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### 1AC Plan

#### The United States Federal Government should provide substantial market-fixed production cost incentives for domestic energy production of small modular nuclear reactors.

### 1AC Trade

#### SMR commercialization spills over to nuclear-powered commercial ships but the nuke industry must lead the way

Femenia 2012 (Jose Femenia, Professor and Master of Marine Engineering Program Director at United States Merchant Marine Academy, August 2012, “Is The Time Right For Commercial Nuclear Powered Vessels?,” online)

In the eyes of some, the March 2011 Fukushima Daiichi nuclear disaster was the event that would signal the end of nuclear power for electrical power generation and would end any hope of the world utilizing nuclear-powered commercial vessels other than the Russian barge carrier, SEVMORPUT and numerous¶ Russian ice breakers. Contrary to the afore mentioned opinion, I believe that not only are selected-route nuclear powered commercial vessels good for the marine industry but they also offer the world the most environmentally friendly and potentially the most economical and efficient way of shipping trans-ocean cargo. Nuclear powered commercial vessels will be the ultimate in meeting MARPOL 73/78 Annex VI Regulations for the Prevention of Air Pollution from Ships. Nuclear powered commercial emit no carbon dioxide, carbon monoxide, sulfur dioxide, nitrogen oxides or particulate matter.¶ Most likely the development of one or more appropriately sized reactors, solely for use in powering commercial vessels, is economically unjustifiable. Fortunately there are a number of domestic and international individual and corporations interested in producing small modular reactors (SMRs). The goal of these individuals and companies is to essentially produce small nuclear “factory assemble” reactors that would primarily be used for distributed power generation to augment the gegawatt size reactors powering national electrical grids. At the Commercializing Small Modular Reactor Summit 2012, held in Washington, D.C. July 17-19 numerous papers and discussions were presented related to SMRs ranging from light water reactors system derivatives to high temperature gas cooled reactors. Topics ranging from fuel handling and reprocessing to regulatory issues were discussed at the conference.¶ If and when the SMR’s become available, the marine industry could take advantage of their availability to design, build and operate nuclear powered commercial ships. This possibility could be greatly enhanced if there was a clear interest by the commercial shipping industry for fast, pollution free ships and were willing to consider nuclear powered vessels. If such an interest were expressed and an appropriate body of technical experts, such as T&R Panel M-48, opened discussions with nuclear industry representatives, regulatory agencies and classification societies, the design of the SMR’s could be influenced in a manner that would make one or more of the “off the shelf” SMRs relatively easily adopted for ship propulsion.¶ The incentive for potential SMR manufactures to consider “marinizing” one or more of their units is simply to increase the potential market for appropriate units.

#### Nuclear shipping solves fuel cost and revives the shipping industry

SINGLA 2011 (Smita, MA in food tech and professional blogger on maritime issues, “Nuclear Ship Propulsion: Is it the Future of the Shipping Industry?,” Marine Insight, Sept 2, http://www.marineinsight.com/tech/nuclear-ship-propulsion-is-it-the-future-of-the-shipping-industry/#ixzz2BqcUcPcN)

Amongst all the speculationss and standing doubts about use of marine propulsion system based on nuclear energy, there are some key factors that make this a good idea, whatever way you look at it.¶ In the current scenario of extreme fuel shortage, nuclear ships are the answer that everyone has been looking for. Energy produced from nuclear reactions is immense which can be used easily.¶ Since amount of energy produced in every reaction is quite large, a single time energy production can be used for a propulsion ship for a long time. Nuclear ships offer a refilling solution of as less as once a month. This could make shipping a speedy and hassle free process.¶ A nuclear reactor is designed to produce energy under controlled conditions. It is compact and can be moved around easily. So apprehensions about practicality of a nuclear reactor on ships, boats and vessels can be put to a rest.¶ Nuclear military ships like submarines can survive for months underwater without feeling the need to resurface for refueling. This can make combative forces much more efficient.¶ Fuel efficiency of nuclear propulsion engines is more than most of the fuels currently in use. This means that amount of energy derived from nuclear reactions per unit weight is more than any other fuel.¶ The better power to weight ratio means that nuclear ships can have better weight carrying capacity than other ships, offering quicker traveling over longer distances with greater load.¶ Nuclear ships tackle problem of air pollution too as there is no production of undesirable smoke or particular pollutants that have become a menace all over the world.

#### Shipbuilding industry key to sustaining naval capabilities

Montroll et al 2011 (Dr. Mark Montroll, professor at National Defense University, part of a group of NDU faculty and active and retired international military personnel that collaborated on the report, “Shipbuilding 2011,” http://www.ndu.edu/es/programs/academic/industry/reports/2011/pdf/icaf-is-report-shipbuilding-2011.pdf)

The United States is a maritime nation, reliant on the world‘s vast oceans and waterways for transportation, resources, and defense. Shipbuilding and repair have historically been an essential domestic industry supporting both military and commercial interests. The defense shipbuilding industry has provided warships and support vessels that are vital to maintaining America‘s maritime supremacy and protecting its national security interests and key partners abroad.1¶ The unprecedented economic challenges facing the shipbuilding industry threaten the sustainability of America‘s primacy on the seas. The current US national debt profile is unsustainable and a clear threat to not only the national fiscal health but also the national defense maritime industry. Sustainment of a stable and healthy defense shipbuilding industry is critical to this nation maintaining its position as a global superpower, for which dominance of the maritime domain is so important.¶ US warships are acknowledged to be the best in the world. The American fleet is capable of missions centered on influencing events ashore by countering both land- and sea-based military forces of potential regional threats—including non-state terrorist organizations—using world class precision-guided air delivered weapons, tomahawk-capable ships, sophisticated C4ISR systems and networks, and unmanned vehicles.2 Clearly, defense shipbuilding remains a key element of our military instrument of power, making the viability of the shipbuilding and repair industry a vital national security interest.¶ To support the current National Security Strategy, the Navy has determined that 313 ships are necessary to accomplish its missions. The 30-year shipbuilding plan indicates that roughly three-quarters of that inventory will be combatants, and the remaining will be transports and support ships—reflecting a continuing trend of fewer combatants. Although fewer in number, many of the combatants provide more domain awareness and lethality than their historic predecessors; therefore, increased firepower may compensate for fewer ships. In addition, the Navy has recognized that in many evolutions and engagements, it will partner with other nations and the assets of those nations will provide greater breadth and depth of capability to meet the expanding range of naval operations. Proposed in 2006 by then-Chief of Naval Operations Admiral Mike Mullen, the ―1,000-ship Navy,‖ embodies this patchwork concept of partner navies working together to create a force capable of standing watch over all the seas.

#### Navy key to maintenance of global trade

Eaglen 2011 (Mackenzie Eaglen, research fellow for national security at Heritage, and Bryan McGrath, former naval officer and director at Delex Consulting, Studies and Analysis, May 16, 2011, “Thinking About a Day Without Sea Power: Implications for U.S. Defense Policy,” Heritage Foundation, http://www.heritage.org/research/reports/2011/05/thinking-about-a-day-without-sea-power-implications-for-us-defense-policy)

Implications for America’s Economy. If the United States slashed its Navy and ended its mission as a guarantor of the free flow of transoceanic goods and trade, globalized world trade would decrease substantially. As early as 1890, noted U.S. naval officer and historian Alfred Thayer Mahan described the world’s oceans as a “great highway…a wide common,” underscoring the long-running importance of the seas to trade.[12]¶ Geographically organized trading blocs develop as the maritime highways suffer from insecurity and rising fuel prices. Asia prospers thanks to internal trade and Middle Eastern oil, Europe muddles along on the largesse of Russia and Iran, and the Western Hemisphere declines to a “new normal” with the exception of energy-independent Brazil.¶ For America, Venezuelan oil grows in importance as other supplies decline. Mexico runs out of oil—as predicted—when it fails to take advantage of Western oil technology and investment. Nigerian output, which for five years had been secured through a partnership of the U.S. Navy and Nigerian maritime forces, is decimated by the bloody civil war of 2021. Canadian exports, which a decade earlier had been strong as a result of the oil shale industry, decline as a result of environmental concerns in Canada and elsewhere about the “fracking” (hydraulic fracturing) process used to free oil from shale.¶ State and non-state actors increase the hazards to seaborne shipping, which are compounded by the necessity of traversing key chokepoints that are easily targeted by those who wish to restrict trade. These chokepoints include the Strait of Hormuz, which Iran could quickly close to trade if it wishes. More than half of the world’s oil is transported by sea. “From 1970 to 2006, the amount of goods transported via the oceans of the world…increased from 2.6 billion tons to 7.4 billion tons, an increase of over 284%.”[13] In 2010, “$40 billion dollars [sic] worth of oil passes through the world’s geographic ‘chokepoints’ on a daily basis…not to mention $3.2 trillion…annually in commerce that moves underwater on transoceanic cables.”[14] These quantities of goods simply cannot be moved by any other means. Thus, a reduction of sea trade reduces overall international trade.¶ U.S. consumers face a greatly diminished selection of goods because domestic production largely disappeared in the decades before the global depression. As countries increasingly focus on regional rather than global trade, costs rise and Americans are forced to accept a much lower standard of living. Some domestic manufacturing improves, but at significant cost.¶ In addition, shippers avoid U.S. ports due to the onerous container inspection regime implemented after investigators discover that the second dirty bomb was smuggled into the U.S. in a shipping container on an innocuous Panamanian-flagged freighter. As a result, American consumers bear higher shipping costs. The market also constrains the variety of goods available to the U.S. consumer and increases their cost.¶ A Congressional Budget Office (CBO) report makes this abundantly clear. A one-week shutdown of the Los Angeles and Long Beach ports would lead to production losses of $65 million to $150 million (in 2006 dollars) per day. A three-year closure would cost $45 billion to $70 billion per year ($125 million to $200 million per day). Perhaps even more shocking, the simulation estimated that employment would shrink by approximately 1 million jobs.[15] These estimates demonstrate the effects of closing only the Los Angeles and Long Beach ports.¶ On a national scale, such a shutdown would be catastrophic. The Government Accountability Office notes that:¶ [O]ver 95 percent of U.S. international trade is transported by water[;] thus, the safety and economic security of the United States depends in large part on the secure use of the world’s seaports and waterways. A successful attack on a major seaport could potentially result in a dramatic slowdown in the international supply chain with impacts in the billions of dollars.[16]¶ As of 2008, “U.S. ports move 99 percent of the nation’s overseas cargo, handle more than 2.5 billion tons of trade annually, and move $5.5 billion worth of goods in and out every day.” Further, “approximately 95 percent of U.S. military forces and supplies that are sent overseas, including those for Operations Iraqi Freedom and Enduring Freedom, pass through U.S. ports.”[17]

#### Best studies prove

Hegre et al 2009 (H’vard Hegre, Professor of Political Science @University of Oslo, , John R. Oneal, Professor of Political Science @ The University of Alabama, Bruce Russett, Professor of Political Science @ Yale University) August 25, 2009 “Trade Does Promote Peace: New Simultaneous Estimates of the Reciprocal Effects of Trade and Conflict” http://www.yale-university.com/leitner/resources/docs/HORJune09.pdf)

Liberals expect economically important trade to reduce conflict because interstate violence adversely affects commerce, prospectively or contemporaneously. Keshk, Reuveny, & Pollins (2004) and Kim & Rousseau (2005) report on the basis of simultaneous analyses of these reciprocal relations that conflict impedes trade but trade does not deter conflict. Using refined measures of geographic proximity and size—the key elements in the gravity model of international interactions—reestablishes support for the liberal peace, however. Without careful specification, trade becomes a proxy for these fundamental exogenous factors, which are also important influences on dyadic conflict. KPR‘s and KR‘s results are spurious. Large, proximate states fight more and trade more. Our re-analyses show that, as liberals would expect, commerce reduces the risk of interstate conflict when proximity and size are properly modeled in both the conflict and trade equations. We provided new simultaneous estimates of liberal theory using Oneal & Russett‘s (2005) data and conflict equation and a trade model derived from Long (2008). These tests confirm the pacific benefit of trade. Trade reduces the likelihood of a fatal militarized dispute, 1950–2000 in our most comprehensive analysis, as it does in the years 1984-97 when additional measures of traders‘ expectations of domestic and interstate conflict are incorporated (Long, 2008) and in the period 1885-2000. This strong support for liberal theory is consistent with Kim‘s (1998) early simultaneous estimates, Oneal, Russett & Berbaum‘s (2003) Granger-style causality tests, and recent research by Robst, Polachek & Chang (2007). Reuveny & Kang (1998) and Reuveny (2001) report mixed results. It is particularly encouraging that, when simultaneously estimated, the coefficient of trade in the conflict equation is larger in absolute value than the corresponding value in a simple probit analysis. Thus, the dozens of published articles that have addressed the endogeneity of trade by controlling for the years of peace—as virtually all have done since 1999—have not overstated the benefit of interdependence. Admittedly, our instrumental variables are not optimal. In some cases, for example, in violation of the identification rule, the creation or end of a PTA may be a casus belli. More importantly, neither of our instruments explains a large amount of variance. Thus, future research should be directed to identifying better instruments. Our confidence in the commercial peace does not depend entirely on the empirical evidence, however; it also rests on the logic of liberal theory. Our new simultaneous estimates—as well as our re-analyses of KPR and KR—indicate that fatal disputes reduce trade. Even with extensive controls for on-going domestic conflict, militarized disputes with third parties, and expert estimates of the risks of such violence, interstate conflict has an adverse contemporaneous effect on bilateral trade. This is hardly surprising (Anderton & Carter, 2001; Reuveny, 2001; Li & Sacko, 2002; Oneal, Russett & Berbaum, 2003; Glick & Taylor, 2005; Kastner, 2007; Long, 2008; Findlay & O‘Rourke, 2007; cf. Barbieri & Levy, 1999; Blomberg & Hess, 2006; and Ward & Hoff, 2007). If conflict did not impede trade, economic agents would be indifferent to risk and the maximization of profit. Because conflict is costly, trade should reduce interstate violence. Otherwise, national leaders would be insensitive to economic loss and the preferences of powerful domestic actors. Whether paid prospectively or contemporaneously, the economic cost of conflict should reduce the likelihood of military conflict, ceteris paribus, if national leaders are rational.

#### A preponderance of evidence supports our position

Hillebrand 2010 Evan E. Hillebrand (Professor of Diplomacy at University of Kentucky and a Senior Economist for the Central Intelligence Agency) 2010 “Deglobalization Scenarios: Who Wins? Who Loses?” Global Economy Journal, Volume 10, Issue 2 2010

A long line of writers from Cruce (1623) to Kant (1797) to Angell (1907) to Gartzke (2003) have theorized that economic interdependence can lower the likelihood of war. Cruce thought that free trade enriched a society in general and so made people more peaceable; Kant thought that trade shifted political power away from the more warlike aristocracy, and Angell thought that economic interdependence shifted cost/benefit calculations in a peace-promoting direction. Gartzke contends that trade relations enhance transparency among nations and thus help avoid bargaining miscalculations. There has also been a tremendous amount of empirical research that mostly supports the idea of an inverse relationship between trade and war. Jack Levy said that, “While there are extensive debates over the proper research designs for investigating this question, and while some empirical studies find that trade is associated with international conflict, most studies conclude that trade is associated with peace, both at the dyadic and systemic levels” (Levy, 2003, p. 127). There is another important line of theoretical and empirical work called Power Transition Theory that focuses on the relative power of states and warns that when rising powers approach the power level of their regional or global leader the chances of war increase (Tammen, Lemke, et al, 2000). Jacek Kugler (2006) warns that the rising power of China relative to the United States greatly increases the chances of great power war some time in the next few decades. The IFs model combines the theoretical and empirical work of the peacethrough trade tradition with the work of the power transition scholars in an attempt to forecast the probability of interstate war. Hughes (2004) explains how he, after consulting with scholars in both camps, particularly Edward Mansfield and Douglas Lemke, estimated the starting probabilities for each dyad based on the historical record, and then forecast future probabilities for dyadic militarized interstate disputes (MIDs) and wars based on the calibrated relationships he derived from the empirical literature. The probability of a MID, much less a war, between any random dyad in any given year is very low, if not zero. Paraguay and Tanzania, for example, have never fought and are very unlikely to do so. But there have been thousands of MIDs in the past and hundreds of wars and many of the 16,653 dyads have nonzero probabilities. In 2005 the mean probability of a country being involved in at least one war was estimated to be 0.8%, with 104 countries having a probability of at least 1 war approaching zero. A dozen countries12, however, have initial probabilities over 3%. model predicts four great power wars in the deglobalization scenario vs. 2 in the globalization scenario.16 The globalization scenario projects that the probability for war will gradually decrease through 2035 for every country—but not every dyad--that had a significant (greater than 0.5% chance of war) in 2005 (Table 6). The decline in prospects for war stems from the scenario’s projections of rising levels of democracy, rising incomes, and rising trade interdependence—all of these factors figure in the algorithm that calculates the probabilities. Not all dyadic war probabilities decrease, however, because of the power transition mechanism that is also included in the IFs model. The probability for war between China and the US, for example rises as China’s power13 rises gradually toward the US level but in these calculations the probability of a China/US war never gets very high.14 Deglobalization raises the risks of war substantially. In a world with much lower average incomes, less democracy, and less trade interdependence, the average probability of a country having at least one war in 2035 rises from 0.6% in the globalization scenario to 3.7% in the deglobalization scenario. Among the top-20 war-prone countries, the average probability rises from 3.9% in the globalization scenario to 7.1% in the deglobalization scenario. The model estimates that in the deglobalization scenario there will be about 10 wars in 2035, vs. only 2 in the globalization scenario15. Over the whole period, 2005-2035, the IV. Winners and Losers Deglobalization in the form of reduced trade interdependence, reduced capital flows, and reduced migration has few positive effects, based on this analysis with the International Futures Model. Economic growth is cut in all but a handful of countries, and is cut more in the non-OECD countries than in the OECD countries. Deglobalization has a mixed impact on equality. In many non-OECD countries, the cut in imports from the rest of the world increases the share of manufacturing and in 61 countries raises the share of income going to the poor. But since average productivity goes down in almost all countries, this gain in equality comes at the expense of reduced incomes and increased poverty in almost all countries. The only winners are a small number of countries that were small and poor and not well integrated in the global economy to begin with—and the gains from deglobalization even for them are very small. Politically, deglobalization makes for less stable domestic politics and a greater likelihood of war. The likelihood of state failure through internal war, projected to diminish through 2035 with increasing globalization, rises in the deglobalization scenario particularly among the non-OECD democracies. Similarly, deglobalization makes for more fractious relations among states and the probability for interstate war rises.

