chinese coal production contained more energy than total Middle Eastern oil production. The rapid growth of coal demand after 2001 created supply strains and bottlenecks that raise questions about sustainability. In 2010 China produced almost half of the [world’s coal tonnage](http://www.eia.gov/todayinenergy/detail.cfm?id=3350). China produced some [4.52 billion tonnes in 2011](http://en.sxcoal.com/79027/NewsShow.html) and some 45% of that was shipped from the mine to the customer by rail. As demand continues to grow those volumes will also increase.

#### **C. Global suppliers**

Summer, 9/17/12 [ Dave, What is the Future for China's Coal Industry”, http://oilprice.com/Energy/Coal/What-is-the-Future-for-Chinas-Coal-Industry.html ]‘

China has, of course, not only its own coal reserves but has been willing to venture into the global market to find additional supplies, and I would suspect that, in the years to come, those additional supplies may well come from southernAfrica. But for now they seem to have the situation reasonably in hand.

#### Chinese leadership risks unsafe tech transfer – and US export controls will block

**Schoenberg 12** [“Chinese Company Admits U.S. Charges Over Nuclear Exports”, Tom Schoenberg, Dec 3, 2012]

A Chinese company agreed to pay $2 million in fines after admitting it helped to export nuclear reactor paint from the U.S. to Pakistan without a license.¶ China Nuclear Industry Huaxing Construction Co., which is operated by the Chinese government, pleaded guilty in federal court in Washington today to conspiring to defraud the U.S. and violating U.S. export laws.¶ The Nanjing City, China-based company, known as Huaxing, admitted that, without Commerce Department approval, it bought a paint system from PPG Industries Inc. in 2006 used to coat the inside of a nuclear reactor being built near Chashma, Punjab.¶ U.S. District Judge Emmet Sullivan fined the company $1 million and said it must pay another $1 million if it violates terms of its five-year probation. Assistant U.S. Attorney G. Michael Harvey told Sullivan the company was also fined $1 million by the Commerce Department.¶ “The lesson here is clear: We will pursue violations of U.S. export controls wherever they occur in the world,” U.S. Attorney Ronald Machen said in an e-mailed statement. “We will prosecute both individuals and corporate wrongdoers, and a corporation’s status as foreign-owned, or even state-owned, will not bar enforcement of those laws in U.S. courts,”¶ Pittsburgh-based PPG Industries and its Shanghai-based unit agreed in December 2010 to pay $3.75 million in fines for selling hundreds of gallons of an epoxy coating to Huaxing for use in Pakistan after the company’s application for the license was rejected in June 2006.¶

#### Unsafe tech transfer causes nuclear war

Sokolski 9 [Henry Sokolski, Executive Director of the Nonproliferation Policy Education Center, 6/1/2009, Avoiding a Nuclear Crowd, <http://www.hoover.org/publications/policy-review/article/5534>]

Finally, several new nuclear weapons contenders are also likely to emerge in the next two to three decades. Among these might be Japan, North Korea, South Korea, Taiwan, Iran, Algeria, Brazil (which is developing a nuclear submarine and the uranium to fuel it), Argentina, and possibly Saudi Arabia (courtesy of weapons leased to it by Pakistan or China), Egypt, Syria, and Turkey. All of these states have either voiced a desire to acquire nuclear weapons or tried to do so previously and have one or more of the following: A nuclear power program, a large research reactor, or plans to build a large power reactor by 2030. With a large reactor program inevitably comes a large number of foreign nuclear experts (who are exceedingly difficult to track and identify) and extensive training, which is certain to include nuclear fuel making.19 Thus, it will be much more difficult to know when and if a state is acquiring nuclear weapons (covertly or overtly) and far more dangerous nuclear technology and materials will be available to terrorists than would otherwise. Bottom line: As more states bring large reactors on line more will become nuclear-weapons-ready — i.e., they could come within months of acquiring nuclear weapons if they chose to do so.20 As for nuclear safeguards keeping apace, neither the iaea’s nuclear inspection system (even under the most optimal conditions) nor technical trends in nuclear fuel making (e.g., silex laser enrichment, centrifuges, new South African aps enrichment techniques, filtering technology, and crude radiochemistry plants, which are making successful, small, affordable, covert fuel manufacturing even more likely)21 afford much cause for optimism. This brave new nuclear world will stir existing security alliance relations more than it will settle them: In the case of states such as Japan, South Korea, and Turkey, it could prompt key allies to go ballistic or nuclear on their own. Nuclear 1914 At a minimum, such developments will be a departure from whatever stability existed during the Cold War. After World War II, there was a clear subordination of nations to one or another of the two superpowers’ strong alliance systems — the U.S.-led free world and the Russian-Chinese led Communist Bloc. The net effect was relative peace with only small, nonindustrial wars. This alliance tension and system, however, no longer exist. Instead, we now have one superpower, the United States, that is capable of overthrowing small nations unilaterally with conventional arms alone, associated with a relatively weak alliance system ( nato) that includes two European nuclear powers (France and the uk). nato is increasingly integrating its nuclear targeting policies. The U.S. also has retained its security allies in Asia (Japan, Australia, and South Korea) but has seen the emergence of an increasing number of nuclear or nuclear-weapon-armed or -ready states. So far, the U.S. has tried to cope with independent nuclear powers by making them “strategic partners” (e.g., India and Russia), nato nuclear allies (France and the uk), “non-nato allies” (e.g., Israel and Pakistan), and strategic stakeholders (China); or by fudging if a nation actually has attained full nuclear status (e.g., Iran or North Korea, which, we insist, will either not get nuclear weapons or will give them up). In this world, every nuclear power center (our European nuclear nato allies), the U.S., Russia, China, Israel, India, and Pakistan could have significant diplomatic security relations or ties with one another but none of these ties is viewed by Washington (and, one hopes, by no one else) as being as important as the ties between Washington and each of these nuclear-armed entities (see Figure 3). There are limits, however, to what this approach can accomplish. Such a weak alliance system, with its expanding set of loose affiliations, risks becoming analogous to the international system that failed to contain offensive actions prior to World War I. Unlike 1914, there is no power today that can rival the projection of U.S. conventional forces anywhere on the globe. But in a world with an increasing number of nuclear-armed or nuclear-ready states, this may not matter as much as we think. In such a world, the actions of just one or two states or groups that might threaten to disrupt or overthrow a nuclear weapons state could check U.S. influence or ignite a war Washington could have difficulty containing. No amount of military science or tactics could assure that the U.S. could disarm or neutralize such threatening or unstable nuclear states.22 Nor could diplomats or our intelligence services be relied upon to keep up to date on what each of these governments would be likely to do in such a crisis (see graphic below): Combine these proliferation trends with the others noted above and one could easily create the perfect nuclear storm: Small differences between nuclear competitors that would put all actors on edge; an overhang of nuclear materials that could be called upon to break out or significantly ramp up existing nuclear deployments; and a variety of potential new nuclear actors developing weapons options in the wings. In such a setting, the military and nuclear rivalries between states could easily be much more intense than before. Certainly each nuclear state’s military would place an even higher premium than before on being able to weaponize its military and civilian surpluses quickly, to deploy forces that are survivable, and to have forces that can get to their targets and destroy them with high levels of probability. The advanced military states will also be even more inclined to develop and deploy enhanced air and missile defenses and long-range, precision guidance munitions, and to develop a variety of preventative and preemptive war options. Certainly, in such a world, relations between states could become far less stable. Relatively small developments — e.g., Russian support for sympathetic near-abroad provinces; Pakistani-inspired terrorist strikes in India, such as those experienced recently in Mumbai; new Indian flanking activities in Iran near Pakistan; Chinese weapons developments or moves regarding Taiwan; state-sponsored assassination attempts of key figures in the Middle East or South West Asia, etc. — could easily prompt nuclear weapons deployments with “strategic” consequences (arms races, strategic miscues, and even nuclear war). As Herman Kahn once noted, in such a world “every quarrel or difference of opinion may lead to violence of a kind quite different from what is possible today.”23 In short, we may soon see a future that neither the proponents of nuclear abolition, nor their critics, would ever want. None of this, however, is inevitable.

