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#### Focus on energy production produces chronic failure. Energy becomes an end-in-itself with no social or ethical guidance.

Byrne and Toly 6—\*John Byrne, Director Center for Energy and Environmental Policy & Public Policy at Delaware and \*\*Noah Toly, Research Associate Center for Energy and Environmental Policy [*Transforming Power* eds. Byrne, Toly, & Glover p. 20-21] **[Gender paraphrased]**

The Technique of Modern Energy Governance While moderns usually declare strong preferences for democratic governance, their preoccupation with technique and efficiency may preclude the achievement of such ambitions, or require changes in the meaning of democracy that are so extensive as to raise doubts about its coherence. A veneration of technical monuments typifies both conventional and sustainable energy strategies and reflects a shared belief in technological advance as commensurate with, and even a cause of, contemporary social progress. The modern proclivity to search for human destiny in the march of scientific discovery has led some to warn of a technological politics (Ellul, 1997a, 1997b, 1997c; Winner, 1977, 1986) in which social values are sublimated by the objective norms of technical success (e.g., the celebration of efficiency in all things). In this politics, technology and its use become the end of society and members have the responsibility, as rational beings, to learn from the technical milieu what should be valorized. An encroaching autonomy of technique (Ellul, 1964: 133- 146) replaces critical thinking about modern life with an awed sense and acceptance of its inevitable reality. From dreams of endless energy provided by Green Fossil Fuels and Giant Power, to the utopian promises of Big Wind and Small-Is-Beautiful Solar, technical excellence powers modernist energy transitions. Refinement of technical accomplishments and/or technological revolutions are conceived to drive social transformation, despite the unending inequality that has accompanied two centuries of modern energy's social project. As one observer has noted (Roszak, 1972: 479), the "great paradox of the technological mystique [is] its remarkable ability to grow strong by chronic failure. While the treachery of our technology may provide many occasions for disenchantment, the sum total of failures has the effect of increasing dependence on technical expertise." Even the vanguard of a sustainable energy transition seems swayed by the magnetism of technical acumen, leading to the result that enthusiast and critic alike embrace a strain of technological politics. Necessarily, the elevation of technique in both strategies to authoritative status vests political power in experts most familiar with energy technologies and systems. Such a governance structure derives from the democratic-authoritarian bargain described by Mumford ( 1964). Governance "by the people" consists of authorizing qualified experts to assist political leaders in finding the efficient, modern solution. In the narratives of both conventional and sustainable energy, citizens are empowered to consume the products of the energy regime while largely divesting themselves of authority to govern its operations. Indeed, systems of the sort envisioned by advocates of conventional and sustainable strategies are not governable in a democratic manner. Mumford suggests ( 1964: I) that the classical idea of democracy includes "a group of related ideas and practices ... [including] communal self-government ... unimpeded access to the common store of knowledge, protection against arbitrary external controls, and a sense of moral responsibility for behavior that affects the whole community." Modern conventional and sustainable energy strategies invest in external controls, authorize abstract, depersonalized interactions of suppliers and demanders, and celebrate economic growth and technical excellence without end. Their social consequences are relegated in both paradigms to the status of problems-to-be-solved, rather than being recognized as the emblems of modernist politics. As a result, modernist democratic practice becomes imbued with an authoritarian quality, which "deliberately eliminates the whole human personality, ignores the historic process, [and] overplays the role of abstract intelligence, and makes control over physical nature, ultimately control over [hu]man[ity] himself, the chief purpose of existence" (Mumford, 1964: 5). Meaningful democratic governance is willingly sacrificed for an energy transition that is regarded as scientifically and technologically unassailable.

#### Critique is a prior question—starting with incentives dodges issues of social and environmental sustainability.

Byrne and Toly 6—\*John Byrne, Director Center for Energy and Environmental Policy & Public Policy at Delaware and \*\*Noah Toly, Research Associate Center for Energy and Environmental Policy [*Transforming Power* eds. Byrne, Toly, & Glover p. 22-24]