#### Trade reduces poverty and expands prosperity

AusAID 2007 (AusAID, Australian foreign aid agency, “Trade, Development and Poverty Reduction,” September 2007, http://www.ausaid.gov.au/Publications/Documents/trade\_devel\_poverty.pdf)

International trade is a vital part of economic growth

No country has generated sustained economic growth and poverty reduction by closing itself off to international trade and investment. While a country’s ability to benefit from trade and investment is dependent on a number of factors, particularly the quality of its domestic policies and institutions, it must also have access to the global marketplace.¶ ￼How trade promotes growth¶ Trade helps an economy grow in several ways:¶ • It encourages economies to specialise and produce in areas where they have a relative cost advantage over other economies. Over time, this helps economies¶ to employ more of their human, physical and capital resources in sectors where they get the highest returns, boosting productivity and the returns to workers and investors.¶ • Trade expands the markets local producers can access, allowing them to produce at a more efficient scale to keep down costs. Even in populous developing economies, low incomes often mean that producers’ potential local market is small, so trading with the world is vital.¶ • Trade diffuses new technologies and ideas, increasing local workers’ and managers’ productivity. Technology transfers through trade and investment are particularly valuable for developing economies, which employ less advanced technologies and typically have less capacity to develop new technologies themselves.¶ • Removing tariffs on imports gives consumers access to cheaper products, increasing their purchasing power and living standards, and gives producers access to cheaper inputs, boosting their competitiveness by reducing their production costs.

#### We control uniqueness- globalization and trade liberalization are responsible for the greatest increase in prosperity and reduction in poverty in human history- their criticism is empirically false

Chandy and Gertz 2011 (Laurence Chandy is a fellow at the Global Economy and Development Program in the Brookings Institution. Geoffrey Gertz is a research analyst in the same program, July 5, 2011, “With Little Notice, Globalization Reduced Poverty,” Yale Global Online, http://yaleglobal.yale.edu/content/little-notice-globalization-reduced-poverty)

WASHINGTON: It is customary to bemoan the intractability of global poverty and the lack of progress against the Millennium Development Goals. But the stunning fact is that, gone unnoticed, the goal to halve global poverty was probably reached three years ago.¶ We are in the midst of the fastest period of poverty reduction the world has ever seen. The global poverty rate, which stood at 25 percent in 2005, is ticking downwards at one to two percentage points a year, lifting around 70 million people – the population of Turkey or Thailand – out of destitution annually. Advances in human progress on such a scale are unprecedented, yet remain almost universally unacknowledged.¶ Official estimates of global poverty are compiled by the World Bank and stretch back 30 years. For most of that period, the trend has been one of slow, gradual reduction. By 2005, the year of the most recent official global poverty estimate, the number of people living under the international poverty line of $1.25 a day stood at 1.37 billion – an improvement of half a billion compared to the early 1980s, but a long way from the dream of a world free of poverty.¶ Behind these aggregate figures lies a somber reality. In assessing the fortunes of the developing world during the late 20th century, countries can be roughly divided into two categories: China and the rest.China’s stunning economic reversal – 30 years ago, only 16 percent of its population lived above the poverty line, but by 2005, only 16 percent stood below it – masks others’ failings. Excluding China, the 500 million decrease in global poverty becomes an increase of 100 million. In the world’s poorest region, sub-Saharan Africa, the poverty rate remained above 50 percent throughout the period, which, given the region’s rapid population growth, translated into a near doubling in the number of its poor. Similarly in South Asia, Latin America and Europe–Central Asia there were more poor people in 2005 than there were a quarter of a century earlier.¶ This depressing track record shapes perspectives on poverty that abound today. Global poverty has come to be seen as a constant, with the poor cut off from the prosperity enjoyed elsewhere. Only a radical change to the current global order – an alternative system to globalization or a massive exercise in redistribution – could possibly alter this destiny. ¶ In a new study of global poverty, we upend this narrative. By combining the most recent country survey data of household consumption with the latest figures on private consumption growth, we generated global poverty estimates from 2005 up to the present day. Poverty reduction accelerated in the early 2000s at a rate that has been sustained throughout the decade, even during the dark recesses of the financial crisis. Today, we estimate that there are approximately 820 million people living on less than $1.25 a day. This means that the prime target of the Millennium Development Goals – to halve the rate of global poverty by 2015 from its 1990 level – was probably achieved around three years ago. Whereas it took 25 years to reduce poverty by half a billion people up to 2005, the same feat was likely achieved in the six years between then and now. Never before have so many people been lifted out of poverty over such a brief period of time.¶ Not only is poverty falling rapidly, it’s falling across all regions and most countries. Unsurprisingly, the greatest reduction has occurred in Asia. But it’s not just the dynamic economies of East Asia, such as China, recording great feats in poverty reduction; South Asian giants including India and Bangladesh, and Central Asian economies such as Uzbekistan also make great strides. Even Sub-Saharan Africa is sharing in this progress. The region finally broke through the symbolic threshold of a 50 percent poverty rate in 2008 and its number of poor people has begun falling for the first time on record. ¶ This stunning progress is driven by rapid economic growth across the developing world. During the 1980s and 1990s, per capita growth in developing countries averaged just 1 to 2 percent a year, not nearly fast enough to make a serious dent in poverty levels. Since around 2003, however, growth in the developing world has taken off, averaging 5 percent per capita a year.¶ How and why sustained high economic growth in developing countries took hold are questions likely to be debated by economic historians for many decades. Already one can point to a number of probable sources emerging or accelerating around the turn of the century: an investment boom triggered by rising commodity prices; high growth spillovers originating from large open emerging economies that utilize cross-border supply chains; diversification into novel export markets from cut flowers to call centers; spread of new technologies, in particular rapid adoption of cell phones; increased public and private investment in infrastructure; the cessation of a number of conflicts and improved political stability; and the abandonment of inferior growth strategies such as import substitution for a focus on macroeconomic health and improved competitiveness.¶ These factors are manifestations of a set of broader trends – the rise of globalization, the spread of capitalism and the improving quality of economic governance – which together have enabled the developing world to begin converging on advanced economy incomes after centuries of divergence. The poor countries that display the greatest success today are those that are engaging with the global economy, allowing market prices to balance supply and demand and to allocate scarce resources, and pursuing sensible and strategic economic policies to spur investment, trade and job creation. It’s this potent combination that sets the current period apart from a history of insipid growth and intractable poverty.¶ The fight against poverty has long been a moral and strategic goal of Western governments. But the record of the last few years is likely a surprise to them. In their eyes, the fate of the world’s poor largely depended on forging progress on three fronts: debt relief, more aid and freer trade. World leaders convened at numerous meetings to build support and momentum around these priorities, but despite these efforts successes were hard to come by: While more than $80 billion of poor countries’ debt has been forgiven, most countries failed to meet global aid targets, and the Doha Development Round has languished at the World Trade Organization.¶ Thankfully for the world’s poor, this logic turned out to be flawed. While progress on each of the three fronts would have been helpful for developing countries and their ability to tackle poverty, the significance of each was undoubtedly overhyped and said more about the West’s sense of responsibility and magnanimity than what was actually needed to deliver development.¶ Taking a long view of history, the dramatic fall in poverty witnessed over the preceding six years represents a precursor to a new era. We’re on the cusp of an age of mass development, which will see the world transformed from being mostly poor to mostly middle class. The implications of such a change will be far-reaching, touching everything from global business opportunities to environmental and resource pressures to our institutions of global governance. Yet fundamentally it’s a story about billions of people around the world finally having the chance to build better lives for themselves and their children. We should consider ourselves fortunate to be alive at such a remarkable moment.

#### There’s no turning back- the alternative is the death of millions and massive transition wars

Barnhizer 2006 (David Barnhizer, Professor of Law at Cleveland State University, “Waking from Sustainability's ‘Impossible Dream’,” Georgetown International Environmental Law Review, Lexis)

The scale of social needs, including the need for expanded productive activity, has grown so large that it cannot be shut off at all, and certainly not abruptly. It cannot even be ratcheted down in any significant fashion without producing serious harms to human societies and hundreds of millions of people. Even if it were possible to shift back to systems of local self-sufficiency, the consequences of the transition process would be catastrophic for many people and even deadly to the point of continual conflict, resource wars, increased poverty, and strife. What are needed are concrete, workable, and pragmatic strategies that produce effective and intelligently designed economic activity in specific contexts and, while seeking efficiency and conservation, place economic and social justice high on a list of priorities. 60¶ The imperative of economic growth applies not only to the needs and expectations of people in economically developed societies but also to people living in nations that are currently economically underdeveloped. Opportunities must be created, jobs must be generated in huge numbers, and economic resources expanded to address the tragedies of poverty and inequality. Unfortunately, natural systems must be exploited to achieve this; we cannot return to Eden. The question is not how to achieve a static state but how to achieve what is needed to advance social justice while avoiding and mitigating the most destructive consequences of our behavior.

#### The aff is an example of the benefits of trade- successful diffusion of SMRS key to provide energy access to emerging nations

Kessides and Kuznetsov 2012 (Ioannis N. Kessides, Development Research Group at The World Bank, and Vladimir Kuznetsov, consultant for The World Bank, July 2012, “Small Modular Reactors for Enhancing Energy Security in Developing Countries,” Sustainability, http://www.mdpi.com/2071-1050/4/8/1806/htm)

As Table 5 indicates, there is a significant diversity of SMR designs including land-based as well as barge-mounted (Russian only) plants. Unit power varies from 8.5 to 300 MW(e) with twin-unit or multi-module plant options available in the majority of cases. Thus, SMRs would provide for greater siting flexibility and be a better fit for many developing countries with small electrical grids where they could facilitate incremental growth of the grid.¶ The siting and temporal flexibility of SMR deployment would naturally leave more time for developing and streamlining the requisite human resources and technical expertise. Moreover, the smaller size and greater simplicity of SMR components and plant design might eventually facilitate greater national industry involvement in the recipient developing countries. Regarding financing, SMRs may offer substantial advantages owing to their smaller absolute capital outlay, better scalability and reversibility of SMR projects, shorter construction periods and the resulting minimal financial risks. It should be noted that the absolute capital cost of SMRs is always much smaller compared to that of large reactors. Specifically, for the plants in the range below 300 MW(e) the overnight capital costs are below US$ 1 billion—an important consideration, especially for small developing countries.

#### Energy access is good- Key to health, environmental and quality of life improvements- Millions die every year because they have to have toxin-emitting fires inside to cook and stay warm

Kumar 2012 (Supriya Kumar, Worldwatch Institute, “Electricity Access Still Insufficient in Developing Countries Lack of access to electricity results in health, environmental, and livelihood challenges,” Common Dreams, https://www.commondreams.org/newswire/2012/02/02-0)

Despite massive gains in global access to electricity over the last two decades, governments and development organizations must continue to invest in electrification to achieve critical health, environmental, and livelihood outcomes, according to new research published by the Worldwatch Institute for its Vital Signs Online publication.¶ Between 1990 and 2008, close to 2 billion people worldwide gained access to electricity. But the International Energy Agency (IEA) estimates that more than 1.3 billion people still lack access to electricity, while the United Nations estimates that another 1 billion have unreliable access. The UN General Assembly has designated 2012 as the "International Year of Sustainable Energy for All," providing an opportunity to raise awareness of the extent and impacts of the electrification challenge.¶ "Modern energy sources provide people with lighting, heating, refrigeration, cooking, water pumping, and other services that are essential for reducing poverty, improving health and education, and increasing incomes," write report authors Michael Renner and Matthew Lucky. "It will be difficult to achieve a number of the UN's Millennium Development Goals without improving energy access." Among the UN goals, targeted at 2015, are combating HIV/AIDS, malaria and other diseases and eradicating poverty and hunger.¶ At least 2.7 billion people, and possibly more than 3 billion, lack access to modern fuels for cooking and heating. They rely instead on traditional biomass sources, such as firewood, charcoal, manure, and crop residues, that can emit harmful indoor air pollutants when burned. These pollutants cause nearly 2 million premature deaths worldwide each year, an estimated 44 percent of them in children. Among adult deaths, 60 percent are women. Traditional energy usage also contributes to environmental impacts including forest and woodland degradation, soil erosion, and black carbon emissions that contribute to global climate change.

### 1AC Solvency

#### Production cost incentive key- Incentivizes fast learning in advanced factory manufacturing which is necessary for commercialization

Rosner and Goldberg 2011 (Robert Rosner, astrophysicist and founding director of the Energy Policy Institute at Chicago, and Stephen Goldberg, Special Assistant to the Director at the Argonne National Laboratory, Energy Policy Institute at Chicago, “Small Modular Reactors – Key to Future Nuclear Power Generation in the U.S.”, Technical Paper, Revision 1, November 2011)

Production Cost Incentive: A production cost incentive is a performance-based incentive. With a production cost incentive, the government incentive would be triggered only when the project successfully operates. The project sponsors would assume full responsibility for the upfront capital cost and would assume the full risk for project construction. The production cost incentive would establish a target price, a so-called “market-based benchmark.” Any savings in energy generation costs over the target price would accrue to the generator. Thus, a production cost incentive would provide a strong motivation for cost control and learning improvements, since any gains greater than target levels would enhance project net cash flow. Initial SMR deployments, without the benefits of learning, will have significantly higher costs than fully commercialized SMR plants and thus would benefit from production cost incentives. Because any production cost differential would decline rapidly due to the combined effect of module manufacturing rates and learning experience, the financial incentive could be set at a declining rate, and the level would be determined on a plant-by-plant basis, based on the achievement of cost reduction targets.43 The key design parameters for the incentive include the following:¶ 1. The magnitude of the deployment incentive should decline with the number of SMR modules and should phase out after the fleet of LEAD and FOAK plants has been deployed.¶ 2. The incentive should be market-based rather than cost-based; the incentive should take into account not only the cost of SMRs but also the cost of competing technologies and be set accordingly.¶ 3. The deployment incentive could take several forms, including a direct payment to offset a portion of production costs or a production tax credit.

#### Aff incentives are necessary and compliment squo funding

Rosner and Goldberg 2011 (Robert Rosner, astrophysicist and founding director of the Energy Policy Institute at Chicago, and Stephen Goldberg, Special Assistant to the Director at the Argonne National Laboratory, Energy Policy Institute at Chicago, “Small Modular Reactors – Key to Future Nuclear Power Generation in the U.S.”, Technical Paper, Revision 1, November 2011)

Similar to other important energy technologies, such as energy storage and renewables, “market pull” activities coupled with the traditional “technology push” activities would significantly increase the likelihood of timely and successful commercialization.¶ Market transformation incentives serve two important objectives. They facilitate demand for the off-take of SMR plants, thus reducing market risk and helping to attract private investment without high risk premiums. In addition, if such market transformation opportunities could be targeted to higher price electricity markets or higher value electricity applications, they would significantly reduce the cost of any companion production incentives.¶ There are three special market opportunities that may provide the additional market pull needed to successfully commercialize SMRs: the federal government, international applications, and the need for replacement of existing coal generation plants.

#### Market-based environmental action to advance nuclear power is good

Economist 2005 (The Economist, April 21, 2005, “Rescuing environmentalism”, http://www.economist.com/node/3888006)

“The environmental movement's foundational concepts, its method for framing legislative proposals, and its very institutions are outmoded. Today environmentalism is just another special interest.” Those damning words come not from any industry lobby or right-wing think-tank. They are drawn from “The Death of Environmentalism”, an influential essay published recently by two greens with impeccable credentials. They claim that environmental groups are politically adrift and dreadfully out of touch.¶ They are right. In America, greens have suffered a string of defeats on high-profile issues. They are losing the battle to prevent oil drilling in Alaska's wild lands, and have failed to spark the public's imagination over global warming. Even the stridently ungreen George Bush has failed to galvanise the environmental movement. The solution, argue many elders of the sect, is to step back from day-to-day politics and policies and “energise” ordinary punters with talk of global-warming calamities and a radical “vision of the future commensurate with the magnitude of the crisis”.¶ Europe's green groups, while politically stronger, are also starting to lose their way intellectually. Consider, for example, their invocation of the woolly “precautionary principle” to demonise any complex technology (next-generation nuclear plants, say, or genetically modified crops) that they do not like the look of. A more sensible green analysis of nuclear power would weigh its (very high) economic costs and (fairly low) safety risks against the important benefit of generating electricity with no greenhouse-gas emissions. ¶ Small victories and bigger defeats¶ The coming into force of the UN's Kyoto protocol on climate change might seem a victory for Europe's greens, but it actually masks a larger failure. The most promising aspect of the treaty—its innovative use of market-based instruments such as carbon-emissions trading—was resisted tooth and nail by Europe's greens. With courageous exceptions, American green groups also remain deeply suspicious of market forces.¶ If environmental groups continue to reject pragmatic solutions and instead drift toward Utopian (or dystopian) visions of the future, they will lose the battle of ideas. And that would be a pity, for the world would benefit from having a thoughtful green movement. It would also be ironic, because far-reaching advances are already under way in the management of the world's natural resources—changes that add up to a different kind of green revolution. This could yet save the greens (as well as doing the planet a world of good).¶ “Mandate, regulate, litigate.” That has been the green mantra. And it explains the world's top-down, command-and-control approach to environmental policymaking. Slowly, this is changing. Yesterday's failed hopes, today's heavy costs and tomorrow's demanding ambitions have been driving public policy quietly towards market-based approaches. One example lies in the assignment of property rights over “commons”, such as fisheries, that are abused because they belong at once to everyone and no one. Where tradable fishing quotas have been issued, the result has been a drop in over-fishing. Emissions trading is also taking off. America led the way with its sulphur-dioxide trading scheme, and today the EU is pioneering carbon-dioxide trading with the (albeit still controversial) goal of slowing down climate change.¶ These, however, are obvious targets. What is really intriguing are efforts to value previously ignored “ecological services”, both basic ones such as water filtration and flood prevention, and luxuries such as preserving wildlife. At the same time, advances in environmental science are making those valuation studies more accurate. Market mechanisms can then be employed to achieve these goals at the lowest cost. Today, countries from Panama to Papua New Guinea are investigating ways to price nature in this way (see article).¶ Rachel Carson meets Adam Smith¶ If this new green revolution is to succeed, however, three things must happen. The most important is that prices must be set correctly. The best way to do this is through liquid markets, as in the case of emissions trading. Here, politics merely sets the goal. How that goal is achieved is up to the traders.¶ A proper price, however, requires proper information. So the second goal must be to provide it. The tendency to regard the environment as a “free good” must be tempered with an understanding of what it does for humanity and how. Thanks to the recent Millennium Ecosystem Assessment and the World Bank's annual “Little Green Data Book” (released this week), that is happening. More work is needed, but thanks to technologies such as satellite observation, computing and the internet, green accounting is getting cheaper and easier.¶ Which leads naturally to the third goal, the embrace of cost-benefit analysis. At this, greens roll their eyes, complaining that it reduces nature to dollars and cents. In one sense, they are right. Some things in nature are irreplaceable—literally priceless. Even so, it is essential to consider trade-offs when analysing almost all green problems. The marginal cost of removing the last 5% of a given pollutant is often far higher than removing the first 5% or even 50%: for public policy to ignore such facts would be inexcusable.¶ If governments invest seriously in green data acquisition and co-ordination, they will no longer be flying blind. And by advocating data-based, analytically rigorous policies rather than pious appeals to “save the planet”, the green movement could overcome the scepticism of the ordinary voter. It might even move from the fringes of politics to the middle ground where most voters reside.¶ Whether the big environmental groups join or not, the next green revolution is already under way. Rachel Carson, the crusading journalist who inspired greens in the 1950s and 60s, is joining hands with Adam Smith, the hero of free-marketeers. The world may yet leapfrog from the dark ages of clumsy, costly, command-and-control regulations to an enlightened age of informed, innovative, incentive-based greenery.