### 2AC Immigration

#### No econ impact

Robert Jervis 11, Professor in the Department of Political Science and School of International and Public Affairs at Columbia University, December 2011, “Force in Our Times,” Survival, Vol. 25, No. 4, p. 403-425

Even if war is still seen as evil, the security community could be dissolved if severe conflicts of interest were to arise. Could the more peaceful world generate new interests that would bring the members of the community into sharp disputes? 45 A zero-sum sense of status would be one example, perhaps linked to a steep rise in nationalism. More likely would be a worsening of the current economic difficulties, which could itself produce greater nationalism, undermine democracy and bring back old-fashioned beggar-my-neighbor economic policies. While these dangers are real, it is hard to believe that the conflicts could be great enough to lead the members of the community to contemplate fighting each other. It is not so much that economic interdependence has proceeded to the point where it could not be reversed – states that were more internally interdependent than anything seen internationally have fought bloody civil wars. Rather it is that even if the more extreme versions of free trade and economic liberalism become discredited, it is hard to see how without building on a preexisting high level of political conflict leaders and mass opinion would come to believe that their countries could prosper by impoverishing or even attacking others. Is it possible that problems will not only become severe, but that people will entertain the thought that they have to be solved by war? While a pessimist could note that this argument does not appear as outlandish as it did before the financial crisis, an optimist could reply (correctly, in my view) that the very fact that we have seen such a sharp economic down-turn without anyone suggesting that force of arms is the solution shows that even if bad times bring about greater economic conflict, it will not make war thinkable.

#### The economy is resilient

**Economist,** Economist Intelligence Unit – Global Forecasting Service, 11/16/’**11**

(<http://gfs.eiu.com/Article.aspx?articleType=gef&articleId=668596451&secID=7>)

The US economy, by any standard, remains weak, and consumer and business sentiment are close to 2009 lows. That said, the economy has been surprisingly resilient in the face of so many shocks. US real GDP expanded by a relatively robust 2.5% in the third quarter of 2011, twice the rate of the previous quarter. Consumer spending rose by 2.4%, which is impressive given that real incomes dropped during the quarter (the savings rate fell, which helps to explain the anomaly.) Historically, US consumers have been willing to spend even in difficult times. Before the 2008-09 slump, personal spending rose in every quarter between 1992 and 2007. That resilience is again in evidence: retail sales in September were at a seven-month high, and sales at chain stores have been strong. Business investment has been even more buoyant: it expanded in the third quarter by an impressive 16.3% at an annual rate, and spending by companies in September on conventional capital goods (that is, excluding defence and aircraft) grew by the most since March. This has been made possible, in part, by strong corporate profits. According to data compiled by Bloomberg, earnings for US companies in the S&P 500 rose by 24% year on year in the third quarter. All of this has occurred despite a debilitating fiscal debate in Washington, a sovereign debt downgrade by a major ratings agency and exceptional volatility in capital markets. This reinforces our view that the US economy, although weak, is not in danger of falling into a recession (absent a shock from the euro zone). US growth will, however, continue to be held back by a weak labour market—the unemployment rate has been at or above 9% for 28 of the last 30 months—and by a moribund housing market.

#### CIR doesn’t solve backlogs

David North, former Assistant to the U.S. Secretary of Labor and Center for Immigration Studies Fellow, April 7, 2010, “Would Legalization Backlogs Delay Other USCIS Applications? Probably,” Center for Immigration Studies, http://cis.org/north/legalization-backlogs

An interesting question has arisen as a result of a congressional hearing: would a massive legalization program, as many advocates want, slow the processing of applications filed routinely by citizens and legal aliens wanting immigration benefits? The numbers are daunting. U.S. Citizenship and Immigration Services (USCIS) currently faces six million applications a year according to one news story. The estimates of the number of illegal aliens in the nation runs to 11 or 12 million. Could USCIS handle both these multi-million caseloads with its current paper-based systems? There are many complaints that the backlogs are currently too long on the normal collection of six million cases a year. The government's expert on such things, Frank W. Deffer, Assistant Inspector General for Information Technology in the Department of Homeland Security, told a congressional committee on March 23: "adding 12 million more people to the system would be the mother of all backlogs. Clearly to us the systems could not handle it now."

#### No vote on immigration reform until August – even then its just the Senate

Julie Pace and Erica Werner (writers for the Associated Press) January 25, 2013 “White House, senators starting push on immigration” http://www.keyc.tv/story/20707198/white-house-senators-starting-push-on-immigration

The proposals will commence what is sure to be a contentious and emotional debate following 2012 election results that saw Latino voters turn out in large numbers to re-elect Obama - a signal to many Republican leaders that the party needs to change its posture on immigration.¶ The aim of the Senate group is to draft an immigration bill by March and pass legislation in the Senate by August, said the aide, who was not authorized to discuss private deliberations and requested anonymity. The Republican-controlled House would also need to pass the legislation before it went to the White House for the president's signature.

#### Political capital not sufficient to secure passage

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.