Transition without Change: A Failing Discourse After more than thirty years of contested discourse, the major 'energy futures' under consideration appear committed to the prevailing systems of governance and political economy that animate late modernity. The new technologies-conventional or sustainable-that will govern the energy sector and accumulate capital mjght be described as centaurian technics21 in which the crude efficiency of the fossil energy era is bestowed a new sheen by high . technologies and modernized ecosystems: capitalism without smoky cities, contaminated industrial landscapes, or an excessively carbonized atmosphere. Emerging energy solutions are poised to realize a postmodern transition (Roosevelt, 2002), but their shared commitment to capitalist political economy and the democratic-authoritarian bargain lend credence to Jameson's assessment (1991) of postmodernism as the "cultural logic of late capitalism." Differences in ecological commitments between conventional and sustainable energy strategies still demarcate a battleground that, we agree, is important-even fundamental. But so also are the common aspirations of the two camps. Each sublimates social considerations in favor of a politics of more-is-better, and each regards the advance of energy capitalism with a sense of inevitability and triumph. Conventional and sustainable energy visions equally presume that a social order governed by a 'democratic' ideal of cornucopia, marked by economic plenty, and delivered by technological marvels will eventually lance the wounds of poverty and inequality and start the healing process. Consequently, silence on questions of governance and social justice is studiously observed by both·proposals. Likewise, both agree to, or demur on, the question of capitalism's sustainability.22 Nothing is said on these questions because, apparently, nothing needs to be. If the above assessment of the contemporary energy discourse is correct, then the enterprise is not at a crossroad; rather, it has reached a point of acquiescence to things as they are. Building an inquiry into energy as a social project will require the recovery of a critical voice that can interrogate, rather than concede, the discourse's current moorings in technological politics and capitalist political economy. A fertile direction in this regard is to investigate an energy-society order in which energy systems evolve in response to social values and goals, and not simply according to the dictates of technique, prices, or capital. Initial interest in renewable energy by the sustainability camp no doubt emanated, at least in part, from the fact that its fuel price is non-existent and that capitalization of systems to collect renewable sources need not involve the extravagant, convoluted corporate forms that manage the conventional energy regime. But forgotten, or misunderstood, in the attraction of renewable energy have been the social origins of such emergent possibilities. Communities exist today who address energy needs outside the global marketplace: they are often rural in character and organize energy services that are immune to oil price spikes and do not require water heated to between 550Q and 900Q Fahrenheit (300Q and 500Q Celsius) (the typical temperatures in nuclear reactors). No energy bills are sent or paid and governance of the serving infrastructure is based on local (rather than distantly developed professional) knowledge. Needless to say, sustainability is embodied in the lifeworld of these communities, unlike the modern strategy that hopes to design sustainability into its technology and economics so as not to seriously change its otherwise unsustainable way of life . Predictably, modern society will underscore its wealth and technical acumen as evidence of its superiority over alternatives. But smugness cannot overcome the fact that energy-society relations are evident in which the bribe of democratic-authoritarianism and the unsustainability of energy capitalism are successfully declined. In L 928, Mahatma Gandhi (cited in Gandhi, 1965: 52) explained why the democratic-authoritarian bargain and Western capitalism should be rejected: God forbid that India should ever take to industrialization after the manner of the West. The economic imperialism of a single tiny island kingdom (England) is today keeping the world in chains. If an entire nation of 300 million took to similar economic exploitation, it would strip the world bare like locusts. Unless the capitalists of India help to avert that tragedy by becoming trustees of the welfare of the masses and by devoting their talents not to amassing wealth for themselves but to the service of the masses in an altruistic spirit, they will end either by destroying the masses or being destroyed by them. As Gandhi's remark reveals, social inequality resides not in access to electric light and other accoutrements of modernity, but in a world order that places efficiency and wealth above life-affirming ways of life. This is our social problem, our energy problem, our ecological problem, and, generally, our political-economic problem. The challenge of a social inquiry into energy-society relations awaits.

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#### Text: The United States federal government should establish a nitrogen fertilizer tax of 16 cents per pound of nitrogen, and use the revenue from that tax to provide loan guarantees for farmers to procure biocharcoal technology.

#### A fertilizer tax plus subsidy would incentivize farmers to shift to biochar.

Tom Konrad, 12/14/2009. PhD Mathematics @ Purdue, CFA, financial analyst, freelance writer, and policy wonk specializing in renewable energy and energy efficiency. “The Nitrogen-Biochar Link,” Clean Energy Wonk, http://cleanenergywonk.com/2009/12/14/the-nitrogen-biochar-link/.