#### SMRS are extremely safe

Kessides 2010 (Ioannis N. Kessides, Lead Economist in the World Bank's Development Research Group, June 2012, “The Future of the Nuclear Industry Reconsidered Risks, Uncertainties, and Continued Potential,” The World Bank Development Research Group Environment and Energy Team, http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2012/06/29/000158349\_20120629130837/Rendered/INDEX/WPS6112.txt)

Most SMR concepts envision widespread deployment of a large number of small nuclear plants sited in diverse environments and frequently in close proximity to users. These considerations place very stringent requirements on reliability and safety performance—arguably even more exacting relative to traditional large-scale nuclear plants. The need for enhanced levels of safety has led to design options that maximize the use of inherent and passive safety features and incorporate additional layers of defense in depth (IAEA, 2009).18 These safety features can be more easily and effectively implemented in SMRs because of their larger surface- to-volume ratio, reduced core power density, lower source term, and less frequent (multi-year) refueling. For example, large surface-to-volume ratios facilitate the passive (with no external source of electrical power or stored energy) removal of decay heat.¶ SMRs employ an enveloping design approach that seeks to eliminate or prevent as many accident initiators and accident consequences as possible. Any remaining plausible accident initiators and consequences are dealt with appropriate combinations of active and passive safety systems. In water-cooled SMRs, the integration of steam generators and pressurizers within the reactor vessel eliminates large-diameter pipes and penetrations in the reactor vessel, thereby reducing substantially the risk of LOCAs. Moreover, in some designs the application of in- vessel control rod drives eliminates the risk of inadvertent control rod ejections that lead to reactivity insertion accidents. Loss of coolant accidents may also be prevented with compact loop designs that employ short piping and fewer connections between components (Kuznetsov, 2009).¶ In HTGRs, the fuel particles consist of fissionable fuel kernels with tri-structural isotropic (TRISO) coating.19 The TRISO coating system constitutes a miniature pressure vessel that is capable of containing the readionuclides and gases generated by fission of the nuclear material in the kernel. One of the coating layers consists of silicon carbide (a strong refractory material) which can retain radionuclides at extremely high temperatures under all accident conditions—temperatures can remain at 1600°C for several hundred hours without loss of particle coating integrity. Furthermore, the graphite holding the TRISO-coated particles together can withstand even higher temperatures without structural damage.20 And the massive graphite structures in the core create an extremely large heat capacity. The combination of large thermal margins, low power density of the core, and relatively large length-to-diameter ratio of the core, allow for very slow and stable response to transients caused by initiating events and for passive heat removal (INL, 2011).¶ The effectiveness of passive safety features can be illustrated by comparing outcomes from probabilistic risk analysis (PRA). In 1991, a Level-2 PRA was developed for the EBR-II fast neutron spectrum experimental breeder reactor—a 21 MWe plant—to compare its operational risk to that of commercial LWR‘s for which PRA‘s were available. EBR-II employs an extensive array of passive and inherent safety measures to back up traditional active safety systems. This PRA exercise showed that for EBR-II the risk of simply violating a fuel pin technical specification (with no core damage) is less than the risk of significant core disruption for the LWRs of the time. The point of the PRA comparisons is that application of passive and inherent safety measures as incorporated in SMRs can help to overcome the increase in numbers of SMRs needed to deliver the same societal energy provided by a smaller number of large-sized LWRs. Similarly, preliminary Level-1 PRA results for the NuScale Power Reactor indicate a total single-module mean CDF of 2.8x10-8/reactor-year, well below that of existing nuclear plants. And for the VK-300, the probability of severe core damage has been estimated to be less than 2.0x10-8/reactor-year (Hill et al, 1998; Kuznetsov and Gabaraev, 2007; Modarres, 2010).¶ SMRs have a smaller fuel inventory and thus a reduced source term. So on top of reduced hazard of core damage, the hazard attendant to release of radioactivity is also reduced per deployed SMR. The combination of reduced probability of core damage failure, a reduced source term, and additional fission product release barriers, could offer major advantages for emergency planning and response.

#### SMRs are good to go- Plan quickly resolves any lingering issues

Adams 2010 (Rod Adams, nuclear power expert with experience designing and operating small nuclear reactors and a former Submarine Engineer Officer, March 23, 2010, “Small Modular Reactors Could Be An American Export – But We Need to Move Faster,” Atomic Insights, http://atomicinsights.com/2010/03/small-modular-reactors-could-be-an-american-export-but-we-need-to-move-faster.html)

In the March 23, 2010 issue of the Wall Street Journal, Dr. Steven Chu published an op-ed piece titled America’sNew Nuclear Option that describes the Administration’s growing interest in smaller nuclear energy systems that can be produced in factories and delivered nearly complete to sites around the country and around the world. Here is a quote from that editorial:¶ As this paper recently reported, one of the most promising areas is small modular reactors (SMRs). If we can develop this technology in the U.S. and build these reactors with American workers, we will have a key competitive edge.¶ Small modular reactors would be less than one-third the size of current plants. They have compact designs and could be made in factories and transported to sites by truck or rail. SMRs would be ready to “plug and play” upon arrival.¶ If commercially successful, SMRs would significantly expand the options for nuclear power and its applications. Their small size makes them suitable to small electric grids so they are a good option for locations that cannot accommodate large-scale plants. The modular construction process would make them more affordable by reducing capital costs and construction times.¶ Their size would also increase flexibility for utilities since they could add units as demand changes, or use them for on-site replacement of aging fossil fuel plants.¶ Those are some terrific words, but the message loses some of its impact when the numbers are revealed later down the page. In the 2011 budget, the Administration requested just $39 million for a program aimed specifically at small reactors. That amount of money would not even pay for the Nuclear Regulatory Commission costs of reviewing the license for a single nuclear energy system design certification. In an agency whose total budget request is in excess of $28,000 million ($28 billion), a $39 million line item gets lost in the decimal dust.¶ There is an old saying that is appropriate here – “For where your treasure is, there your heart will be also”. The effort by Dr. Chu to publish a piece favorable to small nuclear energy systems in the Wall Street Journal is commendable, but the tiny slice of resource support indicates that there is still a lot of work to be done to enable the technology to reach the market, especially when compared to the massive number of dollars available for industrial wind deployment as a gift from taxpayers to companies like BP, Chevron, GE, FPL, and Siemens.¶ It is beyond comprehension to me that it will take us “about 10 years” (in Dr. Chu’s words) to license and deploy smaller, light water reactors that use essentially the same technology that we have been using successfully for nearly 60 years. We have the knowledge base and the manufacturing capability now; we should build several plants in controlled locations so we can show the regulators how their safety systems work to keep the public protected.¶ Dr. Chu’s op-ed piece concludes with some additional good words about the future potential of systems using high temperature gas – one of my favorites – and fast neutrons for better fuel economy plus the use of modern modeling and simulation techniquest. Dr. Chu’s head is in the right place, but he could use some encouragement to move more aggressively to take advantage of what is currently an American strong suit.¶ There are some Americans who know more than anyone else about what it takes to build durable, safe, secure, small reactors that use light water as a heat transfer and moderating fluid and steam as the power section working fluid. We can improve the economics through well understood principles of series production. The Department of Energy’s budget request for FY2011 currently includes more than $1,000 million for small, light water reactors whose allowed market is limited to military vessels. It would seem that technologies used in that program could be used as the basis for prototype licenses for systems like the mPowerTM and NuScale in a process that could take far less than 10 years.¶ There are several places in the US (Hawaii, Guam, Puerto Rico and Alaska) where early adoption of such systems could dramatically reduce the cost of electricity, reduce the dependence on a fragile fossil fuel tether, and improve its production cleanliness. Success in those locations could lead to successes in similar markets around the world and perhaps even in system refinements allow competitive costs in more traditional electrical power production markets. What are we waiting for?

#### This isn’t warrantless nuclear optimism- it’s supported by science and checked by skeptics

Adams 2010 (Rod Adams, nuclear power expert with experience designing and operating small nuclear reactors and a former Submarine Engineer Officer, “Technological Realism Should Replace Optimism,” <http://atomicinsights.com/2010/05/technological-realism-should-replace-optimism.html>)

As a “served engineer” on a nuclear powered submarine, I learned a long time ago that things go wrong, even with the very best technology. The recognition of inevitable “problems” should not deter technical development and should not make people afraid to develop new products and services, but it should add a healthy dose of humility backed up by continuous efforts to prepare for the worst. My experiences have taught me to be uncomfortable with any proclamation of inevitable progress. I have worked on IT projects, been a full participant in the digital revolution, operated a custom plastics manufacturing company, and watched the nuclear industry work to regain respectability after some serious missteps in its early development history. Progress is hard work and there are often failures that reset the development cycle just as it seems ready to take off. Too many technology observers and pundits point to Moore’s Law as some kind of a general rule for technical developments. Moore’s Law is a very particular pronouncement – in 1965, Gordon Moore recognized that there was a recognizable path forward that would allow manufacturers to double the number of transistors that could be inexpensively placed on a chip every year for the next ten years and he recognized that he could apply that law to the 15-20 years of chip development that had already happened. He modified his prediction in 1975 to increase the doubling time to two years instead of one. He predicted that the implementation of that path would allow an increasing quantity of processing power, assuming that it would be possible to keep all of the transistors firing at the same rate as before. Moore’s Law does not apply to software development, to steel making, to underwater sensors, to remote manipulators, to wind energy collection systems, or to the rate of IP data transmission using satellite networks. It is not even infinitely applicable to semiconductor based processors – there are physical limits to the size of transistors and connecting wires that will eventually provide an asymptote that levels out the growth of processing power. I have never had much “faith” in technology. I like technology. I use lots of technology; my children have occasionally called me “Inspector Gadget” because of all of the tools (my wife and children sometimes call them “toys”) I have accumulated over the years. However, I understand the limits of the technology that I use. I read the manuals, heed the warnings, plan for failure, and worry about the potential consequences of inappropriately using technical devices. I know that no technology can overcome physical barriers; nothing I or anyone else can do will provide power from the wind when it is not blowing and nothing that I or anyone else can invent will enable chemical combustion to provide reliable heat energy without both a source of oxygen and a place to dump the waste products. Nothing that I or anyone else can invent will enable oil extraction from a dry well. I also know that not everything that breaks can be fixed, even if there is an unlimited amount of time and money. Some breaks and fissures can never be welded shut or forced to heal. This is where I believe that humble engineers and technicians who are not driven by sales numbers have a huge role to play. Their (our) natural pessimism can help to reduce the consequences of always listening to the optimists, the people who say “damn the torpedoes”, “failure is not an option”, or “whatever it takes”. Failure is always possible. Before stretching limits it is important to recognize the consequences of the failure to determine if they are acceptable. If the reasonably predictable “worst possible event” results in consequences that cannot be accepted, the prudent course of action is to avoid the action in the first place. I place deepwater drilling for oil and gas into that category. It is pretty obvious that the possible consequences are unacceptable and that technological development has not yet found a way to mitigate those consequences. I am not sure what the limits of “deepwater” should be, but it is apparent that 5,000 feet is beyond the limit. I do not place operating nuclear energy production facilities in that category. However, there are very definitely some kinds of nuclear plants – like very large graphite-moderated, water-cooled reactors operated by people who override safety systems and ignore warning indications – that have proven that they can cause consequences that are not acceptable. The real value comes in determining what the reasonably predictable consequences might be and what failure modes are reasonable to assume. For people who have no firm foundation in real world mechanics, chemistry and physics, it is possible to spin all kinds of scary scenarios that depend on a series of impossible events. (Note: Just because I believe that there is always something that can go wrong, I do not believe that all things are possible.) My prescription for progress is not “faith” in engineers or technologists. It is for people to approach challenges with knowledge, a questioning attitude, humility and a willingness to expend the resources necessary to operate safely. A thirst for maximizing short term profits or an attitude of blind optimism are both incompatible with performing difficult tasks in potentially dangerous environments.

**Nuclear power is better than every alternative- Uranium mining and waste is vastly outweighed fossil fuel development**

**Hinkle 2012** (A. Barton Hinkle, journalist, July 2, 2012, “Don’t Judge Uranium Mining in a Vacuum,” Reason, http://reason.com/archives/2012/07/02/dont-judge-uranium-mining-in-a-vacuum)

Should Virginia lift its ban on uranium mining? The question has generated a lot of heat, but not much light. Last week, this column looked at uranium mining in isolation, and made three points: ¶ The recent report by the National Academy of Sciences was too vague to be of much use, and the use to which it has been put by opponents is misleading.¶ Opponents of lifting the moratorium throw around a lot of numbers that sound scary but mean little.¶ The uranium industry in Canada, where more uranium has been produced than in any other country on the planet, has an excellent environmental, health, and safety record, according to a review of the literature by the Canadian government.¶ That last point is worth dwelling on. Among many other things, the Canadian government – not the industry, the government—says “uranium mining and processing workers were as healthy as the general Canadian male population.” And: “Radon exposure to members of the public from [government]-regulated [mining] activities is virtually zero.” And: "Do uranium mines and mills increase radon levels in the environment? No." And: "Studies and monitoring have shown that there are no significant impacts to the health of the public living near uranium mines and mills." ¶ Also: "**Studies carried out over several decades have repeatedly demonstrated that people who live near [uranium mines** and processing facilities] **are as healthy as the rest of the general population." And: “It is completely safe to consume fish, game and fruit from regions near operating uranium mines and mills.”** And just for good measure: “No increased risk to children living near nuclear power plants or uranium mining, milling, and refining sites was detected.”¶ In short, then, **there is very little to fear from uranium mining or nuclear power when considered in isolation.** But we must not consider the issue in isolation – because the **fossil-fuel alternatives are**, in fact, **considerably worse.¶** Just ask Joseph Romm, who studies energy issues at the Center for American Progress – a liberal think tank founded and run by former Clinton and Obama staffers. “There is no question,” Romm has said, that “nothing is worse than fossil fuels for killing people.”¶ He is not alone. In 2010 – admittedly, before the tsunami-caused disaster at the Fukushima Daiichi nuclear plant in Japan – the OECD’s Nuclear Energy Agency produced a report comparing the risks from nuclear power with those from other energy sources. It found that, “contrary to many people’s perception, nuclear energy presents very much lower risks. For example, more than 2,500 people are killed every year in severe energy-related accidents…. In contrast, there has only been one severe accident in nuclear power plants over this period of time (Chernobyl) resulting in 31 [direct and nearly immediate] fatalities.” ¶ The OECD says the total number of Chernobyl-related fatalities could rise as high as 33,000 over the next seven decades, “but we note that the OECD Environment Directorate estimates that 960,000 premature deaths resulted from levels of particulates in the air in the year 2000 alone, of which energy sources accounted for about 30 percent.” That works out to a 9:1 ratio in nuclear power’s favor. ¶ Then there’s The Washington Post, which reported – after Fukushima – that **“making electricity from nuclear power turns out to be far less damaging to human health than making it from coal, oil, or even clean-burning natural gas, according to numerous analyses.** That’s even more true if the predicted effects of climate change are thrown in.” ¶ How much less damaging? This much: **“Compared with nuclear power, coal is responsible for five times as many worker deaths from accidents, 470 times as many deaths due to air pollution among members of the public, and more than 1,000 times as many cases of serious illness, according to a study of the health effects of electricity generation in Europe.” ¶** But what about radiation? Well. According to a 2007 piece in Scientific American, “Coal Ash Is More Radioactive than Nuclear Waste.” **In fact, “the fly ash emitted by a power plant** – a by-product of burning **coal** for electricity – **carries into the surrounding environment 100 times more radiation than a nuclear power plant producing the same amount of energy.” ¶** Gerald Marsh concurs. Two years ago the retired nuclear physicist told Popular Mechanics, “The amount of radiation put out by a coal plant far exceeds that of a nuclear power plant, even if you use scrubbers.”¶ And again, remember: **All these effects are in addition to anthropogenic climate change, which environmentalists insist is the greatest existential threat facing humanity** – at least when they are not ignoring the issue in order to frighten people about the supposed perils of uranium mining.

#### And, our imagining of 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 2008 – 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.”

#### The process of debating the details of policies informed by theoretical issues produces better policymaking prepared for the contingency that we are wrong

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How? Imagine a group of experts and statesman meeting off the record, temporarily suspending their desire to predict, blog, or be on television, and spending a day or two intensely debating alternative scenarios that might emerge from a U.S. decision to bomb or not bomb Iran. We are talking about something more than the "war-gaming" that occasionally takes place; this would be a deeper, broader endeavor that looked beyond the immediate consequences of a policy choice in order to reflect upon and wrestle with the longer-term, unknown futures that U.S. actions might bring. A somewhat similar effort was tried before: President Dwight Eisenhower's well-known and successful "Solarium" exercise. Imagine a comparable effort, including both outside experts and government decision-makers, incorporating many of the innovations that have emerged since 1953, such as game theory, scenario planning, and detailed historical case studies

Not only might novel policy ideas emerge, but a rigorous vetting of contrasting futures could act as de facto contingency planning should a particular policy choice turn out to be wrong. Such an exercise could also sensitize outside experts to the inherent difficulties, tradeoffs, and unintended consequences of making U.S. foreign policy, which might reduce the shrillness and polarization that often characterize policy debates and make expert knowledge more useful and accessible. The benefits of exercises where pundits and policymakers acknowledge that perfect intelligence is unattainable and where the advantages of both admitting and forgiving honest mistakes about an unknowable, uncertain future are recognized, would be enormous. If nothing else, the humility and flexibility that ensued could lead to more-effective long-range policies. Although such a process may not tell us whether bombing Iran or not is "right," it will better prepare us for the unexpected, unintended, and challenging consequences that will surely result, regardless of which policy is chosen. Given the enormous long-term stakes of the choices before the U.S. president, it is the least that policymakers and experts can do.