#### Plan popular

Jenkins-Smith et al 12

[Hank C. Jenkins-Smith, Carol L. Silva, Kerry G. Herron, Sarah R. Trousset, and Rob P. Rechard, “Enhancing the Acceptability and Credibility of a Repository for Spent Nuclear Fuel”, National Academy of Engineering of the National Academies, The Bridge on Managing Nuclear Waste, Summer 2012, Volume 42, Number 2, http://www.nae.edu/Publications/Bridge/59220/59232.aspx]

The effects of combining a repository with a reprocessing facility are shown in Table 2. Again, the changes in support are shown for those who initially opposed, were neutral, or supported each option. As with co-location of a repository with a national research laboratory, co-location of a repository with a reprocessing facility also increased support. Among those who either initially opposed the repository or were neutral, nearly half said the addition of the reprocessing capability would increase support for the repository. A smaller percentage said the combination would decrease support. Given the consistent and generally supportive attitudes of most Americans toward reprocessing (as discussed above), the increase in support for repositories co-located with reprocessing facilities is not surprising and could be helpful in informing policies. The implications are that public acceptance of an SNF repository is sensitive to the overall design attributes of the facility. If it is exclusively for disposal, the perceived risks and associated negative images tend to dominate perceptions (especially when SNF has been designated a “waste”). If the facility is more heterogeneous, that is, it includes design elements that address offsetting risk/benefits (such as a laboratory or reprocessing facility), thus attaching resource value to SNF, prospects for public acceptance improve.

#### Political capital is irrelevant and academically bankrupt – but 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.”

#### Keystone thumps

David Lewis (writer for The Energy Collective) February 4, 2013 “Rethinking Opposition to Keystone XL” http://theenergycollective.com/david-lewis/180651/rethinking-opposition-keystone-xl

The Keystone Pipeline is the environmental litmus test for this President, for the new generation, the rising generation of environmentalists in particular. This is their first big fight on the environment. It was their first big victory more than a year ago. If the President takes that victory away from them, he is going to break the hearts of an entire generation of young people, whom he’s expecting to stay in his coalition through the midterms and beyond, and I think he should do the right thing by them, but also, frankly, do the right thing not just by the young people today, but by their children and their grandchildren. The tar sands are the dirtiest, most dangerous fuels on Earth. They should not come out of the ground. They certainly should not come through the United States. It’s not just a litmus test issue, it’s a leadership issue. Is he willing to match his rhetoric with deeds? And we’ll see very soon if he is." (transcript and audio of the complete interview is available here).¶ If the "movement" succeeds in persuading Obama he needs to spend some of his limited political capital by refusing to approve Keystone XL, there will be less political capital available to accomplish whatever else Obama may decide can also be done, including whatever comes out of this Waxman-Whitehouse initiative. And the result of no Canadian tar sand oil crossing the US border via the Keystone XL is likely to be the discovery by US activists that Canada can and will move its expanding oil production over its own territory to its own ports.

#### Gas exports thump

Gardett, 2/6/12 [Natural Gas Exports: 'Whats the Rush?' Asks Dow, <http://energy.aol.com/2013/02/06/natural-gas-exports-whats-the-rush-asks-dow/>]

The debate over [natural gas exports](http://energy.aol.com/2012/10/30/us-natural-gas-exports/) from the US has broken out of the energy sector and begun to raise temperatures across the political spectrum, with a high profile [Congressional hearing](http://energycommerce.house.gov/hearing/AESI-assessment-north-americas-energy-resources) this week underlining the stakes at play in a Department of Energy policy decision on the economic standing of natural gas export projects. der the law - to get the economic impact determination set by a specific date.

#### Gun control thumps

Earl Watt (writer for the Leader and Times, High Plains Daily) February 5, 2013 “I thought there would be no rest until everyone who is able is working” http://www.leaderandtimes.com/index.php?option=com\_content&view=article&id=10685:i-thought-there-would-be-no-rest-until-everyone-who-is-able-is-working&catid=29:opinion&Itemid=58

One answer may be that Obama has been kind to the unemployed with unlimited benefits that perhaps there is no incentive to work. Obama has opted for sustenance rather than substance.

Why would anyone care about a job as long as a check shows up in the mail every week for 99 weeks?

A president has only so much political capital, and Obama is squandering his on gun control rather than jobs.

#### Gay rights disagreements derail legislation

Erin Kelley (writer for USA Today) February 8, 2013 “Gay rights becoming controversy in immigration reform” http://www.usatoday.com/story/news/politics/2013/02/08/gay-rights-immigration-reform/1903119/

President Obama and advocates want gay couples to receive equal treatment in any immigration reform law but Republicans and conservative religious groups say injecting the issue could derail a deal ¶ WASHINGTON -- Gay rights has emerged as an unexpected point of controversy in the congressional debate over immigration reform, prompting key Republicans to warn that it could derail efforts to reach a bipartisan compromise.¶ President Obama and some congressional Democrats are pushing for any immigration reform plan to include a provision to allow gay Americans to sponsor their immigrant partners for legal residency in the United States. That is a right currently enjoyed only by married heterosexual couples.¶ But Republican leaders on immigration reform say it's already going to be an uphill battle to convince their GOP colleagues to support a pathway to citizenship for the 11 million illegal immigrants living in the United States. Including a provision for gay partners will make reform legislation an even tougher sell, key senators said.¶ "I'm telling you now, if you load this (immigration reform legislation) up with social issues and things that are controversial, it will endanger the issue," Sen. John McCain, R-Ariz., said at a forum this week sponsored by Politico.¶ Sen. Marco Rubio, R-Fla., expressed similar concerns during an interview with the BuzzFeed online news site this week.¶ "I think if that issue (gay rights) becomes a central issue in the debate it's going to become harder to get it done because there will be strong feelings on both sides," Rubio said.

### Kritik

#### And, imagining scenarios, even if unlikely or flawed is a pre requisite to good analysis – the aff isn’t a research paper, just dismiss poorly constructed impacts

Wimbush, 08 – director of the Center for Future Security Strategies

(S. Enders, senior fellow at the Hudson Institute and the author of several books and policy articles, “A Parable: The U.S.-ROK Security Relationship Breaks Down”, Asia Policy, Number 5 (January 2008), 7-24)

What if the U.S.-ROK security relationship were to break down? This essay explores the alternative futures of such a scenario. **Analyzing scenarios is one technique** for trying to understand the increasing complexity of strategic environments. A scenario is **an account of an imagined sequence of events.** The intent of a scenario is to **suggest how alternative futures might arise** **and where they might lead**, where conflicts might occur, **how the interests of different actors** might be challenged, and the kinds of strategies actors might pursue to achieve their objectives. Important to keep in mind is that **scenarios are nothing more than** invented, in-depth stories—stories about what different futures could look like and what might happen along plausible pathways to those futures. The trends and forces that go into building a scenario **may be carefully researched,** yet a scenario is not a research paper. Rather, it is a work of the imagination. As such, scenarios are, first, **tools that can help bring order to the way analysts think** about what might happen in future security environments; **second**, scenarios are a provocative way of revealing possible dynamics of future security environments that might not be apparent simply by projecting known trends into the future. Scenarios are particularly useful in suggesting where the interests and actions of different actors might converge or collide with other forces, trends, attitudes, and influences. By using scenarios, to explore the question “what if this or that happened?” in a variety of different ways, with the objective of uncovering as many potential answers as possible, **analysts can build hedging strategies for dealing with many different kinds of potential problems**. Though they may choose to discount some of these futures and related scenarios, analysts will not be ignorant of the possibilities, with luck avoiding having to say: “I never thought about that.”