Biochar, used as a soil amendment, improves water and nutrient uptake by plants. It has its greatest effects in poor soils, helping the plants access the nutrients that are available, and this effect can last for centuries after the soil has been amended with biochar. Biochar-ameneded soil should reduce the risks to farmers of using too little fertilizer, and hence reduce the incentive to over-apply, benefiting both the farmers and everyone else in the watershed. Studies suggest that fertilizer taxes are the most economically efficient way to reduce Nitrogen runoff. **If such taxes were in place, farmers would have a stronger incentive to use biochar in order to make the most of the suddenly more expensive fertilizer**. For environmentalists interested in reducing carbon emissions, this would have the added benefit of reducing nitrous oxide (N2O) emissions from heavily fertilized soils, for an additional reduction of greenhouse emissions. Hence, [Biochar advocates](http://www.biochar-international.org/) should team up with groups concerned about the [fisheries](http://news.nationalgeographic.com/news/2005/05/0525_050525_deadzone.html) and health effects of runoff to advocate for higher taxes on nitrogen fertilizer. When farmers complain, perhaps we can buy them off by using the revenue for a biochar subsidy?

#### Studies show such a fertilizer tax could effectively reduce usage.

Pierre M ́erel, September 2011. Agricultural and Resource Economics @ UC Davis. “Inferring the Effects of Nitrogen Management Policies Using a Fully Calibrated Programming Model of California Agriculture,” asi.ucdavis.edu/research/nitrogen/nitrogen-faculty-workgroup-materials/Merel%20Final%20Report.pdf.

Our work addresses ex ante policy evaluation as it relates to nitrogen management in agriculture, in particular the reduction of nitrogen losses from field crops. We build a bio-economic model of crop production at the regional scale to predict the effects of nitrogen-related policies on agriculture and the environment. The model is calibrated against economic data on observed crop acreages and yields, as well as predetermined supply responses. In addition, crop-specific production functions are calibrated to exogenous agronomic information on yield responses to nitrogen and irrigation. Environmental outcomes are tracked using the biophysical model DAYCENT.¶ The model is applied to the study of a nitrogen tax in Yolo County, California, intended to mitigate non-point source nitrogen pollution from field crops. At low tax levels, the behavioral and environmental responses to the nitrogen tax appear to be largely due to the reduction in fertilizer use and irrigation on each crop. However, as the tax level increases, reductions in input intensities start to level out due to unfavorable yield effects, and acreage reallocation among crops begins to play a sizable part in the total response.¶ From a methodological standpoint, our study illustrates the need to accurately model input intensity adjustments in regional models of crop supply intended for agri-environmental policy analysis. From a policy standpoint, our study shows that sizable reductions in nitrogen application, and attendant reductions in nitrogen losses, can be achieved at the regional scale at a moderate social cost. Overall, the induced reduction in nitrate leaching appears larger than the reduction in nitrous oxide emissions.¶ Specific results: The study develops an economic model of nitrogen use at the regional scale, for use in ex ante agri-environmental policy evaluation. The model is based on the principles of positive mathematical programming (PMP), as outlined in Howitt (1995) and, more recently, M ́erel et al. (2011). As such, the model exactly replicates an observed acreage¶ 1allocation among activities, as well as an exogenous set of crop supply elasticities. The nov- elty of our approach lies in the fact that the model is also calibrated so as to replicate crop yield responses to irrigation and nitrogen application consistent with agronomic information obtained from the biophysical soil process model DAYCENT (Del Grosso et al., 2008). Con- sequently, our fully calibrated model is particularly fit for the analysis of policies that are likely to affect both acreage allocation and input intensity in multi-crop agricultural systems.¶ This paper is not the first one to recognize the need to better represent farmers’ input adjustment opportunities in programming models of agricultural supply, but it is the first one to propose a solution to the yield response calibration problem in the context of positive mathematical programming. Before us, Godard et al. (2008) have used local yield response curves derived from the biophysical model STICS (Brisson et al., 2003) to represent farmers’ nitrogen fertilizer application choice as a first stage to a linear programming representation of crop choice. Graveline and Rinaudo (2007) have exploited a yield response curve for corn to specify a discrete set of corn production activities in a pure linear programming framework. Our approach is different from these, as we focus on exact replication of observed economic behavior through non-linear PMP calibration, as opposed to constrained linear optimization. We also calibrate crop yield responses not only to nitrogen, but also irrigation, an important margin for the assessment of certain environmental outcomes such as nitrate leaching. Finally, we use the biophysical model to derive regional-level—as opposed to farm- level—yield response curves.¶ Our model is applied to field crop agriculture in Yolo County, California, to evaluate the economic and environmental effects of an exogenous increase in the price of nitrogen. A nitrogen tax represents a possible market-based instrument to help mitigate non-point source nitrogen pollution from agriculture. The effects of the tax on nitrate leaching and nitrous oxide (N2O) fluxes are tracked. The linkages between the agronomic model DAYCENT and the economic optimization model are depicted in figure 1.¶ To comprehend the effect of a nitrogen tax on behavioral and environmental outcomes, it is useful to decompose the total effect into its two elementary economic responses: an extensive margin effect, that is, the reallocation of acreage among crops, and an intensive margin effect, that is, the change in input intensity per acre, for a given crop. Both effects are operating simultaneously, and in our application the intensive margin effect, which has been overlooked in existing PMP studies (Helming, 1998), is likely to be large. Hence, to anticipate the full effect of a nitrogen tax policy, it is necessary to accurately model the intensive margin response, in addition to the extensive margin response.¶ Indeed, we find that at low to moderate tax levels, most of the environmental benefits of the policy arise from reductions in nitrogen and water application on each crop, with acreage reallocation playing a minor role. However, as tax levels rise, input intensity adjustments start to level out due to adverse yield effects, and acreage reallocation among crops starts to play a more significant role in the behavioral and environmental responses.¶ Table 1 reports the contributions of the input intensity and acreage reallocation effects to the total behavioral response, that is, the reduction in nitrogen application at the regional level. At the tax level of ¢4/lb N, the total reduction in nitrogen applied in Yolo is predicted to be 3.9%, and 3.3% is due to the input intensity effect. At the higher tax level of ¢16/lb N, the total effect is a reduction of N application by 12.8%, the contribution of the input intensity effect being 8.3%. As such, the relative importance of the acreage reallocation effect to the total effect is increasing with the tax level.1