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### Case

#### Aff’s signal and incentive solve licensing

Bradford 2009 (Peter A. Bradford, former member of the U.S. Nuclear Regulatory Commission and former chair of the Maine and New York utility commissions, March 24, 2009, testimony before the Senate Committee on Environment and Public Works Subcommittee on Clean Air and Nuclear Safety, Hearing on “Three Mile Island: Thirty Years of Lessons Learned,” http://www.nuclearfiles.org/menu/key-issues/nuclear-energy/issues/bradford\_tmi\_testimony.pdf)

Finally, a word about the lessons of Three Mile Island for Congressional Oversight. If the message that the NRC gets from the Congressional oversight committees is that what’s wanted is strong commission focus on expedited licensing of new reactors and deemphasized enforcement, that message will have an effect over time. Senator Pete Domenici asserted in his 1998 book that he singled-handedly changed NRCs priorities in a 1998 meeting with the NRC chair in which he threatened to cut the agency’s budget by one-third if the NRC did not modify its “adversarial attitude” toward the industry.

#### Complexity doesn’t indict our scholarship- their approach causes paralysis

Gallagher 2012 (Michael J. Gallagher, Captain in the US Marine Corps, Fellow in the Junior Officer Strategic Intelligence Program, and Ph.D. student in international relations at Georgetown University; Dr. Joshua A. Geltzer, law clerk to Chief Judge Alex Kozinski of the Ninth Circuit Court of Appeals, graduated in 2011 from Yale Law School, where he served as editor in chief of the Yale Law Journal, received his Ph.D. in War Studies from King’s College, London, where he studied on a Marshall Scholarship; Dr. Sebastian L. v. Gorka, Director of the Homeland Defense Fellows Program at the College of International Security Affairs, National Defense University, and also teaches Irregular Warfare and US National Security at NDU and Georgetown, Spring 2012, “The Complexity Trap,” http://www.carlisle.army.mil/USAWC/parameters/Articles/2012spring/Gallagher\_Geltzer\_Gorka.pdf)

We live in a world of unprecedented complexity, or so we are told. President Obama’s words above echo an increasingly common narrative in the American foreign policy and national security establishments: the forces of globalization, rising nonstate actors, irregular conflict, and proliferating destructive technologies have made crafting sound national security strategy more elusive than ever before. 2 If “strategy is the art of creating power” by specifying the relationship among ends, ways, and means, 3 then the existence of unprecedented complexity would seem to make this art not only uniquely difficult today but also downright dangerous, inasmuch as choosing any particular course of action would preclude infinitely adaptive responses in the future. As Secretary of Defense Robert Gates memorably described, the pre-9/11 challenges to American national security were “amateur night compared to the world today.” 4 And as former State Department Director of Policy Planning Anne-Marie Slaughter recently stated, there is a “universal awareness that we are living through a time of rapid and universal change,” one in which the assumptions of the twentieth century make little sense. 5 The “Mr. Y” article that occasioned her comments argued that, in contrast to the “closed system” of the twentieth century that could be controlled by mankind, we now live in an “open system” defined by its supremely complex and protean nature. 6 Unparalleled complexity, it seems, is the hallmark of our strategic age.¶ These invocations of complexity permeate today’s American national security documents and inform Washington’s post-Cold War and -9/11 strategic culture. The latest Quadrennial Defense Review begins its analysis with a description of the “complex and uncertain security landscape in which the pace of change continues to accelerate. Not since the fall of the Soviet Union or the end of World War II has the international terrain been affected by such farreaching and consequential shifts.” 7 In a similar vein, the National Intelligence Council’s Global Trends 2025 argues that the international system is trending towards greater degrees of complexity as power is diffused and actors multiply. 8 The Director of National Intelligence’s Vision 2015 terms our time the “Era of Uncertainty,” one “in which the pace, scope, and complexity of change are increasing.” 9 Disturbingly, the younger generation of foreign policy and national security professionals seems to accept and embrace these statements declaiming a fundamental change in our world and our capacity to cope with it. The orientation for the multi-thousand-member group of Young Professionals in Foreign Policy calls “conquering complexity” the fundamental challenge for the millennial generation. Complexity, it appears, is all the rage. ¶ We challenge these declarations and assumptions—not simply because they are empirically unfounded but, far more importantly, because they negate the very art of strategy and make the realization of the American national interest impossible. We begin by showing the rather unsavory consequences of the current trend toward worshipping at complexity’s altar and thus becoming a member of the “Cult of Complexity.” Next, we question whether the world was ever quite as simple as today’s avowers of complexity suggest, thus revealing the notion of today’s unprecedented complexity to be descriptively false. We then underscore that this idea is dangerous, given the consequences of an addiction to complexity. Finally, we offer an escape from the complexity trap, with an emphasis on the need for prioritization in today’s admittedly distinctive international security environment. Throughout, we hope to underscore that today’s obsession with complexity results in a dangerous denial of the need to strategize.

#### Even if the K is right we can still use policies like the aff to prioritize problems and formulate tentative solutions

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These competing views of America’s national security concerns indi- cate an important and distinctive characteristic of today’s global landscape: prioritization is simultaneously very difficult and very important for the United States. Each of these threats and potential threats—al Qaeda, China, nuclear proliferation, climate change, global disease, and so on—can conjure up a worst- case scenario that is immensely intimidating. Given the difficulty of combining estimates of probabilities with the levels of risk associated with these threats, it is challenging to establish priorities. Such choices and trade-offs are difficult, but not impossible.30 In fact, they are the stock-in-trade of the strategist and planner. If the United States is going to respond proactively and effectively to today’s international environment, prioritization is the key first step—and precisely the opposite reaction to the complacency and undifferentiated fear that the notion of unprecedented complexity encourages. Complexity suggests a maximization of flexibility and minimization of commitment; but prioritiza- tion demands wise allotment of resources and attention in a way that commits American power and effort most effectively and efficiently. Phrased differently, complexity induces deciding not to decide; prioritization encourages deciding which decisions matter most. Today’s world of diverse threats characterized by uncertain probabilities and unclear risks will overwhelm us if the specter of complexity seduces us into either paralysis or paranoia. Some priorities need to be set if the United States is to find the resources to confront what threatens it most.31 As Michael Doran recently argued in reference to the Arab Spring, “the United States must train itself to see a large dune as something more formidable than just endless grains of sand.”32¶ This is not to deny the possibility of nonlinear phenomena, butterfly effects, self-organizing systems that exhibit patterns in the absence of centralized authority, or emergent properties.33 If anything, these hallmarks of complexity theory remind strategists of the importance of revisiting key assumptions in light of new data and allowing for tactical flexibility in case of unintended consequences. Sound strategy requires hard choices and commitments, but it need not be inflexible. We can prioritize without being procrustean. But a model in which everything is potentially relevant is a model in which nothing is.

### A2 Role of Ballot

#### Metzger is writing about layering of the EU on top of European state governance – indicts their RTB, justifies uniqueness tests – if anything, Metzger impact turns their rile– dissensus creates an opening for metagovernance over USFG

Metzger J, 2011, Division of Urban and Regional Studies, Department of Urban Planning and Environ-

ment, Royal Institute of Technology, Stockholm "Neither revolution, nor resignation: (re)democratizing contemporary planning praxis: a commentary on Allmendinger and Haughton's "Spatial planning, devolution, and new planning spaces"" Environment and Planning C: Government and Policy 29(2) 191 – 196, JP Miller

Now, though, it appears as if the pendulum has swung the other way. The emerging, amorphous networks of multilevel spatial (meta)governance that are taking form in Europe often have a very limited degree of transparency and questionable levels of democratic accountability (Allmendinger and Haughton, 2010; Haughton et al, 2009; Swyngedouw, 2005). [Texas starts here in mid paragraph] The building of such semiformal or informal networks are celebrated by many practitioners and some academics as potent methods of circum- scribing and avoiding ``administrative clutter'' and a way of really ``getting things done'' (Allmendinger and Haughton, 2009, page 619). Still, if someone wishes to challenge decisions made within these networks, what court of appeal can he or she turn to when it is sometimes even difficult to figure out who is responsible for the decision, or if any decision formally even has been made, or if some loose consensus to `go ahead in a certain direction' just appears to have taken form and taken on a life of its own, within this emerging truly Kafkaesque landscape of planning and spatial policy development? For, as Swyngedouw (2005, page 1999) notes, even if the democratic lacunae of pluralist liberal democracy are well known, at least the procedures of democratic governing are formally codified, transparent, and easily legibleöwhereas the emerging ``proliferating maze of opaque networks, fuzzy institutional arrangements, ill-defined responsibilities and ambiguous political objectives and priorities'' of many `joined-up' policy networks most often lack ``explicit lines of accountability'' (pages 1999 ^ 2000).

#### Real world dissensus justifies weighing not ignoring our arguments –assemblage is productive deliberation across schools of thought

Kratochwil 2008 (Friedrich Kratochwil, professor of international relations at European University Institute, 2008

(Friedrich, “The Puzzles of Politics,” pg. 200-213)

In what follows, I claim that the shift in focus from “demonstration” to science as practice provides strong prima facie reasons to choose pragmatic rather than traditional epistemological criteria in social analysis.

Irrespective of its various forms, the epistemological project includes an argument that all warranted knowledge has to satisfy certain field- independent criteria that are specified by philosophy (a “theory of know- ledge”). The real issue of how our concepts and the world relate to each other, and on which non-idiosyncratic grounds we are justified to hold on to our beliefs about the world, is “answered” by two metaphors. The first is that of an inconvertible ground, be it the nature of things, certain intuitions (Des- cartes’ “clear and distinct ideas”) or methods and inferences; the second is that of a “mirror” that shows what is the case.¶ There is no need to rehearse the arguments demonstrating that these under- lying beliefs and metaphors could not sustain the weight placed upon them. A “method” à la Descartes could not make good on its claims, as it depended ultimately on the guarantee of God that concepts and things in the outer world match. On the other hand, the empiricist belief in direct observation forgot that “facts” which become “data” are – as the term suggests – “made”. They are based on the judgements of the observer using cultural criteria, even if they appear to be based on direct perception, as is the case with colours.4¶ Besides, there had always been a sneaking suspicion that the epistemological ideal of certainty and rigour did not quite fit the social world, an objection voiced first by humanists such as Vico, and later rehearsed in the continuing controversies about erklären and verstehen (Weber 1991; for a more recent treatment see Hollis 1994). In short, both the constitutive nature of our concepts, and the value interest in which they are embedded, raise peculiar issues of meaning and contestation that are quite different from those of description. As Vico (1947) suggested, we “understand” the social world because we have “made it”, a point raised again by Searle concerning both the crucial role played by ascriptions of meaning (x counts for y) in the social world and the distinction between institutional “facts” from “brute” or natural facts (Searle 1995). Similarly, since values are constitutive for our “interests”, the concepts we use always portray an action from a certain point of view; this involves appraisals and prevents us from accepting allegedly “neutral” descriptions that would be meaningless. Thus, when we say that someone “abandoned” another person and hence communicate a (contestable) appraisal, we want to call attention to certain important moral implica- tions of an act. Attempting to eliminate the value-tinge in the description and insisting that everything has to be cast in neutral, “objective”, observational language – such as “he opened the door and went through it” – would indeed make the statement “pointless”, even if it is (trivially) “true” (for a powerful statement of this point, see Connolly 1983).¶ The most devastating attack on the epistemological project, however, came from the history of science itself. It not only corrected the naive view of knowledge generation as mere accumulation of data, but it also cast increasing doubt on the viability of various field-independent “demarcation criteria”. This was, for the most part, derived from the old Humean argument that only sentences with empirical content were “meaningful”, while value statements had to be taken either as statements about individual preferences or as meaningless, since de gustibus non est disputandum. As the later dis- cussion in the Vienna circle showed, this distinction was utterly unhelpful (Popper 1965: ch. 2). It did not solve the problem of induction, and failed to acknowledge that not all meaningful theoretical sentences must correspond with natural facts.¶ Karl Popper’s ingenious solution of making “refutability” the logical cri- terion and interpreting empirical “tests” as a special mode of deduction (rather than as a way of increasing supporting evidence) seemed to respond to this epistemological quandary for a while. An “historical reconstruction” of science as a progressive development thus seemed possible, as did the specification of a pragmatic criterion for conducting research.¶ Yet again, studies in the history of science undermined both hopes. The different stages in Popper’s own intellectual development are, in fact, rather telling. He started out with a version of conjectures and refutations that was based on the notion of a more or less self-correcting demonstration. Con- fronted with the findings that scientists did not use the refutation criterion in their research, he emphasised then the role of the scientific community on which the task of “refutation” devolved. Since the individual scientist might not be ready to bite the bullet and admit that she or he might have been wrong, colleagues had to keep him or her honest. Finally, towards the end of his life, Popper began to rely less and less on the stock of knowledge or on the scientists’ shared theoretical understandings – simply devalued as the “myth of the framework” – and emphasised instead the processes of communica- tion and of “translation” among different schools of thought within a scien- tific community (Popper 1994). He still argued that these processes follow the pattern of “conjecture and refutation”, but the model was clearly no longer that of logic or of scientific demonstration, but one that he derived from his social theory – from his advocacy of an “open society” (Popper 1966). Thus a near total reversal of the ideal of knowledge had occurred. While formerly everything was measured in terms of the epistemological ideal derived from logic and physics, “knowledge” was now the result of deliberation and of certain procedural notions for assessing competing knowledge claims. Politics and law, rather than physics, now provided the template.¶ Thus the history of science has gradually moved away from the epistemo- logical ideal to focus increasingly on the actual practices of various scientific communities engaged in knowledge production, particularly on how they handle problems of scientific disagreement.5 This reorientation implied a move away from field-independent criteria and from the demonstrative ideal to one in which “arguments” and the “weight” of evidence had to be appraised. This, in turn, not only generated a bourgeoning field of “science studies” and their “social” epistemologies (see Fuller 1991), but also suggested more generally that the traditional understandings of knowledge production based on the model of “theory” were in need of revision.¶ If the history of science therefore provides strong reasons for a pragmatic turn, as the discussion above illustrates, what remains to be shown is how this turn relates to the historical, linguistic and constructivist turns that preceded it. To start with, from the above it should be clear that, in the social world, we are not dealing with natural kinds that exist and are awaiting, so to speak, prepackaged, their placement in the appropriate box. The objects we investi- gate are rather conceptual creations and they are intrinsically linked to the language through which the social world is constituted. Here “constructivists”, particularly those influenced by Wittgenstein and language philosophy, easily link up with “pragmatists” such as Rorty, who emphasises the product- ive and pragmatic role of “vocabularies” rather than conceiving of language as a “mirror of nature” (Rorty 1979).¶ Furthermore, precisely because social facts are not natural, but have to be reproduced through the actions of agents, any attempt to treat them like “brute” facts becomes doubly problematic. For one, even “natural” facts are not simply “there”; they are interpretations based on our theories. Secondly, different from the observation of natural facts, in which perceptions address a “thing” through a conceptually mediated form, social reality is entirely “arti- ficial” in the sense that it is dependent on the beliefs and practices of the actors themselves. This reproductive process, directed by norms, always engenders change either interstitially, when change is small-scale or adaptive – or more dramatically, when it becomes “transformative” – for instance when it produces a new system configuration, as after the advent of national- ism (Lapid and Kratochwil 1995) or after the demise of the Soviet Union (Koslowski and Kratochwil 1994). Consequently, any examination of the social world has to become in a way “historical” even if some “structuralist” theories attempt to minimise this dimension. [. . .]¶ Therefore a pragmatic approach to social science and IR seems both necessary and promising. ¶ On the one hand, it is substantiated by the failure of the epistemological project that has long dominated the field. On the other, it offers a different positive heuristics that challenges IR’s traditional disciplin- ary boundaries and methodological assumptions. Interest in pragmatism therefore does not seem to be just a passing fad – even if such an interpre- tation cannot entirely be discounted, given the incentives of academia to find, just like advertising agencies, “new and improved” versions of familiar products.

#### Our dramatic rehearsal in the debate domain may seem messy, but the benefits come from the scenario process not whether our advantages are real – our RTB better accounts for educational context

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Joas’ re-interpretation of Dewey’s pragmatism as a “theory of situated creativity” raises a critique of humans as purely rational agents that navigate instrumentally through meansends- schemes (Joas, 1996: 133f). This critique is particularly important when trying to understand how games are enacted and validated within the realm of educational institutions that by definition are inscribed in the great modernistic narrative of “progress” where nation states, teachers and parents expect students to acquire specific skills and competencies (Popkewitz, 1998; cf. chapter 3). However, as Dewey argues, the actual doings of educational gaming cannot be reduced to rational means-ends schemes. Instead, the situated interaction between teachers, students, and learning resources are played out as contingent re-distributions of means, ends and ends in view, which often make classroom contexts seem “messy” from an outsider’s perspective (Barab & Squire, 2004). 4.2.3. Dramatic rehearsal The two preceding sections discussed how Dewey views play as an imaginative activity of educational value, and how his assumptions on creativity and playful actions represent a critique of rational means-end schemes. For now, I will turn to Dewey’s concept of dramatic rehearsal, which assumes that social actors deliberate by projecting and choosing between various scenarios for future action. Dewey uses the concept dramatic rehearsal several times in his work but presents the most extensive elaboration in Human Nature and Conduct: Deliberation is a dramatic rehearsal (in imagination) of various competing possible lines of action… [It] is an experiment in finding out what the various lines of possible action are really like (...) Thought runs ahead and foresees outcomes, and thereby avoids having to await the instruction of actual failure and disaster. An act overtly tried out is irrevocable, its consequences cannot be blotted out. An act tried out in imagination is not final or fatal. It is retrievable (Dewey, 1922: 132-3). This excerpt illustrates how Dewey views the process of decision making (deliberation) through the lens of an imaginative drama metaphor. Thus, decisions are made through the imaginative projection of outcomes, where the “possible competing lines of action” are resolved through a thought experiment.