#### No prior questions – prefer rational choice theory

**Owen, 02** [David Owen, Reader of Political Theory at the Univ. of Southampton, Millennium Vol 31 No 3 2002 p. 655-7]

Commenting on the ‘philosophical turn’ in IR, Wæver remarks that **‘[a] frenzy for** words like “**epistemology**” and “ontology” often signals this philosophical turn’, although he goes on to comment that these terms are often used loosely.4 However, loosely deployed or not, it is clear that debates concerning ontology and epistemology play a central role in the contemporary IR theory wars. In one respect, this is unsurprising since it is a characteristic feature of the social sciences that periods of disciplinary disorientation involve recourse to reflection on the philosophical commitments of different theoretical approaches, and there is no doubt that such reflection can play a valuable role in making explicit the commitments that characterise (and help individuate) diverse theoretical positions. Yet, such a philosophical turn is not without its dangers and I will briefly mention three before turning to consider a confusion that has, I will suggest, helped to promote the IR theory wars by motivating this philosophical turn. The first danger with the philosophical turn is that it **has an** inbuilt **tendency to** prioritise issues of ontology and **epistemology** over **explanatory** and/or interpretive **power** as if the latter two were merely a simple function of the former. But while the explanatory and/or interpretive power of a theoretical account is not wholly independent of its ontological and/or epistemological commitments (otherwise criticism of these features would not be a criticism that had any value), it is by no means clear that it is, in contrast, wholly dependent on these philosophical commitme

nts. Thus, for example, one need not be sympathetic to rational choice theory to recognise that it can provide powerful accounts of certain kinds of problems, such as the tragedy of the commons in which dilemmas of collective action are foregrounded. It may, of course, be the case that the advocates of rational choice theory cannot give a good account of why this type of theory is powerful in accounting for this class of problems (i.e., how it is that the relevant actors come to exhibit features in these circumstances that approximate the assumptions of rational choice theory) and, if this is the case, it is a philosophical **weakness**—but this does not undermine the point that, for a certain class of problems, rational choice theory may provide the best account available to us. In other words, while the critical judgement of theoretical accounts in terms of their ontological and/or epistemological sophistication is one kind of critical judgement, it is not the only or even necessarily the most important kind. The second danger run by the philosophical turn is that because prioritisation of ontology and epistemology promotes theory-construction from philosophical first principles, it cultivates a theory-driven rather than problem-driven approach to IR. Paraphrasing Ian Shapiro, the point can be put like this: since it is the case that there is always a plurality of possible true descriptions of a given action, event or phenomenon, the challenge is to decide which is the most apt in terms of getting a perspicuous grip onthe action, event or phenomenon in question given the purposes of the inquiry; yet, from this standpoint, ‘theory-driven work is part of a reductionist program’ in that it ‘dictates always opting for the description that calls for the explanation that flows from the preferred model or theory’.5 The justification offered for this strategy rests on the mistaken belief that it is necessary for social science because general explanations are required to characterise the classes of phenomena studied in similar terms. However, as Shapiro points out, this is to misunderstand the enterprise of science since ‘whether there are general explanations for classes of phenomena is a question for social-scientific inquiry, not to be prejudged before conducting that inquiry’.6 Moreover, this strategy easily slips into the promotion of the pursuit of generality over that of empirical validity. The third danger is that the preceding two combine to encourage the formation of a particular image of disciplinary debate in IR—what might be called (only slightly tongue in cheek) ‘the Highlander view’—namely, an image of warring theoretical approaches with each, despite occasional temporary tactical alliances, dedicated to the strategic achievement of sovereignty over the disciplinary field. It encourages this view because the turn to, and prioritisation of, ontology and epistemology stimulates the idea that there can only be one theoretical approach which gets things right, namely, the theoretical approach that gets its ontology and epistemology right. This image feeds back into IR exacerbating the first and second dangers, and so a potentially vicious circle arises.

#### No lash out – institutional safeguards check

Buchanan 7 [Allen, Professor of Philosophy and Public Policy at Duke, 2007, Preemption: military action and moral justification, pg. 128]

The intuitively plausible idea behind the 'irresponsible act' argument is that, other things being equal, the higher the stakes in acting and in particular the greater the moral risk, the higher are the epistemic requirements for justified action. The decision to go to war is generally a high stakes decision par excellence and the moral risks are especially great, for two reasons. First, unless one is justified in going to war, one's deliberate killing of enemy combatants will he murder, indeed mass murder. Secondly, at least in large-scale modem war, it is a virtual certainty that one will kill innocent people even if one is justified in going to war and conducts the war in such a way as to try to minimize harm to innocents. Given these grave moral risks of going to war, quite apart from often substantial prudential concerns, some types of justifications for going to war may simply be too subject to abuse and error to make it justifiable to invoke them. The 'irresponsible act' objection is not a consequentialist objection in any interesting sense. It does not depend upon the assumption that every particular act of going to war preventively has unacceptably bad consequences (whether in itself or by virtue of contributing lo the general acceptance of a principle allowing preventive war); nor does it assume that it is always wrong lo rely on a justification which, if generally accepted, would produce unacceptable consequences. Instead, the "irresponsible act' objection is more accurately described as an agent-centered argument and more particularly an argument from moral epistemic responsibility. The 'irresponsible act' objection to preventive war is highly plausible if— but only if—one assumes that the agents who would invoke the preventive-war justification are, as it were, on their own in making the decision to go to war preventively. In other words, the objection is incomplete unless the context of decision-making is further specified. Whether the special risks of relying on the preventive-war justification are unacceptably high will depend, inter alia, upon whether the decision-making process includes effective provisions for redu­cing those special risks. Because the special risks are at least in significant part epistemic—due to the inherently speculative character of the preventive war-justification—the epistemic context of the decision is crucial. Because institutions can improve the epistemic performance of agents, it is critical to know what the institutional context of the preventive-war decision is, before we can regard the 'irresponsible agent' objection as conclusive. Like the 'bad practice' argument, this second objection to preventive war is inconclusive because it does not consider— and rule out—the possibility that well-designed institutions for decision-making could address the problems that would otherwise make it irresponsible for a leader to invoke the preventive-war justification.