#### Solves through sequestration without reducing coal emissions.

Technology Review, 4/26/2007. “The Case for Burying Charcoal,” published by MIT, http://www.technologyreview.com/news/407754/the-case-for-burying-charcoal/.

Several states in this country and a number of Scandinavian countries are trying to supplant some coal-burning by burning biomass such as wood pellets and agricultural residue. Unlike coal, biomass is carbon-neutral, releasing only the carbon dioxide that the plants had absorbed in the first place. But a new research [paper](http://dx.doi.org/10.1016/j.biombioe.2007.01.012) published online in the journal Biomass and Bioenergy argues that the battle against global warming may be better served by instead heating the biomass in an oxygen-starved process called pyrolysis, extracting methane, hydrogen, and other byproducts for combustion, and burying the resulting carbon-rich char. **Even if this approach would mean burning more coal**--which emits more carbon dioxide than other fossil-fuel sources--**it would yield a net reduction in carbon emissions**, according to the analysis by [Malcolm Fowles](http://technology.open.ac.uk/tm/mf.htm), a professor of technology management at the Open University, in the United Kingdom. Burning one ton of wood pellets emits 357 kilograms less carbon than burning coal with the same energy content. But turning those wood pellets into char would save 372 kilograms of carbon emissions. That is because 300 kilograms of carbon could be buried as char, and the burning of byproducts would produce 72 kilograms less carbon emissions than burning an equivalent amount of coal. ¶ Such an approach could carry an extra benefit. Burying char--known as black-carbon sequestration--enhances soils, helping future crops and trees grow even faster, thus absorbing more carbon dioxide in the future. Researchers believe that the char, an inert and highly porous material, plays a key role in helping soil retain water and nutrients, and in sustaining microorganisms that maintain soil fertility. ¶ Johannes Lehmann, an associate professor of crops and soil sciences at Cornell University and an expert on char sequestration, agrees in principle with Fowles's analysis but believes that much more research in this relatively new area of study is needed. "It heads in the right direction," he says.¶ Interest in the approach is gathering momentum. On April 29, more than 100 corporate and academic researchers will gather in New South Wales, Australia, to attend the first international conference on black-carbon sequestration and the role pyrolysis can play to offset greenhouse-gas emissions. Lehmann **estimates that as much as 9.5 billion tons of carbon--more than currently emitted globally through the burning of fossil fuels--could be sequestered annually by the end of this century through the sequestration of char**. "Bioenergy through pyrolysis in combination with biochar sequestration is a technology to obtain energy and improve the environment in multiple ways at the same time," writes Lehmann in a research paper to be published soon in [Frontiers in Ecology and the Environment](http://www.frontiersinecology.org/). Fowles says that there would be an incentive for farmers, logging communities, and small towns to convert their own dedicated crops, agricultural and forest residues, and municipal biowaste into char if a high enough price emerged for the sale of carbon offsets. "Every community at any scale could pyrolyse its biowaste ... motivated by doing their bit against global warming," he says. Fowles believes that storing black carbon in soil carries less risk, would be quicker to implement, and could be done at much lower cost than burying carbon dioxide in old oil fields or aquifers. And he says the secondary benefits to agriculture could be substantial: "Biochar reduces the soil's requirement for irrigation and fertilizer, both of which emit carbon." Fowles adds that it has also been shown to reduce emissions of greenhouse gases from decay processes in soil. This would include nitrous oxide, a potent greenhouse gas. "Biochar has been observed to reduce nitrous-oxide emissions from cultivated soil by 40 percent."