Moreover, Dewey’s compelling use of the drama metaphor also implies that decisions cannot be reduced to utilitarian, rational or mechanical exercises, but that they have emotional, creative and personal qualities as well. Interestingly, there are relatively few discussions within the vast research literature on Dewey of his concept of dramatic rehearsal. A notable exception is the phenomenologist Alfred Schütz, who praises Dewey’s concept as a “fortunate image” for understanding everyday rationality (Schütz, 1943: 140). Other attempts are primarily related to overall discussions on moral or ethical deliberation (Caspary, 1991, 2000, 2006; Fesmire, 1995, 2003; Rönssön, 2003; McVea, 2006). As Fesmire points out, dramatic rehearsal is intended to describe an important phase of deliberation that does not characterise the whole process of making moral decisions, which includes “duties and contractual obligations, short and long-term consequences, traits of character to be affected, and rights” (Fesmire, 2003: 70). Instead, dramatic rehearsal should be seen as the process of “crystallizing possibilities and transforming them into directive hypotheses” (Fesmire, 2003: 70). Thus, deliberation can in no way guarantee that the response of a “thought experiment” will be successful. But what it can do is make the process of choosing more intelligent than would be the case with “blind” trial-and-error (Biesta, 2006: 8). The notion of dramatic rehearsal provides a valuable perspective for understanding educational gaming as a simultaneously real and imagined inquiry into domain-specific scenarios. Dewey defines dramatic rehearsal as the capacity to stage and evaluate “acts”, which implies an “irrevocable” difference between acts that are “tried out in imagination” and acts that are “overtly tried out” with real-life consequences (Dewey, 1922: 132-3). This description shares obvious similarities with games as they require participants to inquire into and resolve scenario-specific problems (cf. chapter 2). On the other hand, there is also a striking difference between moral deliberation and educational game activities in terms of the actual consequences that follow particular actions. Thus, when it comes to educational games, acts are both imagined and tried out, but without all the real-life consequences of the practices, knowledge forms and outcomes that are being simulated in the game world. Simply put, there is a difference in realism between the dramatic rehearsals of everyday life and in games, which only “play at” or simulate the stakes and risks that characterise the “serious” nature of moral deliberation, i.e. a real-life politician trying to win a parliamentary election experiences more personal and emotional risk than students trying to win the election scenario of The Power Game. At the same time, the lack of real-life consequences in educational games makes it possible to design a relatively safe learning environment, where teachers can stage particular game scenarios to be enacted and validated for educational purposes. In this sense, educational games are able to provide a safe but meaningful way of letting teachers and students make mistakes (e.g. by giving a poor political presentation) and dramatically rehearse particular “competing possible lines of action” that are relevant to particular educational goals (Dewey, 1922: 132). Seen from this pragmatist perspective, the educational value of games is not so much a question of learning facts or giving the “right” answers, but more a question of exploring the contingent outcomes and domain-specific processes of problem-based scenarios.

#### Role playing energy policymaking is key to change

Kuzemko 2012(Caroline Kuzemko, CSGR University of Warwick, “Security, the State and Political Agency: Putting ‘Politics’ back into UK Energy,” <http://www.psa.ac.uk/journals/pdf/5/2012/381_61.pdf>)

This observation brings us on to the way in which debates and narratives within political circles, particularly within parliament and amongst policymakers, started to shift. A plethora of new papers, debates and policy documents on energy emerged over this time, despite the round of energy reviews and the new White Paper that had been produced immediately prior to this period (see in particular Havard 2004; Ofgem 2004; DTI 2005a, 2005b, 2006a, 2006b and 2006c; JESS 2006). The energy sector became increasingly referenced in these proliferating policy and other government documents in terms of potential supply insecurity (FCO 2004; Straw in Plesch et al 2004). Echoing media, academic and think-tank narratives, direct links can be found between fears of supply insecurity and Russia (FAC 2008; see also House of Commons 2007; Ofgem 2009: 1). In particular, in 2007 the Foreign Affairs Committee (FAC) produced a report entitled ‘Global Security: Russia’ (FAC 2008). This is where we see how assumptions about resource nationalism and energy ‘politicisation’ as wrong affect perceptions (Straw in Plesch et al 2004; DTI 2007: 19). The FAC report focuses on certain political frameworks in non-OECD producer countries, particularly Russia, which may not allow new reserves to be developed properly making them ‘unstable’ suppliers (Havard 2004; FCO 2004). This in turn had negative implications for energy prices (Straw in Plesch et al 2004; DTI 2007: 19). What was also evident over this time, however, was the rising amount of reports produced by political institutions outside of those directly responsible for policymaking, the Energy Directorate of the DTI and the independent regulator, Ofgem. The Foreign Office, House of Commons committees and parliamentary offices, such as that of Science and Technology, all started to produce reports on energy focused on energy security (FCO 2004; POST 2004; Fox 2006; House of Lords 2006; House of Commons 2007; FAC 2007). Energy security was added, by the UK, to formal forums for international negotiation. In 2005, during the October EU Summit at Hampton Court, the issue of ‘energy security’ was added to the agenda (Offerdahl 2007). In a paper prepared for conference delegates energy is characterised as a sector which was by then becoming an issue of national security (Helm 2005b: 2). Increasing dependence on Russia for supplies of, particularly gas, is seen as a source of threat to the security of EU, and by extension UK, energy supply. Likewise, energy security was made top of the agenda in the G8 Summit of 2006 (G8 2006). In 2006 Prime Minister Tony Blair used his annual Lord Mayor’s speech to highlight energy security concerns (DTI 2006c: 4). Growing political interest in energy, outside of those institutions formally responsible for energy policymaking, indicates the extent to which energy was becoming subject, once more, to political debate and deliberation. What is also interesting to note at this time is the degree to which the deliberation of energy becomes formalised through various new institutions. In July 2004, in the immediate aftermath of the Yukos affair, the new Energy Act had conferred on the Secretary of State for Trade and Industry a fixed duty to report annually on energy security matters to Parliament (DTI 2005a). Thus a specific political process was put in place to revisit energy security at least annually. Changes related to the need to deliberate more formally had also started to take place within the DTI and FCO in that new resources were allocated to energy analysis (Interview 5). The 2007 White Paper acknowledged that energy had not up until the mid 2000s existed as a discrete area of foreign policy. Again, as such, it had less dedicated capacity assigned to it. The paper announced that, for the first time, the UK would have ...an integrated international energy strategy which describes the action we are taking to help deliver secure energy supplies and tackle climate change. (DTI 2007: 8) Concurrent with the degree to which energy was re-entering elite political debates at both the national and international levels, which in itself indicates a degree of deliberative repoliticisation , there were a number of policy alterations made relating to changing interpretations of energy and international markets. It could be argued that energy security had, in 2003, been assumed to exist, especially given the degree to which energy governance was still understood to be heading in a promarket direction (Thomas 2006: 583; Jegen 2009: 1; Lesage et al 2010: 6; EC 2011: 14). For example the energy supply objective had been worded such that the UK should continue to “maintain the reliability of… supplies” (DTI 2003: 11). Energy security, although still an objective, had been an assumed outcome of marketisation which explains why competitive markets had been the principal objective of energy policy at that time (cf. Helm 2005). By contrast, however, by 2007 energy security is understood to be something that needs to be established, as one of the ‘immense’ challenges facing the UK as a nation, and furthermore, to require further political action to achieve (DTI 2006c: Introduction and 4). This refocus of objectives onto achieving energy security, over time, added to the political pressures being brought to bear on energy policymakers given the degree to which supplies continued to be considered ‘insecure’ (Kuzemko 2012b: ). These changes in policy objectives, political institutions, and the addition of political capacity to deliberate energy are understood have taken place partly in response to political pressures to change emanating from outside energy policy circles, i.e. the DTI and Ofgem. Ofgem officials report a higher degree of ‘outside’ political interference in their practices (Interview 15), and it has been widely claimed that both the 2006 Energy Review and 2007 White Paper were researched and compiled specifically because the DTI and Ofgem understood the political need to respond to the crisis (CEPMLP 2006; House of Commons 2007a). As these processes of deliberation intensified it started also to become clear that the state had lost considerable capacity to understand the complexities of energy. Government was considered to be more responsible, given that the narrative was of national energy supply security, but lacking in information and knowledge both about what was happening and what to do about it. Ultimately this resulted in the formation of a new government institution, the Department of Energy and Climate Change (DECC), with specific mandates to deliver on energy and climate security.

#### Network governance is necessary for policymaking in complex societies and is good for democracy- public deliberation and meta-democratic checks solve their impacts

Sørensen and Torfing 2005 (Eva Sørensen, professor of public administration and democracy in the department of Social Sciences, Roskilde University, Denmark, and Jacob Torfing Professor in Politics and Instutions at Roskilde University, Denmark, “NETWORK GOVERNANCE AND POST-LIBERAL DEMOCRACY,” Administrative Theory & Praxis, Vol. 27, No. 2, EBSCO) YELLOW

As it should now be clear, the choice between liberal and post-liberal theories of democracy determines the response to the question of the democratic problems and potentials inherent in governance networks. In contrast to the liberal theories of democracy, post-liberal theories do not necessarily perceive the undermining of the traditional institutional borderlines between nation states, between the public and the private sphere, and between the legislative input-side and the executive output- side of the political system as a threat to democracy. In fact, they tend to see the blurring of these borderlines as a prerequisite for the democratic regulation of governance processes. In summary, the post-liberal theories of democracy render it possible to see how governance networks might contribute in new and important ways to organizing and regulating processes of democratic policy-making in our complex, differentiated and multi-layered societies. As such, it might be argued that¶ governance networks:¶ • construct a balance of power between the people and the political elite(s) through the institutionalization of an intermediate layer of sub-elites;¶ • establish a vertical link between top-down representative democracy and bottom-up self-governing democracy and facilitate horizontal coordination between autonomous political institutions and organizations;¶ • improve the problem-solving capacity of governance institutions through outcome orientation, bottom-up participation and negotiated deliberation between autonomous and interdependent actors;¶ • produce a more just outcome of policy processes through the inclusion of all affected actors;¶ • serve as the medium for the enhancement of political empowerment and engagement through the development of political capacities and political identities;¶ • establish bridges of communication and understanding between a multiplicity of collective identities;¶ • widen the scope of political contestation within a relatively stable but permanently contested institutional and discursive frame- work;¶ • transform antagonistic relations into agonistic ones; and¶ • democratically regulate informal political processes that might¶ lead to the formation of new political institutions.¶ Post-liberal theories of democracy are not blind to the democratic problems associated with network governance. Indeed, it can be argued that governance networks might result in:¶ • the reduction of elite competition through mechanisms of cooptation;¶ • a lack of publicity and transparency in the governing process;¶ • the atomization and fragmentation of public governance, which reduces the potential for democratic control and accountability;¶ • unequal patterns of political inclusion, influence and empower-¶ ment; and¶ • the reduction of the scope of political contestation through the¶ development of strong hegemonic discourses that undermines agonism by defining what can be said and done.¶ The big question that confronts post-liberal theories of democracy as well as governance network theory is how to exploit the democratic potentials of governance networks while avoiding the pitfalls. Avoiding the pitfalls call for a democratic anchorage of governance networks in representative democracy (Sørensen & Torfing, in press). The means to anchor governance networks in representative democracy is meta-governance exercised by elected politicians. As described earlier in this article the second generation of governance network theories set focus on the development of ways of exercising meta-governance that is regu- lation of self-regulating governance networks. While the first genera- tion of governance network theories have primarily focussed on how meta-governance can enhance the governance efficiency of governance networks the second generation draws attention to the possibility of de- veloping meta-governance as a tool for promoting democratic network governance. Governance network theory points to three ways in which politicians can exercise meta-governance:¶ 1. designing networks;¶ 2. participating in networks; and 3. framing networks.¶ Meta-governance through network design allows politicians to regulate governance networks by encouraging or discouraging their estab- lishment, and influence their membership. Meta-governance through network design is exercised through the establishment of an institutional incentive structure that shapes societal interdependency struc- tures in desired ways. Network design can be directed towards the establishment of a plurality of competing networks, and it can be used to influence how the lines of inclusion and exclusion are drawn within the individual networks. Network design also makes way for a selective empowerment of certain actors, rather than others, by giving them im- portant resources and capacities that grant them a key role in the gov- ernance network. Finally, network design involves decisive decisions about the scope and competences that are to be allocated to governance networks. Expanding the political scope of governance networks to in- clude important political issues and by delegating competence to en- gage in a proactive policy making, rather than merely a reactive policy monitoring, is crucial for mobilizing the energies of the network partici- pants and realizing the potentials of interactive governance.¶ The second form of meta-governance is network participation. Through participation the politicians gain first hand knowledge about network activities and this facilitates critical scrutiny and political inter- vention in the policy making process in the governance networks. This especially counts in the early phases of a network process where deci- sions are often easier to modify or change without overruling and up- setting the entire governance network. Active participation in¶ governance networks might also enable elected politicians to counter- act, or even prevent, the predominance of particularistic sector interests pursued by a distributive coalition. The politicians can use their power to help foster the formulation of a broad and inclusive agenda and to encourage that narrow-minded interests and opportunistic strategies are modified in the light of competing definitions of the common good articulated by different societal groups. Finally, active participation in processes of deliberation and bargaining might help to align the policy decisions of governance networks with the overall objectives of the gov- ernment, and to transform the image of governance networks from arenas of private interest mediation to arenas of public decision-making that should be made subject to open public debate.¶ The third form of meta-governance is network framing. Network framing is performed through the formulation of overall political goals and objectives, through the allocation of fiscal and other important re- sources to governance networks, through the crafting of a reflexive le- gal framework for the operation of governance networks, and through discursive story telling that creates images of what the problems and possible solutions are, and what the norms and values are that condition the governance process. Through political, financial and discursive framing the politicians are able to demarcate the area within which gov- ernance networks are self-governing. Politicians can decide on all issues that they regard as of general relevance and importance, and leave the more specific and detailed decision making to the governance networks.¶ One of the most central objectives of the second generation of governance network theory is to uncover how the various forms of meta- governance can be used in order to avoid the dangers of governance networks, and to harvest their democratic potentials. This is not going to be an easy task. Many dangers await our efforts to improve the democratic quality of network governance, but the task is not impossible, as liberal theories of democracy suggest. Post-liberal theories of democracy envisage the potential benefits of networks governance for democracy while governance network theory indicate how the democratic pitfalls of governance networks can be removed or reduced through meta-governance.

### 2AC Risk/Scholarship K

#### Minimax is the best response to risk- discounting impacts on face due to conjunction makes disjunctive versions of the same impact more likely

Peabody 1994 (Matthew Roskoski and Joe Peabody, 1994, “On Infinite Risk,” Florida State University, http://debate.uvm.edu/Library/DebateTheoryLibrary/Roskoski-Infinite%20Risk) BLUE

Gawlak and Byrd disagree, noting that frequently chains with thirty-three or more causal steps can be perfectly legitimate (Gawlak & Byrd 41). Additionally, Bjorkman laments that: People seem unable to get involved in and evaluate future events other than those that are very close in time and space to themselves. This holds true for catastrophes like a nuclear war as well as for beneficial events like the invention of effective methods to obtain food from the sea... This leads to the reflection that risk factors, negative effects with a low probability of occurrence are underestimated... Limitations of cognitive time and underestimation of risk probabilities may have the effect that decision makers overlook long- term risk effects which are small per unit of time. (Bjorkman 19-20). Bjorkman's observation leads us to two conclusions. First, the subjective perception that the risk of a given disadvantage is low might well be erroneous. Bjorkman claims that people are sometimes cognitively incapable of realizing the full magnitude of such risks. Second, translating that incapacity into an exclusionary rule in debate rounds leads to overlooking important risks. The field of games theory also sheds some light on the legitimacy of minimax analysis. In games theory, the minimax strategy is the strategy of playing so as to minimize the chance of incurring the maximum harm (Guiasu & Malitza 13-14, Singleton & Tyndall 84). Davis explains the utility of such reasoning: The virtue of the minimax strategy is security. Without it, you must resort to the double- and triple-cross world of Poe's precocious student. With it, you can obtain your full value, and you have the assurance that you couldn't do better - at least, not against good play (Davis 39). Fryer describes the minimax value of any given game as "the most favourable value" (Fryar 37) and Luce & Raiffa note that the minimax theorem is true under general conditions (Luce & Raiffa 2). Finally, Colman has demonstrated that people intuitively reason in minimax fashion (Colman 61). Given these varied and persuasive justifications for minimax reasoning, it is not unreasonable to suggest that debate judges ought to be willing to play the debate game using a minimax strategy. Additionally, Crouch and Wilson distinguish between historical risks and new risks. Historical risks are those which have already occurred and may occur again, such as diseases, motor vehicle accidents etc. New risks are those which haven't already been observed, such as meteor impacts, nuclear conflicts etc. (Crouch & Wilson 51-52). Obviously new risks will appear less probable than historical risks, because we haven't observed the dynamic which leads to their actualization. Hence, we shouldn't arbitrarily subordinate new risks to historical risks. We ought always to remember, AIDS was once considered a new risk, as was a global depression.

#### Default to the specificity of our claims- solves the K- their author concludes

Berube 2000 (David Berube, Associate Professor of Speech Communication and Director of Debate at the University of South Carolina, Debunking Mini-Max Reasoning, Contemporary Argumentation and Debate, p. 64-65)

If extended arguments using mini-max reasoning is so indefensible, what can we do? Surprisingly, the answer is quite a lot. As a starting point, we need to reject the notion that contest debating would be impossible without them. We could demand a greater responsibility on the part of arguers making mini-max claims (a subject approached below). Debaters could use their plans and counterplans to stipulate the internal link and uniqueness stories for their extended arguments, consequently focusing the debate on probability assessment and away from exaggerated impacts. Alternatively, debaters may select to discuss ideas as we have seen in the recent trend toward kritik debating.