#### Rejection of securitization causes the state to become more interventionist—turns the K

Tara **McCormack, ’10**, is Lecturer in International Politics at the University of Leicester and has a PhD in International Relations from the University of Westminster. 2010, (Critique, Security and Power: The political limits to emancipatory approaches, page 127-129)

The following section will briefly raise some questions about the rejection of the old security framework as it has been taken up by the most powerful institutions and states. Here we can begin to see the political limits to critical and emancipatory frameworks. In an international system which is marked by great power inequalities between states, the rejection of the old narrow national interest-based security framework by major international institutions, and the adoption of ostensibly emancipatory policies and policy rhetoric, has the consequence of **problematising weak or unstable states** and allowing international institutions or major states a more interventionary role, yet without establishing mechanisms by which the citizens of states being intervened in might have any control over the agents or agencies of their emancipation. Whatever the problems associated with the pluralist security framework **there were at least formal and clear demarcations**. This has the consequence of **entrenching international power inequalities** and allowing for a shift towards a hierarchical international order in which the citizens in weak or unstable states may arguably have even less freedom or power than before. Radical critics of contemporary security policies, such as human security and humanitarian intervention, argue that we see an assertion of Western power and the creation of liberal subjectivities in the developing world. For example, see Mark Duffield’s important and insightful contribution to the ongoing debates about contemporary international security and development. Duffield attempts to provide a coherent empirical engagement with, and theoretical explanation of, these shifts. Whilst these shifts, away from a focus on state security, and the so-called merging of security and development are often portrayed as positive and progressive shifts that have come about because of the end of the Cold War, Duffield argues convincingly that these shifts are highly problematic and unprogressive. For example, the rejection of sovereignty as formal international equality and a presumption of nonintervention has eroded the division between the international and domestic spheres and led to an international environment in which Western NGOs and powerful states have a major role in the governance of third world states. Whilst for supporters of humanitarian intervention this is a good development, Duffield points out the depoliticising implications, drawing on examples in Mozambique and Afghanistan. Duffield also draws out the problems of the retreat from modernisation that is represented by sustainable development. The Western world has moved away from the development policies of the Cold War, which aimed to develop third world states industrially. Duffield describes this in terms of a new division of human life into uninsured and insured life. Whilst we in the West are ‘insured’ – that is we no longer have to be entirely self-reliant, we have welfare systems, a modern division of labour and so on – sustainable development aims to teach populations in poor states how to survive in the absence of any of this. Third world populations must be taught to be self-reliant, they will remain uninsured. Self-reliance of course means **the condemnation of millions to** **a barbarous life of inhuman bare survival**. Ironically, although sustainable development is celebrated by many on the left today, by leaving people to fend for themselves rather than developing a society wide system which can support people, sustainable development actually leads to a less human and humane system than that developed in modern capitalist states. Duffield also describes how many of these problematic shifts are embodied in the contemporary concept of human security. For Duffield, we can understand these shifts in terms of Foucauldian biopolitical framework, which can be understood as a regulatory power that seeks to support life through intervening in the biological, social and economic processes that constitute a human population (2007: 16). Sustainable development and human security are for Duffield technologies of security which aim to *create* self-managing and self-reliant subjectivities in the third world, which can then survive in a situation of serious underdevelopment (or being uninsured as Duffield terms it) without causing security problems for the developed world. For Duffield this is all driven by a neoliberal project which seeks to control and manage uninsured populations globally. Radical critic Costas Douzinas (2007) also criticises new forms of cosmopolitanism such as human rights and interventions for human rights as a triumph of American hegemony. Whilst we are in agreement with critics such as Douzinas and Duffield that these new security frameworks cannot be empowering, and ultimately lead to more power for powerful sta**tes**, we need to understand why these frameworks have the effect that they do. We can understand that these frameworks have political limitations without having to look for a specific plan on the part of current powerful states. In new security frameworks such as human security we can see the political limits of the framework proposed by critical and emancipatory theoretical approaches.

#### Non-proliferation regime key to global disarm – America won’t feel secure enough to disarm otherwise

**Wilson 13** [“The Myth of Nuclear Necessity”, WARD WILSON, a senior fellow at the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies, is the author of “Five Myths About Nuclear Weapons”, January 13, 2013, New York Times]

NOT everyone wants nuclear weapons. What most people don’t realize is that 12 countries have either abandoned nuclear programs, dismantled existing weapons, as South Africa did in the early 1990s, or handed them over, as Kazakhstan did after the 1991 breakup of the Soviet Union. By contrast, only nine have nukes today (the United States, Russia, Britain, France, China, India, Israel, Pakistan and North Korea).¶ It’s often assumed that Israel would be the last nation to give up nuclear weapons, given its history and a deep sense of responsibility to protect the Jewish people after the horrors of the Holocaust. But Israel has a powerful conventional military, is allied with the strongest country in the world and its leaders have a keen appreciation of military realities. They understand that nukes pose a greater danger to small countries than large ones. Twenty nuclear weapons used on Israel would do far more overlapping damage than 20 used on Iran.¶ Small nations have always been vulnerable. In a world without nuclear weapons they would preserve themselves as they always have: by forming alliances with the powerful and avoiding antagonizing neighbors.¶ France, not Israel, would most likely be the last country to give up nuclear weapons, which help preserve its image as a world power. In a nuclear-free world, France would just be another middle-size power with great cuisine. The real value of nuclear bombs is as status symbols, not as practical weapons.¶ America and other nuclear powers must pursue the gradual abolition of nuclear weapons, but it will not be easy. Many leaders have little interest in giving up power, real or perceived. Any agreement would have to include stringent inspections and extensive safeguards. It would have to include all current nuclear-armed states in a complicated diplomatic process. But bans on other dangerous but clumsy armaments, like chemical and biological weapons, have been negotiated in the past. These bans — like laws — are sometimes broken. But the world is far safer with the bans than it would be without them.¶ As Reagan knew, nuclear weapons make the world more dangerous, not less. Imagine arming a bank guard with dynamite and a lighter and you get a good idea of nuclear weapons’ utility: powerful, but too clumsy to use.

#### Prolif impacts outweigh the K and flip ethics

Ford 11 [Chris Ford, Senior Fellow at the Hudson Institute in Washington, D.C. He previously served as U.S. Special Representative for Nuclear Nonproliferation, Principal Deputy Assistant Secretary of State, and General Counsel to the U.S. Senate Select Committee on Intelligence, 1/10/11, Havea and Have-Nots: "Unfairness in nuclear Weapons possession," [www.newparadigmsforum.com/NPFtestsite/?p=658](http://www.newparadigmsforum.com/NPFtestsite/?p=658)]