#### Reducing coal emissions would trigger rapid warming due to reduced aerosol cooling.

N. Chalmers et al, 1,2 E. J. Highwood,1 E. Hawkins,1,2 R. Sutton,1,2 L. J. Wilcox1, 8/21/2012. 1Department of Meteorology, University of Reading, Reading, U.K.; 2NCAS-Climate, University of Reading, Reading, U.K. “Aerosol contribution to the rapid warming of 2 near-term climate under RCP 2.6,” Manuscript, accepted for publication in Geophysical Research Letters, www.met.reading.ac.uk/~ed/home/chalmers\_etal\_2012\_accepted.pdf.

\*\*\*RCP="Representative Concentration Pathways." These are IPCC scenarios designed for use in climate models, that essentially project different scenarios for changes (or lack thereof) in global emissions. RCP2.6 is a scenario of significant emissions reductions. RCP4.5 is the baseline "business as usual" scenario.

\*\*\*CDNC=cloud droplet number concentration

The period during which global mean surface temperature in RCP2.6 is higher than in 130 RCP4.5, discussed in the previous section, is directly related to a rapid increase in global 131 mean surface temperature in RCP2.6, between around 2010 and around 2025 (Figure 1a). 132 In this section we investigate the causes of this rapid warming, and relate this event to 133 the comparison with RCP4.5. Figure 3 shows maps of the differences between the 10 year 134 means before and after the rapid warming. In this case a positive value indicates a larger 135 value after the sudden warming identified in Figure 1.¶ 136 As expected, there is a large reduction in sulphate load, and corresponding decrease 137 in CDNC over most of the northern hemisphere, consistent with a change in the indirect 138 aerosol effect. An increase in the effective radius is also seen (not shown). This reduces 139 the optical depth of the clouds when they are present, meaning more downward shortwave 140 flux is transmitted to the surface. There is also a prominent decrease in cloud fraction over 141 the subtropical northeastern Pacific Ocean which could be a consequence of the impact 142 of reduced sulphate aerosol on cloud lifetime. Lu et al. [2009] show that drizzle rate from 143 clouds in this region is indeed inversely related to aerosol concentration. Kloster et al. 144 [2010] also suggested that a change in cloud water path in their simulations with aggres-¶ 145 sive aerosol reductions resulted from enhanced drizzle formation. We hypothesise that 146 the localised nature of this feature by comparison with the sulphate and CDNC change 147 is due to the cloud in this region being particularly sensitive to a change in aerosol. Cli- 148 matologically, this region is a transition zone between open and closed mesoscale cellular 149 convection [Rosenfeld et al., 2011], aerosol concentrations being lower in the open celled 150 regions [Woods et al., 2011]. Although the details of these processes are unlikely to be 151 represented explicitly in global models, the localised strong decrease in cloud fraction in 152 the northeastern Pacific ocean would be consistent with a change in cloud regime driven 153 by decreased aerosol. Other regions show increases in cloud fraction, which cannot readily 154 be explained as a direct response to the decrease in sulphate load. It is likely that instead 155 these reflect non-local adjustments of the coupled ocean-atmosphere system in response 156 to the change in forcing.¶ 157 Figure 3 also shows the difference in surface shortwave flux (panel d), surface air tem- 158 perature (panel e), and global energy balance (panel f). The predicted increase in surface 159 downward shortwave radiation is seen in the global mean and particularly in the regions 160 of decreased cloud fraction and sulphate load. A negative anomaly in surface SW is co- 161 located with the positive cloud fraction changes. The pattern of surface air temperature 162 change shows large warming over the northern continents and the Arctic, and also a local 163 maximum over the subtropical northeastern Pacific coincident with the region of reduced 164 cloud fraction. The same localised pattern appears in all the simulations of Kloster et al. 165 [2010] that include aerosol reductions, but is absent from their simulations considering 166 only future changes in greenhouse gases.¶ 167 The surface energy budget shows the expected increases in downward shortwave radia- 168 tion. In addition there is an increase in downward longwave radiation in response to the 169 increase in GHG concentrations between the two periods, and also reflecting changes in 170 clouds. The warming due to increases in net surface downward radiation is balanced by 171 increases in latent and (over land) sensible heat fluxes.¶ 4. Discussion and Conclusions¶ 172 In this study we have compared projections of near term climate in the HadGEM2-ES 173 model under RCP4.5 and RCP2.6. GHG forcing under these scenarios is almost identical 174 until 2020, and then declines in RCP2.6 relative to RCP4.5. However, between 2018 and 175 2037 global annual mean surface air temperature is warmer under RCP2.6. The start of 176 this period **is characterised by a period of particularly rapid warming**.¶ 177 Our results provide compelling evidence that the warming in RCP2.6 is a result of a 178 rapid decrease in sulphate aerosol load. This decrease is caused by a decrease in sulphur 179 emissions in RCP2.6, **as a result of the rapid decrease in coal use** needed to reduce GHG 180 emissions. Thus our results highlight the difficulty of reducing the rate of global warming 181 in the near term in this model, even under extreme scenarios for reducing GHG emissions, 182 and is consistent with previous simulations by Wigley [1991] and Johns et al. [2011].