#### Predictions necessary good enough

Garrett 2012 (Banning Garrett, director of the Atlantic Council’s Strategic Foresight Initiative, consultant for 22 years to the Department of Defense and other U.S. Government agencies carrying on a strategic dialogue with China, senior associate at CSIS and a founding board member of the U.S. Committee for Security Cooperation in the Asia Pacific and an Adjunct Professor of Political Science at George Washington University, January 23, 2012, “In Search of Sand Piles and Butterflies,” Atlantic Council, http://www.acus.org/disruptive\_change/search-sand-piles-and-butterflies)

“Disruptive change” that produces “strategic shocks” has become an increasing concern for policymakers, shaken by momentous events of the last couple of decades that were not on their radar screens – from the fall of the Berlin Wall and the 9/11 terrorist attacks to the 2008 financial crisis and the “Arab Spring.” These were all shocks to the international system, predictable perhaps in retrospect but predicted by very few experts or officials on the eve of their occurrence.¶ This “failure” to predict specific strategic shocks does not mean we should abandon efforts to foresee disruptive change or look at all possible shocks as equally plausible. Most strategic shocks do not “come out of the blue.” We can understand and project long-term global trends and foresee at least some of their potential effects, including potential shocks and disruptive change. We can construct alternative futures scenarios to envision potential change, including strategic shocks. Based on trends and scenarios, we can take actions to avert possible undesirable outcomes or limit the damage should they occur. We can also identify potential opportunities or at least more desirable futures that we seek to seize through policy course corrections.¶ We should distinguish “strategic shocks” that are developments that could happen at any time and yet may never occur. This would include such plausible possibilities as use of a nuclear device by terrorists or the emergence of an airborne human-to-human virus that could kill millions. Such possible but not inevitable developments would not necessarily be the result of worsening long-term trends. Like possible terrorist attacks, governments need to try to prepare for such possible catastrophes though they may never happen.¶ But there are other potential disruptive changes, including those that create strategic shocks to the international system, that can result from identifiable trends that make them more likely in the future—for example, growing demand for food, water, energy and other resources with supplies failing to keep pace. We need to look for the “sand piles” that the trends are building and are subject to collapse at some point with an additional but indeterminable additional “grain of sand” and identify the potential for the sudden appearance of “butterflies” that might flap their wings and set off hurricanes. Mohamed Bouazizi, who immolated himself December 17, 2010 in Sidi Bouzid, Tunisia, was the butterfly who flapped his wings and (with the “force multiplier” of social media) set off a hurricane that is still blowing throughout the Middle East. Perhaps the metaphors are mixed, but the butterfly’s delicate flapping destabilized the sand piles (of rising food prices, unemployed students, corrupt government, etc.) that had been building in Tunisia, Egypt, and much of the region. The result was a sudden collapse and disruptive change that has created a strategic shock that is still producing tremors throughout the region. But the collapse was due to cumulative effects of identifiable and converging trends. When and what form change will take may be difficult if not impossible to foresee, but the likelihood of a tipping point being reached—that linear continuation of the present into the future is increasingly unlikely—can be foreseen.¶ Foreseeing the direction of change and the likelihood of discontinuities, both sudden and protracted, is thus not beyond our capabilities. While efforts to understand and project long-term global trends cannot provide accurate predictions, for example, of the GDPs of China, India, and the United States in 2030, looking at economic and GDP growth trends, can provide insights into a wide range of possible outcomes. For example, it is a useful to assess the implications if the GDPs of these three countries each grew at currently projected average rates – even if one understands that there are many factors that can and likely will alter their trajectories. The projected growth trends of the three countries suggest that at some point in the next few decades, perhaps between 2015 and 2030, China’s GDP will surpass that of the United States. And by adding consideration of the economic impact of demographic trends (China’s aging and India’s youth bulge), there is a possibility that India will surpass both China and the US, perhaps by 2040 or 2050, to become the world’s largest economy. These potential shifts of economic power from the United States to China then to India would likely prove strategically disruptive on a global scale. Although slowly developing, such disruptive change would likely have an even greater strategic impact than the Arab Spring. The “rise” of China has already proved strategically disruptive, creating a potential China-United States regional rivalry in Asia two decades after Americans fretted about an emerging US conflict with a then-rising Japan challenging American economic supremacy.¶ Despite uncertainty surrounding projections, foreseeing the possibility (some would say high likelihood) that China and then India will replace the United States as the largest global economy has near-term policy implications for the US and Europe. The potential long-term shift in economic clout and concomitant shift in political power and strategic position away from the US and the West and toward the East has implications for near-term policy choices. Policymakers could conclude, for example, that the West should make greater efforts to bring the emerging (or re-emerging) great powers into close consultation on the “rules of the game” and global governance as the West’s influence in shaping institutions and behavior is likely to significantly diminish over the next few decades. The alternative to finding such a near-term accommodation could be increasing mutual suspicions and hostility rather than trust and growing cooperation between rising and established powers—especially between China and the United States—leading to a fragmented, zero-sum world in which major global challenges like climate change and resource scarcities are not addressed and conflict over dwindling resources and markets intensifies and even bleeds into the military realm among the major actors.¶ Neither of these scenarios may play out, of course. Other global trends suggest that sometime in the next several decades, the world could encounter a “hard ceiling” on resources availability and that climate change could throw the global economy into a tailspin, harming China and India even more than the United States. In this case, perhaps India and China would falter economically leading to internal instability and crises of governance, significantly reducing their rates of economic growth and their ability to project power and play a significant international role than might otherwise have been expected. But this scenario has other implications for policymakers, including dangers posed to Western interests from “failure” of China and/or India, which could produce huge strategic shocks to the global system, including a prolonged economic downturn in the West as well as the East.¶ Thus, looking at relatively slowly developing trends can provide foresight for necessary course corrections now to avert catastrophic disruptive change or prepare to be more resilient if foreseeable but unavoidable shocks occur.¶ Policymakers and the public will press for predictions and criticize government officials and intelligence agencies when momentous events “catch us by surprise.” But unfortunately, as both Yogi Berra and Neils Bohr are credited with saying, “prediction is very hard, especially about the future.” One can predict with great accuracy many natural events such as sunrise and the boiling point of water at sea level. We can rely on the infallible predictability of the laws of physics to build airplanes and automobiles and iPhones. And we can calculate with great precision the destruction footprint of a given nuclear weapon. Yet even physical systems like the weather as they become more complex, become increasingly difficult and even inherently impossible to predict with precision.¶ With human behavior, specific predictions are not just hard, but impossible as uncertainty is inherent in the human universe. As futurist Paul Saffo wrote in the Harvard Business Review in 2007, “prediction is possible only in a world in which events are preordained and no amount of actions in the present can influence the future outcome.” One cannot know for certain what actions he or she will take in the future much less the actions of another person, a group of people or a nation state. This obvious point is made to dismiss any idea of trying to “predict” what will occur in the future with accuracy, especially the outcomes of the interplay of many complex factors, including the interaction of human and natural systems. More broadly, the human future is not predetermined but rather depends on human choices at every turning point, cumulatively leading to different alternative outcomes. This uncertainty about the future also means the future is amenable to human choice and leadership. Trends analyses—including foreseeing trends leading to disruptive change—are thus essential to provide individuals, organizations and political leaders with the strategic foresight to take steps mitigate the dangers ahead and seize the opportunities for shaping the human destiny.¶ Peter Schwartz nearly a decade ago characterized the convergence of trends and disruptive change as “inevitable surprises.” He wrote in Inevitable Surprises that “in the coming decades we face many more inevitable surprises: major discontinuities in the economic, political and social spheres of our world, each one changing the ‘rules of the game’ as its played today. If anything, there will be more, no fewer, surprises in the future, and they will all be interconnected. Together, they will lead us into a world, ten to fifteen years hence, that is fundamentally different from the one we know today. Understanding these inevitable surprises in our future is critical for the decisions we have to make today …. We may not be able to prevent catastrophe (although sometimes we can), but we can certainly increase our ability to respond, and our ability to see opportunities that we would otherwise miss.”

#### Try

Kurasawa 2004 (Fuyuki Kurasawa, Constellations Volume 11, No 4, 2004, “Cautionary Tales: The Global Culture of Prevention and the Work of Foresight,” online)

Moreover, keeping in mind the sobering lessons of the past century cannot but make us wary about humankind’s supposedly unlimited ability for problem- solving or discovering solutions in time to avert calamities. In fact, the historical track-record of last-minute, technical ‘quick-fixes’ is hardly reassuring. What’s more, most of the serious perils that we face today (e.g., nuclear waste, climate change, global terrorism, genocide and civil war) demand complex, sustained, long-term strategies of planning, coordination, and execution. On the other hand, an examination of fatalism makes it readily apparent that the idea that humankind is doomed from the outset puts off any attempt to minimize risks for our succes- sors, essentially condemning them to face cataclysms unprepared. An a priori pessimism is also unsustainable given the fact that long-term preventive action has had (and will continue to have) appreciable beneficial effects; the examples of medical research, the welfare state, international humanitarian law, as well as strict environmental regulations in some countries stand out among many others. The evaluative framework proposed above should not be restricted to the cri- tique of misappropriations of farsightedness, since it can equally support public deliberation with a reconstructive intent, that is, democratic discussion and debate about a future that human beings would freely self-determine. Inverting Foucault’s Nietzschean metaphor, we can think of genealogies of the future that could perform a farsighted mapping out of the possible ways of organizing social life. They are, in other words, interventions into the present intended to facilitate global civil society’s participation in shaping the field of possibilities of what is to come. Once competing dystopian visions are filtered out on the basis of their analytical credibility, ethical commitments, and political underpinnings and consequences, groups and individuals can assess the remaining legitimate catastrophic scenarios through the lens of genealogical mappings of the future. Hence, our first duty consists in addressing the present-day causes of eventual perils, ensuring that the paths we decide upon do not contract the range of options available for our posterity.42 Just as importantly, the practice of genealogically- inspired farsightedness nurtures the project of an autonomous future, one that is socially self-instituting. In so doing, we can acknowledge that the future is a human creation instead of the product of metaphysical and extra-social forces (god, nature, destiny, etc.), and begin to reflect upon and deliberate about the kind of legacy we want to leave for those who will follow us. Participants in global civil society can then take – and in many instances have already taken – a further step by committing themselves to socio-political struggles forging a world order that, aside from not jeopardizing human and environmental survival, is designed to rectify the sources of transnational injustice that will continue to inflict need- less suffering upon future generations if left unchallenged.

### 2AC Energy Justice

#### Nuke power is progress- Blind rejection causes regression to worse alternatives

Hummel 2012 (William Hummel, BA Pomona University, May 1, 2012, “Environmental Critiques of Nuclear Energy,” http://scholarship.claremont.edu/cgi/viewcontent.cgi?article=1057&context=pomona\_theses)

Ultimately, we environmentalists ought to agree on two major points: the first is that we must quickly phase out harmful fossil fuel technologies that emit tons of GHG into the atmosphere and are the major drivers of anthropogenic climate change. And secondly, governments around the world must support the development of green technology and renewable energy sources.¶ Nuclear power falls somewhere between these two positions. If we had to choose whether to burn fossil fuels or split atoms for our electricity, we ought to pick nuclear energy sources. And if we could choose between nuclear power and renewables, we ought to construct windmills and deploy solar cells. But for the moment, neither of these choices is realistic. Serious efforts to quickly phase out coal, petroleum, and natural gas will almost surely necessitate the construction of nuclear reactors. There will be energy deficits as we move away from fossil fuel technologies, and unless it is clear that we can provide sufficient amounts of energy with renewables, environmentalists should support nuclear development, and insist upon more nuclear research. This support should be skeptical and reserved: as we have seen, there are problems associated with nuclear energy, and environmentalists should simultaneously work to address the concerns outlined above. Reactors don’t emit significant amounts of GHG, but that doesn’t mean we ought to support such technology unconditionally. And conversely, skeptics should remember that nuclear power plants are—from an environmental standpoint—preferable to fossil fuel technology. Blind opposition to nuclear technology may leave us with the same coal plants that environmentalists agree are devastating our planet’s climate, and its inhabitants.

#### “Structural violence” is reductive and inevitable

Boulding 1977 (Kenneth E. Boulding, economist, educator, peace activist, poet, religious mystic, devoted Quaker, systems scientist, and interdisciplinary philosopher, “Twelve Friendly Quarrels with Johan Galtung,” Journal of Peace Research, Vol. 14, No. 1, JSTOR)

Finally, we come to the great Galtung metaphors of 'structural violence' 'and 'positive peace'. They are metaphors rather than models, and for that very reason are suspect. Metaphors always imply models and meta- phors have much more persuasive power than models do, for models tend to be the preserve of the specialist. But when a metaphor implies a bad model it can be very dangerous, for it is both persuasive and wrong. The metaphor of structural violence I would argue falls right into this category. The metaphor is that poverty, deprivation, ill health, low expectations of life, a condi- tion in which more than half the human race lives, is 'like' a thug beating up the victim and 'taking his money away from him in the street, or it is 'like' a conqueror stealing the land of the people and reducing them to slavery. The implication is that poverty and its associated ills are the fault of the thug or the conqueror and the solution is to do away with thugs and conquerors. While there is some truth in the metaphor, in the modern world at least there is not very much. Violence, whether of the streets and the home, or of the guerilla, of the police, or of the armed forces, is a very different phenomenon from poverty. The processes which create and sustain poverty are not at all like the processes which create and sustain violence, although like everything else in 'the world, everything is somewhat related to every- thing else.¶ There is a very real problem of the struc- tures which lead to violence, but unfortunately Galitung's metaphor of structural violence as he has used it has diverted atten- tion from this problem. Violence in the behavioral sense, that is, somebody actually doing damage to somebody else and trying to make them worse off, is a 'threshold' phenomenon, rather like the boiling over of a pot. The temperature under a pot can rise for a long time without its boiling over, but at some 'threshold boiling over will take place. The study of the structures which underlie violence are a very important and much neglected part of peace research and indeed of social science in general. Thresh- old phenomena like violence are difficult to study because they represent 'breaks' in the system rather than uniformities. Violence, whether between persons or organizations, occurs when the 'strain' on a system is too great for its 'strength'. The metaphor here is that violence is like what happens when we break a piece of chalk. Strength and strain, however, especially in social systems, are so interwoven historically that it is very difficult to separate them.¶ The diminution of violence involves two¶ possible strategies, or a mixture of the two;¶ one is the increase in the strength of the sys-¶ tem, 'the other is the diminution of the strain.¶ The strength of systems involves habit, culture, taboos, and sanctions, all these 'things which enable a system to stand increasing¶ strain without breaking down into violence. The strains on the system 'are largely dy- namic in character, such as arms races, mu- tually stimulated hostility, changes in rela- tive economic position or political power, which are often hard to identify. Conflicts of interest 'are only part 'of the strain on a sys-¶ tem, and not always the most important part. It is very hard for people ito know their interests, and misperceptions of 'interest take place mainly through the dynamic processes, not through the structural ones. It is only perceptions of interest which affect people's behavior, not the 'real' interests, whatever these may be, and the gap between perception and reality can be very large and re- sistant to change.¶ However, what Galitung calls structural violence (which has been defined 'byone un- kind commenltatoras anything that Galitung doesn't like) was originally defined as any unnecessarily low expectation of life, on that assumption that anybody who dies before the allotted span has been killed, however unintentionally and unknowingly, by some- body else. The concept has been expanded to include all 'theproblems of poverty, desti- tution, deprivation, and misery. These are enormouslyreal and are a very high priority for research and action, but they belong to systems which are only peripherally related to 'the structures whi'ch produce violence. This is not rto say that the cultures of vio- lence and the cultures of poverty are not sometimes related, though not all poverty cultures are cultures of violence, and cer- tainly not all cultures of violence are pover- ty cultures. But the dynamicslof poverty and the success or failure to rise out of it are of a complexity far beyond anything which the metaphor of structural violence can offer. While the metaphor of structural violence performed a service in calling attention to a problem, it may have done a disservice in preventing us from finding the answer.

#### Overemphasis on method destroys scholarship

Wendt 2002 Wendt, Handbook of IR, 2002 p. 68

It should be stressed that in advocating a pragmatic view we are not endorsing method-driven social science. Too much research in international relations chooses problems or things to be explained with a view to whether the analysis will provide support for one or another methodological ‘ism’. But the point of IR scholarship should be to answer questions about international politics that are of great normative concern, not to validate methods. Methods are means, not ends in themselves. As a matter of personal scholarly choice it may be reasonable to stick with one method and see how far it takes us. But since we do not know how far that is, if the goal of the discipline is insight into world politics then it makes little sense to rule out one or the other approach on a priori grounds. In that case a method indeed becomes a tacit ontology, which may lead to neglect of whatever problems it is poorly suited to address. Being conscious about these choices is why it is important to distinguish between the ontological, empirical and pragmatic levels of the rationalist-constructivist debate. We favor the pragmatic approach on heuristic grounds, but we certainly believe a conversation should continue on all three levels.

#### Nuke power is safe- decreases structural violence

Hinkle 2012 (A. Barton Hinkle, journalist, July 2, 2012, “Don’t Judge Uranium Mining in a Vacuum,” Reason, http://reason.com/archives/2012/07/02/dont-judge-uranium-mining-in-a-vacuum)

Should Virginia lift its ban on uranium mining? The question has generated a lot of heat, but not much light. Last week, this column looked at uranium mining in isolation, and made three points: ¶ The recent report by the National Academy of Sciences was too vague to be of much use, and the use to which it has been put by opponents is misleading.¶ Opponents of lifting the moratorium throw around a lot of numbers that sound scary but mean little.¶ The uranium industry in Canada, where more uranium has been produced than in any other country on the planet, has an excellent environmental, health, and safety record, according to a review of the literature by the Canadian government.¶ That last point is worth dwelling on. Among many other things, the Canadian government – not the industry, the government—says “uranium mining and processing workers were as healthy as the general Canadian male population.” And: “Radon exposure to members of the public from [government]-regulated [mining] activities is virtually zero.” And: "Do uranium mines and mills increase radon levels in the environment? No." And: "Studies and monitoring have shown that there are no significant impacts to the health of the public living near uranium mines and mills." ¶ Also: "**Studies carried out over several decades have repeatedly demonstrated that people who live near [uranium mines** and processing facilities] **are as healthy as the rest of the general population." And: “It is completely safe to consume fish, game and fruit from regions near operating uranium mines and mills.”** And just for good measure: “No increased risk to children living near nuclear power plants or uranium mining, milling, and refining sites was detected.”¶ In short, then, **there is very little to fear from uranium mining or nuclear power when considered in isolation.** But we must not consider the issue in isolation – because the **fossil-fuel alternatives are**, in fact, **considerably worse.¶** Just ask Joseph Romm, who studies energy issues at the Center for American Progress – a liberal think tank founded and run by former Clinton and Obama staffers. “There is no question,” Romm has said, that “nothing is worse than fossil fuels for killing people.”¶ He is not alone. In 2010 – admittedly, before the tsunami-caused disaster at the Fukushima Daiichi nuclear plant in Japan – the OECD’s Nuclear Energy Agency produced a report comparing the risks from nuclear power with those from other energy sources. It found that, “contrary to many people’s perception, nuclear energy presents very much lower risks. For example, more than 2,500 people are killed every year in severe energy-related accidents…. In contrast, there has only been one severe accident in nuclear power plants over this period of time (Chernobyl) resulting in 31 [direct and nearly immediate] fatalities.” ¶ The OECD says the total number of Chernobyl-related fatalities could rise as high as 33,000 over the next seven decades, “but we note that the OECD Environment Directorate estimates that 960,000 premature deaths resulted from levels of particulates in the air in the year 2000 alone, of which energy sources accounted for about 30 percent.” That works out to a 9:1 ratio in nuclear power’s favor. ¶ Then there’s The Washington Post, which reported – after Fukushima – that **“making electricity from nuclear power turns out to be far less damaging to human health than making it from coal, oil, or even clean-burning natural gas, according to numerous analyses.** That’s even more true if the predicted effects of climate change are thrown in.” ¶ How much less damaging? This much: **“Compared with nuclear power, coal is responsible for five times as many worker deaths from accidents, 470 times as many deaths due to air pollution among members of the public, and more than 1,000 times as many cases of serious illness, according to a study of the health effects of electricity generation in Europe.” ¶** But what about radiation? Well. According to a 2007 piece in Scientific American, “Coal Ash Is More Radioactive than Nuclear Waste.” **In fact, “the fly ash emitted by a power plant** – a by-product of burning **coal** for electricity – **carries into the surrounding environment 100 times more radiation than a nuclear power plant producing the same amount of energy.” ¶** Gerald Marsh concurs. Two years ago the retired nuclear physicist told Popular Mechanics, “The amount of radiation put out by a coal plant far exceeds that of a nuclear power plant, even if you use scrubbers.”¶ And again, remember: **All these effects are in addition to anthropogenic climate change, which environmentalists insist is the greatest existential threat facing humanity** – at least when they are not ignoring the issue in order to frighten people about the supposed perils of uranium mining.