First, however, let’s provide some context. As I noted above, it is fascinating that in the long history of military technological have/have not dynamics, the international politics of nuclear weaponry has acquired such a strong flavor of moral critique. To my knowledge, after all, one did not see Xiongnu politics emphasizing how darned unfair it was of those nasty Chinese Emperors to monopolize the presumed secrets of China’s bingjia strategic literature. Nor does the unfairness of Byzantine efforts to control the recipe for Greek Fire seem to have become a prevalent trope of Frankish or Persian diplomacy. “Have nots” have surely always coveted powerful tools possessed by the “haves,” or at least wished that the “haves” did not possess them. It seems pretty unusual, however, for non-possessors to articulate such understandable envy and resentment in the moral language of “unfairness,” and to assume that this presumed injustice should motivate the “haves” to change their behavior. This argument seems to be a curiously modern phenomenon.¶ One might respond that the very specialness of nuclear weapons makes such a position appropriate. After all, while a local monopoly on iron swords may have given the Vikings some advantage in skirmishes with Native Americans in what the Norsemen called Vinland, such technological asymmetry was not strategically decisive. (Indeed, the Vikings seem ultimately to have been pushed out of the New World entirely.) If iron had threatened to offer the Vikings an insuperable advantage, would the Skraelings have been justified in developing a moral language of “have/have not” resentment that demanded either the sharing of iron weaponry or Viking disarmament in the name of achieving a global “iron zero”? I’m skeptical, but for the sake of argument let’s say “maybe.”¶ The argument that nuclear weapons are “special,” however, is a two-edged sword. Perhaps they are indeed so peculiarly potent and militarily advantageous that their asymmetric possession is sufficiently “unfair” to compel sharing or disarmament. Such an argument, however, sits only awkwardly – to say the least – with the simultaneous claim by many advocates of the “have/have not” critique that nuclear weapons have no real utility in the modern world and can therefore safely be abandoned by their possessors. After all, it is hard to paint nuclear weapons as being strategically decisive and useless at the same time. (If they are indeed useless, the conclusion of “unfairness” hardly sounds very compelling. If they aren’t useless, however, it may be appropriately hard to abolish them.)¶ More importantly, any argument about the destructively “special” character of nuclear weaponry cuts against the “unfairness critique” in that it is this very specialness that seems to rob the “have/have not” issue of its moral relevance. Unlike iron swords, the bingjia literature, Greek Fire, or essentially all other past military technologies the introduction of which produced global control/acquisition dynamics, nuclear weapons have introduced **existential questions** about the future of human civilization which **utterly swamp** the conventional playground morality of unfair “have/have not” competition**.** No prior technology held the potential to destroy humanity**,** making nuclear weapons – with the possible exception of certain techniques of biological weaponry – a sui generis case to which the conventional “unfairness” critique simply does not very persuasively apply.¶III. Implications¶ Let me be clear about this. The moral critique of nuclear weapons possession may yet speak to the issue of whether anyone should have them. (This is not the place for a discussion of the feasibility of the remedies proposed by the disarmament community, but let us at least acknowledge the existence of a real moral issue.) But this matter has nothing to do with “unfairness” per se – and to the extent that it purports to, one should give it little credence. If indeed nuclear weapons do menace the survival of humanity, it is essentially irrelevant whether their possession is “unfairly” distributed – and it is certainly no solution to make the global balance of weaponry more “fair” by allowing more countries to have them. (Disarmament advocates hope to address the fairness problem by eliminating nuclear weapons, of course, but this is just icing. Disarmament is almost never articulated as being driven primarily by fairness; the critical part of that argument is instead consequentialist, stressing the dangers that any nuclear weapons are said to present.) As a moral critique, in other words, the fair/unfair dichotomy fails to speak intelligibly to the world’s nuclear dilemma. It isn’t really about “fairness” at all.¶ Given the entanglement of nuclear weapons issues with quasi-existential questions potentially affecting the survival of millions or perhaps even billions of people, moreover, it stands to reason that an “unfair” outcome that nonetheless staves off such horrors is a **perfectly good solution**. On this scale, one might say, non-catastrophe entirely trumps accusations of “unfairness.” Questions of stability are far more important than issues of asymmetric distribution.¶ This, of course, has powerful implications for nonproliferation policy, because pointing out the hollowness of the “unfairness” argument as applied to nuclear weapons suggests the moral sustainability of nonproliferation even if complete nuclear disarmament cannot be achieved and the world continues to be characterized by inequalities in weapons possession. We forget this at our collective peril.¶ Don’t get me wrong. “Unfairness” arguments will presumably continue to have a political impact upon the diplomacy of nuclear nonproliferation, either as a consequence of genuine resentment or as a cynical rationalization for the destabilizing pursuit of dangerous capabilities. (Indeed, one might even go so far as to suspect that the emergence of the “unfairness” critique in modern diplomatic discourse is in some sense partly the result of how morally compelling nonproliferation is, in this context, irrespective of the “fairness” of “have/have not” outcomes. Precisely because the moral case for nonproliferation-driven inequality is so obvious and so compelling if such imbalance serves the interests of strategic stability, perhaps it was necessary to develop a new rationale of “fairness” to help make proliferation aspirations seem more legitimate. Skraelings, one imagines, did not need an elaborate philosophy of “fairness” in order to justify trying to steal iron weapons; the desirability of such tools was simply obvious, and any effort to obtain them unsurprising and not in itself condemnable.) But even in this democratic and egalitarian age, merely to incant the mantra of “unfairness” – or to inveigh against the existence of “haves” when there also exist “have nots” – is not the same thing as having a compelling moral argument. Indeed, I would submit that we lose our moral bearings if we allow “unfairness” arguments to distract us from what is really important here: substantive outcomes in the global security environment.¶ “Unfairness,” in other words, is an overrated critique, and “fairness” is an overrated destination. At least where nuclear weapons are concerned, there are more important considerations in play. Let us not forget this.

#### Prolif threats real

**Harvey 01** (Frank P., a member of a the Canadian International Council, “National Missile Defence Revisited, Again a Reply to David Mutimer,” International Journal, Vol. 56, No. 2 (Spring, 2001), pp. 347-360, Canadian International Council)

**'Before any argument** supporting NMD **can be taken seriously**, there-fore, **we must accept that a "rogue** state **threat" exists'** (p 340). I couldn't agree more. But this is perhaps the most fascinating of all of Mutimer s assertions because he himself acknowledges the 'facts' of the rogue state threat - and I thought only proponents shared the burden of proving the case for NMD. Consider the following quotes: • The rogue state needs, therefore, to be seen for what it was: the creation of the United States military to justify its claim on resources ... The rogue state, however, is a myth. [It] is not mythical in the sense that it is not real, but rather in the sense that it has been vested with a totemic importance by the United States' (p 344) (emphasis added). • 'Rogues are the enemies that make high levels of military spending legitimate. They are not a lie told by knowing capitalists in an instrumental fashion to hoodwink Congress into passing over-inflated budgets (p 345, n 24) (emphasis added). I am not arguing that the United States fabricated evidence, but rather that it produced a particular frame within which to interpret that evidence' (p 345) (emphasis added). • 'The imagined nature of threats does not mean that there is no real danger or that nothing need ever be done about risks' (p 345). • 'The issue, therefore, is not the evidence but rather how the "facts" are "evidence" of a particular form of threat labelled "proliferation" by actors labelled "rogue"' (p 344, n22). • 'There is, therefore, no need for me to engage in a discussion of the evidence of proliferation assembled, for example, in the Rumsfeld Report to bolster the case for NMD. At issue are not "the facts" but the ways in which those facts are assembled and the interpretation that is given to them' (p 344, n 22). Mutimer s honesty is refreshing but not surprising. **Ballistic missile** proliferation is difficult to deny. **It is a 'real' security threat**, driven by technological progress, the spread of scientific knowledge related to these weapons systems, diminishing costs, ongoing regional security threats in the Middle East and Asia, and, most importantly, time.

## 1ar

### A2 Turns-Case

#### our participation key to safeguard int’l transition and create standardized

**Blees et al 11** (Tom Blees1, Yoon Chang2, Robert Serafin3, Jerry Peterson4, Joe Shuster1, Charles Archambeau5, Randolph Ware3, 6, Tom Wigley3,7, Barry W. Brook7, 1Science Council for Global Initiatives, 2Argonne National Laboratory, 3National Center for Atmospheric Research, 4University of Colorado, 5Technology Research Associates, 6Cooperative Institute for Research in the Environmental Sciences, 7(climate professor) University of Adelaide, "Advanced nuclear power systems to mitigate climate change (Part III)," 2/24/11) http://bravenewclimate.com/2011/02/24/advanced-nuclear-power-systems-to-mitigate-climate-change/-http://bravenewclimate.com/2011/02/24/advanced-nuclear-power-systems-to-mitigate-climate-change/

Many countries are now beginning to pursue fast reactor technology without the cooperation of the United States, laboriously (and expensively) re-learning the lessons of what does and doesn’t work. If this continues, we will see a variety of different fast reactor designs, some of which will be less safe than others. Why are we forcing other nations to reinvent the wheel? Since the USA invested years of effort and billions of dollars to develop what is arguably the world’s safest and most efficient fast reactor system in the IFR, and since several nations have asked us to share this technology with them (Russia, China, South Korea, Japan, India), there is a golden opportunity here to develop a common goal—a standardized design, and a framework for international control of fast reactor technology and the fissile material that fuels them. This opportunity should be a top priority in the coming decade, if we are serious about replacing fossil fuels worldwide with sufficient pace to effectively mitigate climate change and other environmental and geopolitical crises of the 21st century.

#### Obama will exert nuke leadership – and it’ll work

**McManus 10** [“Obama Exerts Nuclear Leadership”, Mike McManus, Duke graduate, syndicated journalist for over forty years, including Time Magazine and dozens of other publications, VO, April 14, 2010]

Obama Exerts Nuclear Leadership(title)

"Two decades after the end of the Cold War, we face a cruel irony of history - the risk of a nuclear confrontation between nations has gone down, but the risk of a nuclear attack has gone up," said President Obama at a Nuclear Security Summit of 47 nations this week.¶ "Nuclear materials that could be sold or stolen and fashioned into a nuclear weapon exist in dozens of nations. Just the smallest amount of plutonium - about the size of an apple - could kill and injure hundreds of thousands of innocent people. Terrorist networks such as al Qaeda have tried to acquire the material for a nuclear weapon, and if they succeeded they would surely use it. Were they to do so, it would be a catastrophe for the world."¶ What's encouraging is that Obama was persuasive with a number of countries. ¶ For example, Canada, Mexico, and Ukraine committed to eliminating their surplus weapons-grade materials or to give them to the United States. Russia closed a plutonium reactor it had used to make weapons-grade fuel. Other countries agreed to convert research reactors to a fuel that could not be used for weapons.

#### No hypocrisy argument – every other country has violated the NPT more

**Ford 9** [“Nuclear Disarmament, ¶ Nonproliferation, ¶ and the “Credibility ¶ Thesis”, Christopher Ford, September 2009, senior fellow and director of the Center for Technology and ¶ Global Security at Hudson Institute¶ U.S. special representative for ¶ nuclear nonproliferation¶ principal deputy assistant ¶ secretary of state for verification, compliance]

Inconveniently for proponents of the credibility thesis, the truth seems to be that ¶ the United States has, for some time, been arguably the most serious about disarmament ¶ of the five NPT nuclear weapons states—or at least, perhaps more accurately, the least¶ serious of the five about its nuclear weaponry. After all, the United States today is the ¶ only NWS that is not building new and more modern strategic nuclear delivery systems ¶ or new nuclear weapons. The British, French, Russians, and Chinese are all building new ¶ ballistic missile submarines, while the Russians and Chinese are also building new landbased mobile missiles. The Russians are working hard on new warhead designs, ¶ apparently in part through the use of secret low-yield nuclear testing, in violation of their ¶ own proclaimed testing moratorium, and have developed a chillingly nuclear-friendly ¶ strategic doctrine that envisions the early and liberal use of nuclear weaponry (including 19 so-called “tactical” devices) in a range of warfighting scenarios, by no means limited to ¶ situations of nuclear threat or attack. China, for its part, despite decades of disarmament ¶ rhetoric, may also be conducting such secret low-yield tests, and is certainly—and ¶ uniquely, among the five—increasing the overall size of its nuclear arsenal. Even the ¶ ostentatiously disarmament-friendly British, in addition to building their new class of ¶ ballistic missile submarines, will likely soon need to build new warheads to tip the ¶ missiles they will deploy aboard these new vessels. ¶ ¶ 6¶ The alternative, after all, might be fatal to the cause of disarmament: it would be perverse indeed ¶ to insist that in order to achieve “real” disarmament, countries must relinquish nuclear weapons ¶ only when doing so would be against their national interests. Who would agree to such terms? ¶ Page 5 of ¶ Yet Washington has now abandoned its plans even to study the possibility of ¶ replacing existing warheads with a new model designed not to need underground nuclear ¶ testing, and has stopped its program to build a follow-on to the B-2 Spirit (a.k.a. ¶ “Stealth”) bomber. The United States is also the only power in the world to have a ¶ credible chance of replacing with sophisticated long-range conventional capabilities ¶ many missions that could previously only be accomplished with the relatively crude ¶ hammer blow of a nuclear weapon. Washington has for some years gradually been ¶ reducing, rather than increasing, the salience of nuclear weapons in its strategic posture.¶ 7¶ The United States’ continued possession of a sizeable (if shrinking) arsenal should not ¶ blind observers to the remarkable degree to which nuclear weaponry is no longer ¶ particularly relevant in U.S. thinking, and to which the United States seems ever more ¶ uninterested in its own nuclear capabilities.