#### The status quo is structurally improving

Goklany 2009 (Indur Goklany, Julian Simon Fellow at the Property and Environment Research Center, visiting fellow at AEI, winner of the Julian Simon Prize and Award. PhD, MS, electrical engineering, “Have increases in population, affluence and technology worsened human and environmental well-being?,” 2009, http://www.ejsd.org/docs/HAVE\_INCREASES\_IN\_POPULATION\_AFFLUENCE\_AND\_TECHNOLOGY\_WORSENED\_HUMAN\_AND\_ENVIRONMENTAL\_WELL-BEING.pdf)

Although global population is no longer growing exponentially, it has quadrupled since 1900. Concurrently, affluence (or GDP per capita) has sextupled, global economic product (a measure of aggregate consumption) has increased 23-fold and carbon dioxide has increased over 15-fold (Maddison 2003; GGDC 2008; World Bank 2008a; Marland et al. 2007).4 But contrary to Neo- Malthusian fears, average human well-being**,** measured by any objective indicator, has never been higher. Food supplies, Malthus’ original concern, are up worldwide. Global food supplies per capita increased from 2,254 Cals/day in 1961 to 2,810 in 2003 (FAOSTAT 2008). This helped reduce hunger and malnutrition worldwide. The proportion of the population in the developing world, suffering from chronic hunger declined from 37 percent to 17 percent between 1969–71 and 2001–2003 despite an 87 percent population increase (Goklany 2007a; FAO 2006). The reduction in hunger and malnutrition, along with improvements in basic hygiene, improved access to safer water and sanitation, broad adoption of vaccinations, antibiotics, pasteurization and other public health measures, helped reduce mortality and increase life expectancies. These improvements first became evident in today’s developed countries in the mid- to late-1800s and started to spread in earnest to developing countries from the 1950s. The infant mortality rate in developing countries was 180 per 1,000 live births in the early 1950s; today it is 57. Consequently, global life expectancy, perhaps the single most important measure of human well-being, increased from 31 years in 1900 to 47 years in the early 1950s to 67 years today (Goklany 2007a). Globally, average **annual per capita incomes tripled** since 1950. The proportion of the world’s population outside of high-income OECD countries living in absolute poverty (average consumption of less than $1 per day in 1985 International dollars adjusted for purchasing power parity), fell from 84 percent in 1820 to 40 percent in 1981 to 20 percent in 2007 (Goklany 2007a; WRI 2008; World Bank 2007). Equally important, the world is more literate and better educated. Child labor in low income countries declined from 30 to 18 percent between 1960 and 2003. In most countries, people are freer politically, economically and socially to pursue their goals as they see fit. More people choose their own rulers, and have freedom of expression. They are more likely to live under rule of law, and less likely to be arbitrarily deprived of life, limb and property. Social and professional mobility has never been greater. It is easier to transcend the bonds of caste, place, gender, and other accidents of birth in the lottery of life. People work fewer hours, and have more money and better health to enjoy their leisure time (Goklany 2007a). Figure 3 summarizes the U.S. experience over the 20th century with respect to growth of population, affluence, material, fossil fuel energy and chemical consumption, and life expectancy. It indicates that population has multiplied 3.7-fold; income, 6.9-fold; carbon dioxide emissions, 8.5-fold; material use, 26.5-fold; and organic chemical use, 101-fold. Yet its life expectancy increased from 47 years to 77 years and infant mortality (not shown) declined from over 100 per 1,000 live births to 7 per 1,000. It is also important to note that not only are people living longer, they are healthier. The disability rate for seniors declined 28 percent between 1982 and 2004/2005 and, despite better diagnostic tools, major diseases (e.g., cancer, and heart and respiratory diseases) occur 8–11 years later now than a century ago (Fogel 2003; Manton et al. 2006). If similar figures could be constructed for other countries, most would indicate qualitatively similar trends, especially after 1950, except Sub-Saharan Africa and the erstwhile members of the Soviet Union. In the latter two cases, life expectancy, which had increased following World War II, declined after the late 1980s to the early 2000s, possibly due poor economic performance compounded, especially in Sub-Saharan Africa, by AIDS, resurgence of malaria, and tuberculosis due mainly to poor governance (breakdown of public health services) and other manmade causes (Goklany 2007a, pp.66–69, pp.178–181, and references therein). However, there are signs of a turnaround, perhaps related to increased economic growth since the early 2000s, although this could, of course, be a temporary blip (Goklany 2007a; World Bank 2008a). Notably, in most areas of the world, the healthadjusted life expectancy (HALE), that is, life expectancy adjusted downward for the severity and length of time spent by the average individual in a less-than-healthy condition, is greater now than the unadjusted life expectancy was 30 years ago. HALE for the China and India in 2002, for instance, were 64.1 and 53.5 years, which exceeded their unadjusted life expectancy of 63.2 and 50.7 years in 1970–1975 (WRI 2008). Figure 4, based on cross country data, indicates that contrary to Neo-Malthusian fears, both life expectancy and infant mortality improve with the level of affluence (economic development) and time, a surrogate for technological change (Goklany 2007a). Other indicators of human well-being that improve over time and as affluence rises are: access to safe water and sanitation (see below), literacy, level of education, food supplies per capita, and the prevalence of malnutrition (Goklany 2007a, 2007b).

### 2AC Glory K

#### Re-embracing modernist struggle overcomes suicidal nihilism

Berman 1983 (Marshall Berman, “All that is solid melts into air: the experience of modernity” p. 34-36)

Do we act politically, overthrow tyrannies, make revolutions, create constitutions to establish and protect human rights? Mere "juridical regression" from the feudal ages, because constitutions and bills of rights are merely "the forms that [make] an essentially normalizing power acceptable"26 Do we use our minds to unmask oppression--as Foucault appears to be trying to do? Forget it, because all forms of inquiry into the human condition "merely refer individuals from one disciplinary authority to another," and hence only add to the triumphant discourse of power." Any criticism rings hallow, because the critic himself or herself is "in the panoptic machine, invested by its effects of power, which we bring to ourselves, since we are part of its mechanism."27 After being subject to this for a while, we realize that there is no freedom in Foucault's world, because his language forms a seamless web, a cage more airtight than anything Weber ever dreamed of, into which no life can break. The mystery is why so many of today's intellectuals seem to want to choke in there with him. The answer, I suspect, is that Foucault offers a generation of refugees from the 1960s a world-historical alibi for the sense of passivity and helplessness that gripped so many of us in the 1970s. There is no point in trying to resist the oppressions and injustices of modern life, since even our dreams of freedom only add more links to our chains; however, once we grasp the total futility of it all, at least we can relax. In this bleak context, I want to bring the dynamic and dialectical modernism of the nineteenth century to life again. A great modernist, the Mexican poet and critic Octavio Pza, has lamented that modernity is "cut off from the past and continually hurling forward at such a dizzy pace that it cannot take root, that it merely survives from one day to the next: it is unable to return to its beginnings and thus recover its powers of renewal."28 The argument of this book is that, in fact, the modernisms of the past can give us back a sense of our own modern roots, roots that go back two hundred years. They can help us connect our lives with the lives of millions of people who are living through the trauma of modernization thousands of miles away, in societies radically different from our own--and with millions of people who lived through it a century or more ago. They can illuminate the contradictory forces and needs that inspire and torment us: our desire to be rooted in a stable and coherent personal and social past, and our insatiable desire for growth--not merely for economic growth but for growth in experience, in pleasure, in knowledge, in sensibility--growth that destroys both the physical and social landscapes of our past, and our emotional links with those lost worlds; our desperate allegiances to ethnic, national, class and sexual groups which we hope will give us a firm "identity," and the internationalization of everyday life--of our clothes and household goods, our books and music, our ideas and fantasies--that spreads all our identities all over the map; our desire for clear and solid values to live by, our desire to embrace the limitless possibilities of modern life and experience that obliterate all values; the social and political forces that propel into explosive conflicts with other people and other peoples, even as we develop a deeper sensitivity and empathy toward our ordained enemies and come to realize, sometimes too late, that they are not so different from us after all. Experiences like these unite us with the nineteenth-century modern world: a world where, as Marx said, "everything is pregnant with its contrary" and "all that is solid melts into air"; a world where, as Nietzsche said, "there is danger, the mother of morality--great danger . . . displaced onto the individual, onto the nearest and dearest, onto the street, onto one's own child, one's own hear, one's own innermost secret recesses of wish and will." Modern machines have changed a great deal in the years between the nineteenth-century modernists and ourselves; but modern men and women, as Marx and Nietzsche and Baudelaire and Dostoesvsky saw them then, may only now be coming fully into their own. Marx, Nietzsche and their contemporaries experienced modernity as a whole at a moment when only a small part of the world was truly modern. A century later, when the processes of modernization have cast a net that no one, not even in the remotest corner of the world, can escape, we can learn a great deal from the first modernists, not so much about their age as about our own. We have lost our grip on the contradictions that they had to grasp with al their strength, at every moment in their everyday lives, in order to live at all. Paradoxically, these first modernists may turn out to understand us--the modernization and modernism that constitute our lives--better than we understand ourselves. If we can make their visions our own, and use their perspectives to look at our own environments with fresh eyes, we will see that there is more depth in our lives than we thought. We will free our community with people all over the world who have been struggling with the same dilemmas as our own. And we will get back in touch with a remarkably rich and vibrant modernist culture that has grown out of these struggles: a culture that contains vast resources of strength and health, if only we come to know it as our own. It may turn out, then, that going back can be a way to go forward: that remembering the modernisms of the nineteenth century can give us the vision and courage to create the modernisms of the twenty-first. This act of remembering can help us bring modernism back to its roots, so that it can nourish and renew itself, to confront the adventures and dangers that lie ahead. To appropriate the modernities of yesterday can be at once a critique of the modernities of today and an act of fait in the modernities--and in the modern men and women--of tomorrow and the day after tomorrow.

#### They have it backwards- modernity makes “wars of annihilation” obsolete

Dyer 2004 Gwynne Dyer December 30, 2004 is a Canadian journalist based in London whose articles are published in 45 papers worldwide. This is an abridged version of the last chapter in his updated book, War, first published in 1985. His latest book is Future: Tense. The Coming Global Order, published by McClelland and Stewart. by the Toronto Star The End of War Our Task Over the Next Few Years is to Transform the World of Independent States into a Genuine Global Village by Gwynne Dyer, http://www.commondreams.org/views04/1230-05.htm

War is deeply embedded in our history and our culture, probably since before we were even fully human, but weaning ourselves away from it should not be a bigger mountain to climb than some of the other changes we have already made in the way we live, given the right incentives. And we have certainly been given the right incentives: The holiday from history that we have enjoyed since the early '90s may be drawing to an end, and another great-power war, fought next time with nuclear weapons, may be lurking in our future. The "firebreak" against nuclear weapons use that we began building after Hiroshima and Nagasaki has held for well over half a century now. But the proliferation of nuclear weapons to new powers is a major challenge to the stability of the system. So are the coming crises, mostly environmental in origin, which will hit some countries much harder than others, and may drive some to desperation. Add in the huge impending shifts in the great-power system as China and India grow to rival the United States in GDP over the next 30 or 40 years and it will be hard to keep things from spinning out of control. With good luck and good management, we may be able to ride out the next half-century without the first-magnitude catastrophe of a global nuclear war, but the potential certainly exists for a major die-back of human population. We cannot command the good luck, but good management is something we can choose to provide. It depends, above all, on preserving and extending the multilateral system that we have been building since the end of World War II. The rising powers must be absorbed into a system that emphasizes co-operation and makes room for them, rather than one that deals in confrontation and raw military power. If they are obliged to play the traditional great-power game of winners and losers, then history will repeat itself and everybody loses. Our hopes for mitigating the severity of the coming environmental crises also depend on early and concerted global action of a sort that can only happen in a basically co-operative international system. When the great powers are locked into a military confrontation, there is simply not enough spare attention, let alone enough trust, to make deals on those issues, so the highest priority at the moment is to keep the multilateral approach alive and avoid a drift back into alliance systems and arms races. And there is no point in dreaming that we can leap straight into some never-land of universal brotherhood; we will have to confront these challenges and solve the problem of war within the context of the existing state system. The solution to the state of international anarchy that compels every state to arm itself for war was so obvious that it arose almost spontaneously in 1918. The wars by which independent states had always settled their quarrels in the past had grown so monstrously destructive that some alternative system had to be devised, and that could only be a pooling of sovereignty, at least in matters concerning war and peace, by all the states of the world. So the victors of World War I promptly created the League of Nations. But the solution was as difficult in practice as it was simple in concept. Every member of the League of Nations understood that if the organization somehow acquired the ability to act in a concerted and effective fashion, it could end up being used against them, so no major government was willing to give the League of Nations any real power. Instead, they got World War II, and that war was so bad — by the end the first nuclear weapons had been used on cities — that the victors made a second attempt in 1945 to create an international organization that really could prevent war. They literally changed international law and made war illegal, but they were well aware that all of that history and all those reflexes were not going to vanish overnight. It would be depressing to catalogue the many failures of the United Nations, but it would also be misleading. The implication would be that this was an enterprise that should have succeeded from the start, and has failed irrevocably. On the contrary; it was bound to be a relative failure at the outset. It was always going to be very hard to persuade sovereign governments to surrender power to an untried world authority which might then make decisions that went against their particular interests. In the words of the traditional Irish directions to a lost traveler: "If that's where you want to get to, sir, I wouldn't start from here." But here is where we must start from, for it is states that run the world. The present international system, based on heavily armed and jealously independent states, often exaggerates the conflicts between the multitude of human communities in the world, but it does reflect an underlying reality: We cannot all get all we want, and some method must exist to decide who gets what. That is why neighboring states have lived in a perpetual state of potential war, just as neighboring hunter-gatherer bands did 20,000 years ago. If we now must abandon war as a method of settling our disputes and devise an alternative, it only can be done with the full co-operation of the world's governments. That means it certainly will be a monumentally difficult and lengthy task: Mistrust reigns everywhere and no nation will allow even the least of its interests to be decided upon by a collection of foreigners. Even the majority of states that are more or less satisfied with their borders and their status in the world would face huge internal opposition from nationalist elements to any transfer of sovereignty to the United Nations. The good news for humans is that it looks like peaceful conditions, once established, can be maintained. And if baboons can do it, why not us? The U.N. as presently constituted is certainly no place for idealists, but they would feel even more uncomfortable in a United Nations that actually worked as was originally intended. It is an association of poachers turned game-keepers, not an assembly of saints, and it would not make its decisions according to some impartial standard of justice. There is no impartial concept of justice to which all of mankind would subscribe and, in any case, it is not "mankind" that makes decisions at the United Nations, but governments with their own national interests to protect. To envision how a functioning world authority might reach its decisions, at least in its first century or so, begin with the arrogant promotion of self-interest by the great powers that would continue to dominate U.N. decision-making and add in the crass expediency masquerading as principle that characterizes the shifting coalitions among the lesser powers in the present General Assembly: It would be an intensely political process. The decisions it produced would be kept within reasonable bounds only by the need never to act in a way so damaging to the interest of any major member or group of members that it forced them into total defiance, and so destroyed the fundamental consensus that keeps war at bay. There is nothing shocking about this. National politics in every country operates with the same combination: a little bit of principle, a lot of power, and a final constraint on the ruthless exercise of that power based mainly on the need to preserve the essential consensus on which the nation is founded and to avoid civil war. In an international organization whose members represent such radically different traditions, interests, and levels of development, the proportion of principle to power is bound to be even lower. It's a pity that there is no practical alternative to the United Nations, but there isn't. If the abolition of great-power war and the establishment of international law is truly a hundred-year project, then we are running a bit behind schedule but we have made substantial progress. We have not had World War III, and that is thanks at least in part to the United Nations, which gave the great powers an excuse to back off from several of their most dangerous confrontations without losing face. No great power has fought another since 1945, and the wars that have broken out between middle-sized powers from time to time — Arab-Israeli wars and Indo-Pakistani wars, mostly — seldom lasted more than a month, because the U.N.'s offers of ceasefires and peacekeeping troops offered a quick way out for the losing side. If you assessed the progress that has been made since 1945 from the perspective of that terrifying time, the glass would look at least half-full. The enormous growth of international organizations since 1945, and especially the survival of the United Nations as a permanent forum where the states of the world are committed to avoiding war (and often succeed), has already created a context new to history. The present political fragmentation of the world into more than 150 stubbornly independent territorial units will doubtless persist for a good while to come. But it is already becoming an anachronism, for, in every other context, from commerce, technology, and the mass media to fashions in ideology, music, and marriage, the outlines of a single global culture (with wide local variations) are visibly taking shape. It is very likely that we began our career as a rising young species by exterminating our nearest relatives, the Neanderthals, and it is entirely possible we will end it by exterminating ourselves, but the fact that we have always had war as part of our culture does not mean that we are doomed always to fight wars. Other aspects of our behavioral repertoire are a good deal more encouraging. There is, for example, a slow but quite perceptible revolution in human consciousness taking place: the last of the great redefinitions of humanity. At all times in our history, we have run our affairs on the assumption that there is a special category of people (our lot) whom we regard as full human beings, having rights and duties approximately equal to our own, and whom we ought not to kill even when we quarrel. Over the past 15,000 or 20,000 years we have successively widened this category from the original hunting-and-gathering band to encompass larger and larger groups. First it was the tribe of some thousands of people bound together by kinship and ritual ties; then the state, where we recognize our shared interests with millions of people whom we don't know and will never meet; and now, finally, the entire human race. There was nothing in the least idealistic or sentimental in any of the previous redefinitions. They occurred because they were useful in advancing people's material interests and ensuring their survival. The same is true for this final act of redefinition: We have reached a point where our moral imagination must expand again to embrace the whole of mankind. It's no coincidence that the period in which the concept of the national state is finally coming under challenge by a wider definition of humanity is also the period that has seen history's most catastrophic wars, for they provide the practical incentive for change. But the transition to a different system is a risky business: The danger of another world war which would cut the whole process short is tiny in any given year, but cumulatively, given how long the process of change will take, it is extreme. That is no reason not to keep trying. Our task over the next few generations is to transform the world of independent states in which we live into some sort of genuine international community. If we succeed in creating that community, however quarrelsome, discontented, and full of injustice it will probably be, then we shall effectively have abolished the ancient institution of warfare. Good riddance.

#### Doesn’t devalue life

Revesz 2008 Richard L. Revesz (Dean and Lawrence King Professor of Law at New York University School of Law, JD Yale Law School) and Michael A Livermore. (JD NYU School of Law, Executive Director of the Institute for Policy Integrity, and Managing director of the NYU Law Review). Retaking Rationality How Cots-Benefit Analysis Can Better protect the Environment and Our Health. 2008. P. 1-4.

Governmental decisions are also fundamentally different from personal decisions in that they often affect people in the aggregate. In our individual lives, we come into contact with at least some of the consequences of our decisions. If we fail to consult a map, we pay the price: losing valuable time driving around in circles and listening to the complaints of our passengers. We are constantly confronted with the consequences of the choices that we have made. Not so for governments, however, which exercise authority by making decisions at a distance. Perhaps one of the most challenging aspects of governmental decisions is that they require a special kind of compassion—one that can seem, at first glance, cold and calculating, the antithesis of empathy. The aggregate and complex nature of governmental decisions does not address people as human beings, with concerns and interests, families and emotional relationships, secrets and sorrows. Rather, people are numbers stacked in a column or points on a graph, described not through their individual stories of triumph and despair, but by equations, functions, and dose-response curves. The language of governmental decisionmaking can seem to—and to a certain extent does—ignore what makes individuals unique and morally important. But, although the language of bureaucratic decisionmaking can be dehumanizing, it is also a prerequisite for the kind of compassion that is needed in contemporary society. Elaine Scarry has developed a comparison between individual compassion and statistical compassion.' Individual compassion is familiar—when we see a person suffering, or hear the story of some terrible tragedy, we are moved to take action. Statistical compassion seems foreign—we hear only a string of numbers but must comprehend "the concrete realities embedded there."' Individual compassion derives from our social nature, and may be hardwired directly into the human brain.' Statistical compassion calls on us to use our higher reasoning power to extend our natural compassion to the task of solving more abstract—but no less real—problems. Because compassion is not just about making us feel better—which we could do as easily by forgetting about a problem as by addressing it—we have a responsibility to make the best decisions that we can. This book argues that cost-benefit analysis, properly conducted, can improve environmental and public health policy. Cost-benefit analysis—the translation of human lives and acres of forest into the language of dollars and cents—can seem harsh and impersonal. But such an approach is also necessary to improve the quality of decisions that regulators make. Saving the most lives, and best protecting the quality of our environment and our health—in short, exercising our compassion most effectively—requires us to step back and use our best analytic tools. Sometimes, in order to save a life, we need to treat a person like a number. This is the challenge of statistical compassion. This book is about making good decisions. It focuses on the area of environmental, health and safety regulation. These regulations have been the source of numerous and hard-fought controversies over the past several decades, particularly at the federal level. Reaching the right decisions in the areas of environmental protection, increasing safety, and improving public health is clearly of high importance. Although it is admirable (and fashionable) for people to buy green or avoid products made in sweatshops, efforts taken at the individual level are not enough to address the pressing problems we face—there is a vital role for government in tackling these issues, and sound collective decisions concerning regulation are needed. There is a temptation to rely on gut-level decisionmaking in order to avoid economic analysis, which, to many, is a foreign language on top of seeming cold and unsympathetic. For government to make good decisions, however, it cannot abandon reasoned analysis. Because of the complex nature of governmental decisions, we have no choice but to deploy complex analytic tools in order to make the best choices possible. Failing to use these tools, which amounts to abandoning our duties to one another, is not a legitimate response. Rather, we must exercise statistical compassion by recognizing what numbers of lives saved represent: living and breathing human beings, unique, with rich inner lives and an interlocking web of emotional relationships. The acres of a forest can be tallied up in a chart, but that should not blind us to the beauty of a single stand of trees. We need to use complex tools to make good decisions while simultaneously remembering that we are not engaging in abstract exercises, but that we are having real effects on people and the environment. In our personal lives, it would be unwise not to shop around for the best price when making a major purchase, or to fail to think through our options when making a major life decision. It is equally foolish for government to fail to fully examine alternative policies when making regulatory decisions with life-or-death consequences. This reality has been recognized by four successive presidential administrations. Since 1981, the cost-benefit analysis of major regulations has been required by presidential order. Over the past twenty-five years, however, environmental and other progressive groups have declined to participate in the key governmental proceedings concerning the cost-benefit analysis of federal regulations, instead preferring to criticize the technique from the outside. The resulting asymmetry in political participation has had profound negative consequences, both for the state of federal regulation and for the technique of cost-benefit analysis itself. Ironically, this state of affairs has left progressives open to the charge of rejecting reason, when in fact strong environmental and public health pro-grams are often justified by cost-benefit analysis. It is time for progressive groups, as well as ordinary citizens, to retake the high ground by embracing and reforming cost-benefit analysis. The difference between being unthinking—failing to use the best tools to analyze policy—and unfeeling—making decisions without compassion—is unimportant: Both lead to bad policy. Calamities can result from the failure to use either emotion or reason. Our emotions provide us with the grounding for our principles, our innate interconnectedness, and our sense of obligation to others. We use our powers of reason to build on that emotional foundation, and act effectively to bring about a better world.

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### Ableism

#### Straight turn- Disability rhetoric doesn’t reinforce ableism and rejecting it doesn’t solve- their linguistic gymnastics just papers over oppression

Pierce 2012 (Samantha Pierce, founder and Executive Director of NeuroDiversity Consulting, a firm dedicated to special needs families and educating parents and the community at large about neurodiversity, March 17, 2012, http://www.neurodiversityconsulting.org/1/post/2012/03/person-first-language-the-r-word-and-other-linguistic-gymnastics.html)

In sociology there is a theory, called the Sapir-Whorf thesis (also known as linguistic relativity) , which claims “people see and understand the world through the cultural lens of language.” (Macionis, 2011)\* To put it another way, language creates reality. Since Edward Sapir and Benjamin Whorf first put forth their theories on the relationship between language and reality in the first half of the last century sociologists have come to the conclusion that language doesn’t determine reality in any strict sense. For my part I think our language reflects our reality rather than genuinely creates it. But we still act as if we believe that language creates reality.¶ Consider the terms used to describe people with developmental disabilities. First we had imbeciles, morons, idiots. All originated as clinical terms to describe the developmentally disabled. We now know them as throw away insults used by young and old alike. In the span of a few decades we have seen the term “retarded”, once a clinical descriptor for those with developmental delays, degenerate into an insult so grave that there is a movement to stamp out the use of the word. It’s called the euphemism treadmill where new terms are developed to replace old terms that have come to be seen as derogatory. Even the term “special needs” seems to be taking its turn on the euphemism treadmill for some. ¶ All of this brings to me to the person, or people, first language movement. “People-first language is a form of linguistic prescriptivism in English, aiming to avoid perceived and subconscious dehumanization when discussing people with disabilities, as such forming an aspect of disability etiquette.” The idea is basically to name the person first and the descriptor of their condition second. In English we usually do things the other way round. Such tinkering with English sentence structure is seen by some as a good thing for the disabled. It is an effort to create a reality where the personhood of the disabled is valued and respected. In essence it is an attempt to apply the Sapir-Whorf thesis in its language creates reality form.¶ Advocates of person first language claim that we should embrace person first language “To ensure inclusion, freedom, and respect for all.” I agree with some of the sentiments expressed in the above linked article, such as,¶ “The real problem is never a person’s disability, but the attitudes of others! A change in our attitudes leads to changes in our actions. Attitudes drive actions.”¶ But I am more than a bit skeptical that acts of linguistic gymnastics will make any forward movement towards better treatment of and greater respect for the disabled. Unless we work to change attitudes about the disabled within our culture and within our society it’s not going to matter what clumsy, politically correct term is dreamed up next to gloss over the fact that the disabled are greatly devalued in our culture.¶ Person, or people, first language hinges on the idea that a person is a person first and their disability is secondary to their personhood. Now the problem with this kind of thinking is why anyone would think that identifying someone with their disability somehow denies their personhood. Another problem with person first language is that despite the fact that many of the disabled themselves reject the use of person first language and the reasoning behind it other, often nondisabled people, keep pushing for its use. In researching this article I found very few references among supporters of person first language to the opinions of the disabled about person first language (the two references were from Wikipedia and About.com.¶ One can find any number of articles, papers, and blog posts (add this one to that number), some written by the disabled and some not, pointing out the fatal flaws and clumsiness of person first language. Dr. C Edwin Vaughan wrote in his article People-First Language: An Unholy Crusade, ¶ I wonder if the proponents of people-first language believe that putting disabled people first on the printed page accomplishes anything in the real world? Does it alter attitudes, professional or otherwise, about disabilities? What is their evidence? The awkwardness of the preferred language calls attention to a person as having some type of "marred identity" (Goffman, 1963). But the misconceptions that diminish the lives of disabled people must still be countered directly.¶ In 1993 Kenneth Jernigan wrote, The Pitfalls of Political Correctness: Euphemisms Excoriated, which was published, and republished, in the Braille Monitor, a journal published by the Nation Federation of the blind. In his article he states,¶ As civilizations decline, they become increasingly concerned with form over substance, particularly with respect to language.¶ Euphemisms and the politically correct language which they exemplify are sometimes only prissy, sometimes ridiculous, and sometimes tiresome. Often, however, they are more than that. At their worst they obscure clear thinking and damage the very people and causes they claim to benefit.¶ The blind have had trouble with euphemisms for as long as anybody can remember, and late twentieth-century America is no exception. The form has changed (in fact, everything is very "politically correct"), but the old notions of inferiority and second-class status still remain. The euphemisms and the political correctness don't help. If anything, they make matters worse since they claim modern thought and new enlightenment.¶ Jernigan further went on to write in a resolution adopted by the National Federation of the Blind,¶ We believe that it is respectable to be blind, and although we have no particular pride in the fact of our blindness, neither do we have any shame in it. To the extent that euphemisms are used to convey any other concept or image, we deplore such use. We can make our own way in the world on equal terms with others, and we intend to do it.¶ In 1999 Joy Johnston wrote of the National Federation of the Blind’s response to person first language,¶ “That one sentiment alone provides the blind community with more empowerment than a thousand politically correct slogans could ever provide.”¶ In the same article we find,¶ What PC [political correctness] proponents fail to understand in their good-hearted mission is that changing the words a person speaks does not change the thoughts in their minds or the feelings in their heart. It's merely a surface solution that does not change the reality of what it is to be a female, a black man, or a disabled person in this society one iota.¶ Stop and consider the following: person with femaleness; person with maleness; person with blackness; person with deafness; person with blindness. All of these characteristics are an intrinsic part of an individual, you can’t separate them from the person. Person first language implies that personhood cannot coexist with disability. It stems from the erroneous assumption that acknowledging the important role that a disability plays in an individual’s life diminishes one’s personhood. What it communicates is the impression that one doesn’t really believe in the disabled individual’s personhood. The proliferation of person first language despite strong opposition to it from the disabled themselves certainly points to the devaluation of the disabled. Clearly “we” think “we” know what is better for “them” than they do never mind what they actually have to say for themselves.

### Risk

#### We aren’t the hype that Krepon is criticizing with Bush’s “enemy = mushroom cloud” rhetoric – we are more like the systemic threat discussion he advocates in the conclusion

Krepon 2009 Michael, co-founder of Stimson, and director of the South Asia and Space Security programs “The Mushroom Cloud That Wasn't: Why Inflating Threats Won't Reduce Them” 88 Foreign Aff. 2 2009 p2-6

The world is dangerous enough as it is; threat inflation is not required for threat reduction. Politicians and proliferation experts can warn citizens without alarming them. All of the policies that successfully prevented a nuclear catastrophe from occurring during the Cold War-- containment, diplomacy, deterrence, conventional military strength, and arms control agreements--can be employed even more effectively today. Many conditions for success are already in place. Cold War hot spots--such as Berlin, Cuba, and Taiwan--have cooled down, and the Middle East is no longer a flashpoint for great-power confrontation. According to the Natural Resources Defense Council, there are approximately 20,000 fewer nuclear weapons in Russia today than there were in the former Soviet Union when the Cold War ended. No permanent member of the UN Security Council has tested a nuclear weapon in over a decade, and the importance of these weapons in major power politics has never been lower. With patient and persistent diplomacy, nonproliferation has become a global norm, with very few exceptions. For the first time since the atomic age began in 1945, all permanent members of the UN Security Council, as well as India, Israel, and Pakistan, face a common enemy--nuclear terrorism. This common enemy provides a basis for collaboration in fighting proliferation. Cooperative threat reduction, rather than spreading fear and inflating threats, will be the key to averting a nuclear catastrophe in the twenty-first century. Nitze, the man who repeatedly warned of impending nuclear disasters, also offered the perfect mental antidote to scaremongering. He advised U.S. officials to "try to reduce the dangers of nuclear war within the relevant future time period as best you can; you just get depressed if you worry about the long term." The best counter to nuclear pessimism is, Nitze advised, to "work the problem" methodically and persistently, day by day. As Obama administration officials seek to moderate public anxiety about nuclear terrorism without letting down their guard, they would be wise to heed Nitze's advice. The threat is very serious, but the U.S. government knows how to reduce nuclear dangers, and it is making headway. Washington's worst nuclear nightmares did not occur in the past, and they can be prevented in the future.

#### Their criticism of assemblage means nothing can be known – this link turns all their arguments

Jackson 11

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(Patrick Thadeus, The Conduct of Inquiry in International Relations, p. 57-59)

Perhaps the greatest irony of this instrumental, decontextualized importation of “falsification” and its critics into IR is the way that an entire line of thought that privileged disconfirmation and refutation—no matter how complicated that disconfirmation and refutation was in practice—has been transformed into a license to worry endlessly about foundational assumptions. At the very beginning of the effort to bring terms such as “paradigm” to bear on the study of politics, Albert O. Hirschman (1970b, 338) noted this very danger, suggesting that without “a little more ‘reverence for life’ and a little less straightjacketing of the future,” the focus on producing internally consistent packages of assumptions instead of actually examining complex empirical situations would result in scholarly paralysis. Here as elsewhere, Hirschman appears to have been quite prescient, inasmuch as the major effect of paradigm and research programme language in IR seems to have been a series of debates and discussions about whether the fundamentals of a given school of thought were sufficiently “scientific” in their construction. Thus we have debates about how to evaluate scientific progress, and attempts to propose one or another set of research design principles as uniquely scientific, and inventive, “reconstructions” of IR schools, such as Patrick James’ “elaborated structural realism,” supposedly for the purpose of placing them on a firmer scientific footing by making sure that they have all of the required elements of a basically Lakatosian19 model of science (James 2002, 67, 98–103). The bet with all of this scholarly activity seems to be that if we can just get the fundamentals right, then scientific progress will inevitably ensue . . . even though this is the precise opposite of what Popper and Kuhn and Lakatos argued! In fact, all of this obsessive interest in foundations and starting-points is, in form if not in content, a lot closer to logical positivism than it is to the concerns of the falsificationist philosophers, despite the prominence of language about “hypothesis testing” and the concern to formulate testable hypotheses among IR scholars engaged in these endeavors. That, above all, is why I have labeled this methodology of scholarship neopositivist. While it takes much of its self justification as a science from criticisms of logical positivism, in overall sensibility it still operates in a visibly positivist way, attempting to construct knowledge from the ground up by getting its foundations in logical order before concentrating on how claims encounter the world in terms of their theoretical implications. This is by no means to say that neopositivism is not interested in hypothesis testing; on the contrary, neopositivists are extremely concerned with testing hypotheses, but only after the fundamentals have been soundly established. Certainty, not conjectural provisionality, seems to be the goal—a goal that, ironically, Popper and Kuhn and Lakatos would all reject.

### Coal Exports

#### No impact to coal exports

Levi 2012 (Michael Levi, David M. Rubenstein Senior Fellow for Energy and the Environment, April 10, 2012, “Will Coal Exports Undermine Efforts to Curb Climate Change?,” CFR, http://blogs.cfr.org/levi/2012/04/10/will-coal-exports-undermine-efforts-to-curb-climate-change/)

U.S. coal production is down but exports are up. That’s led to widespread warnings that efforts to curb U.S. coal consumption won’t do much if anything to slow climate change unless the United States bans exports too.¶ That conclusion strikes me as premature.¶ Brad Plumer, writing yesterday at the Washington Post, presents the argument for worrying about exports clearly:¶ “In 2011, the United States exported even more coal to countries like Brazil, South Korea and Europe, just as its own consumption was falling. That’s evidence in favor of the idea that if the United States won’t burn its vast coal reserves, then other countries will be happy to take the coal off our hands. And if that’s true, it would mean that the government’s recent spate of power-plant regulations aren’t helping the country make much progress on climate change. After all, carbon-dioxide that’s released by burning coal will heat up the planet no matter where it’s burned.”¶ But that’s only half of the equation. Increased U.S. coal exports will raise global greenhouse gas emissions if and only if they supplement other coal production rather than displace it. On that count, we’re actually flying pretty blind.¶ There’s reason, though, to suspect that a good part of increased U.S. coal exports would come at the expense of others’ output, which means that it wouldn’t increase net global greenhouse gas emissions. Last year, the IEA tried to model how country-by-country coal output would be affected if the world slashed its coal consumption. It found that Chinese, Australian, and Indonesian production would be cut deeply,

but that U.S. production would hold up far more strongly. This suggests, at a minimum, that substantial U.S. coal exports are compatible with a lower-carbon world.

### Nuclear Radiation

**Science proves there’s no risk**

**Grady 2011** (Denise Grady, March 13, 2011, “Several Plant Workers Are Ill, but Radiation Risk in Japan Is Seen as Low for Now,” http://www.nytimes.com/2011/03/14/world/asia/14health.html)

One way of measuring radiation exposure is in a unit called the rem. According to the **E**nvironmental **P**rotection **A**gency, most people in the United States receive 0.3 rem per year just from normal, background radiation. Flying for 12 hours at 39,000 feet exposes a person to 0.006 rem. At 5 to 10 rem, lab tests can pick up changes in blood chemistry. Nausea starts after 50 rem, hemorrhaging at 100 rem. At 500 rem, half of people exposed will die within 30 days. At **2,000 rem**, a person can die within hours or days. So far, **one employee** at a nuclear plant in Japan has been reported to have had an exposure of **10 rem**, not enough to produce obvious symptoms. The annual dose limit for workers at nuclear plants in the **U**nited **S**tates is 5 rem.