### Impact Defense

#### No CCP collapse

**Yuan, 12/20/2011** – associate professor and acting director of the Center for International Security Studies at the University of Sydney (Jingdong, “The Arab Spring and China's Evolving Middle East Policy,” World Politics Review, http://www.worldpoliticsreview.com/articles/10992/the-arab-spring-and-chinas-evolving-middle-east-policy?page=1)

While Beijing has its concerns over the Arab Spring and its potentially infectious impacts on social and economic stability in China, there are strong reasons to believe that any imminent threat to Communist Party rule remains minimal and manageable. First, in most Middle Eastern countries, the autocratic ruler has personally reigned for decades and has instilled a political order that is typically repressive and nonrepresentative. The lack of any meaningful political participation provides ample frustration and is one of the principal reasons behind the various uprisings. By contrast, although China remains under one-party rule, managed term limits and an institutionalized leadership succession have been put in place. Second, there is a major difference between the Chinese economy and those of the Arab world. Chinese reforms over the past three decades have opened the country’s economy to the world, lifting hundreds of millions of Chinese people out of poverty and creating a sizable middle class that is more interested in gains in personal welfare than in politics. By contrast, the stagnation in many Middle Eastern economies, despite plentiful resources and oil revenues, has infuriated ordinary citizens, especially the restless young, who find employment elusive. However, perhaps the most critical difference is that Beijing retains **total control over the military**, the paramilitary and the police forces, on whose loyalty it can count. Having learned the lessons of the 1989 Tiananmen student uprising, the Chinese authorities quickly introduced and enforced censorship of social media after the initial Arab unrest and were resolute in stopping any organized protests from growing into massive social movements. These actions contrast sharply with the militaries and security forces in countries such as Egypt and Libya, which either split or abandoned the regimes they were supposed to protect, leading to the fall of Mubarak and Gadhafi.

#### No Asia war—multiple safeguards and reversible tensions

**Feng 10 –** professor at the Peking University International Studies [Zhu, “An Emerging Trend in East Asia: Military Budget Increases and Their Impact”, http://www.fpif.org/articles/an\_emerging\_trend\_in\_east\_asia?utm\_source=feed]

As such, the surge of defense expenditures in East Asia does not add up to an arms race. No country in East Asia wants to see a new geopolitical divide and spiraling tensions in the region. The growing defense expenditures powerfully illuminate the deepening of a regional “security dilemma,” whereby the “defensive” actions taken by one country are perceived as “offensive” by another country, which in turn takes its own “defensive” actions that the first country deems “offensive.” As long as the region doesn’t split into rival blocs, however, an arms race will not ensue. What is happening in East Asia is the extension of what Robert Hartfiel and Brian Job call “competitive arms processes.” The history of the cold war is telling in this regard. Arm races occur between great-power rivals only if the rivalry is doomed to intensify. The perceived tensions in the region do not automatically translate into consistent and lasting increases in military spending. Even declared budget increases are reversible. Taiwan’s defense budget for fiscal year 2010, for instance, will fall 9 percent. This is a convincing case of how domestic constraints can reverse a government decision to increase the defense budget. Australia’s twenty-year plan to increase the defense budget could change with a domestic economic contraction or if a new party comes to power. China’s two-digit increase in its military budget might vanish one day if the type of regime changes or the high rate of economic growth slows. Without a geopolitical split or a significant great-power rivalry, military budget increases will not likely evolve into “arms races.” The security dilemma alone is not a leading variable in determining the curve of military expenditures. Nor will trends in weapon development and procurement inevitably induce “risk-taking” behavior. Given the stability of the regional security architecture—the combination of U.S.-centered alliance politics and regional, cooperation-based security networking—any power shift in East Asia will hardly upset the overall status quo. China’s military modernization, its determination to “prepare for the worst and hope for the best,” hasn’t yet led to a regional response in military budget increases. In contrast, countries in the region continue to emphasize political and economic engagement with China, though “balancing China” strategies can be found in almost every corner of the region as part of an overall balance-of-power logic. In the last few years, China has taken big strides toward building up asymmetric war capabilities against Taiwan. Beijing also holds to the formula of a peaceful solution of the Taiwan issue except in the case of the island’s de jure declaration of independence. Despite its nascent capability of power projection, China shows no sign that it would coerce Taiwan or become militarily assertive over contentious territorial claims ranging from the Senkaku Islands to the Spratly Islands to the India-China border dispute.

#### no china-russia

**Menon 2003** (Rajan, Rathbone Professor of International Relations at Lehigh University, The National Interest, Fall)

By contrast, China's military, which was quite recently a giant horde of foot soldiers, is modernizing steadily-chiefly with Russian weaponry, much of it supplied from cash-starved military industries in Khabarovsk, Komsomol'sk and Vladivostok. It may lag far behind the United States, but in force projection, speed, accuracy and lethality it is a wholly different force than it was a decade ago, thanks to Russian fighter jets, submarines, tanks and missiles, many of them built in the Russian Far East. Yet the chances that China will attempt to conquer Russia's Far East are slim. Such a brazen power play would damage China's wider interests. Taiwan might recoil in terror and treat Beijing's proposals for a negotiated reunification with even greater skepticism and wariness. The prevailing Western rationale for economic engagement with China-that commerce will transform and co-opt that country-would be shredded. China would likely face a counterbalancing, encircling coalition of the United States, India, Japan, Russia and Vietnam. Would such setbacks justify the burdens of ruling the vast, problem-infested Russian Far East? The Chinese leaders know their Sun Tzu: what they seek from the Russian Far East (access to resources and a benign northern front) can be had by means of silk-gloved hegemony. Chinese interests can be served without its formal occupation of the territory. Indeed, what may emerge could be a "reverse Manchurian" scenario, where the Russian Far East remains a titular part of Russia but is increasingly integrated into Beijing's sphere of influence. That is precisely what the conspiracy among geography, demography, power and time may create in Russia's Far East.

### 1AR Nuke Exports UQ

Other countries will win the export race:

#### --Japan

**Blank 10** [Steven, professor at the strategic studies institute, Army War College, 6/16/10

“China puts down marker in nuclear power race”, Asia Times Online]

Yet South Korea's stunning example has not been lost on its competitors, Japan and China. For instance, in Japan, ¶ A new company should be formed later this year to support Japanese exports of nuclear power technology and knowledge. The Ministry of Economy Trade and Industry (Meti) has agreed to set up the firm with involvement from utilities the Tokyo, Chubu and Kansai electric power companies as well as with reactor vendors Toshiba, Hitachi and Mitsubishi Heavy Industries. The Innovation Network of Japan - a joint venture of government and industry - may also join. The move is seen as a reaction to South Korea's success in exporting to the United Arab Emirates and directed towards winning new nuclear contracts with the emerging nuclear countries of South-East Asia [7]. Not to be undone, Japan is now considering relaxing its restrictions on the export of nuclear technology, specifically to India (part of the larger dawning Indo-Japanese partnership due to the rise of China). These discussions reflect the forces driving the nuclear export and import in Asia. Since getting its waiver from the NSG India has concluded civil nuclear deals with the United States, France, Russia, and Kazakhstan. India clearly wants to cement ties with Japan in this and other domains, and Japan, likewise, wants stronger ties with India and not to be left out of one of the biggest nuclear markets in the world [8].

#### --France and Russia

**Blank 10** [Steven, professor at the strategic studies institute, Army War College, 6/16/10

“China puts down marker in nuclear power race”, Asia Times Online]

South Korea and Japan are hardly the only rivals in this field. France and the United States are long-standing purveyors of peaceful nuclear technology. Russia, since 2006 has been competing on a global scale for uranium sources and to see nuclear reactors across the globe. Moscow's efforts in this field merit a separate analysis but it is a vigorous rival for these other Asian and Western exporters.