#### Warming is slowing because of sulfur aerosols.

[Louise Gray](http://www.telegraph.co.uk/journalists/louise-gray/), 11/26/2010. Environment Correspondent for the Telegraph. “Global warming has slowed because of pollution,” The Telegraph, http://www.telegraph.co.uk/earth/environment/climatechange/8159991/Global-warming-has-slowed-because-of-pollution.html.

The latest figures from more than 20 scientific institutions around the world show that global temperatures are higher than ever. ¶ However the gradual rise in temperatures over the last 30 years is slowing slightly. Global warming since the 1970s has been 0.16C (0.3F) but the rise in the last decade was just 0.05C (0.09F), according to the Met Office. ¶ Sceptics claim this as evidence man made global warming is a myth. ¶ But in a new report the Met Office said the reduced rate of warming can be easily explained by a number of factors. And indeed the true rate of warming caused by man made greenhouse gases could be greater than ever. ¶ One of the major factors is pollution over Asia, where the huge growth in coal-fired power stations mean aerosols like sulphur are being pumped into the air. This reflects sunlight, cooling the land surface temperature. ¶ Dr Vicky Pope, Head of Climate Change Advice, said pollution may be causing a cooling effect. ¶ “A possible increase in aerosol emissions from Asia in the last decade may have contributed to substantially to the recent slowdown,” she said. “Aerosols cool the climate by reflecting the sunlight.”

#### That would double warming and quickly take us above the “2-degree threshold.”

Dr Andrew Glikson, 6/6/2011. Earth and paleoclimate science, Australian National University. “Global warming above 2° so far mitigated by accidental geo-engineering,” Crikey, http://www.crikey.com.au/2011/06/06/global-warming-above-2%C2%B0-so-far-mitigated-by-accidental-geo-engineering/.

According to NASA’s Goddard Institute of Space Science climate reports, global warming is already committed to a rise above two degrees. The magical two degrees ceiling determined by governments **is only holding thanks to effective, if unintended, geo-engineering by sulphur dioxide** emitted from industry, holding global warming to about half of what it would be otherwise. Recent publications by Hansen and his [research](http://www.columbia.edu/%7Ejeh1/mailings/2011/20110415_EnergyImbalancePaper.pdf) [group](http://arxiv.org/ftp/arxiv/papers/1105/1105.0968.pdf) indicate the rise of atmospheric energy (heat) level due to greenhouse gases and land clearing are committed to +2.3 degrees (+3.1 Watt/m2), currently mitigated by the transient effect of sulphur aerosols and the cooling effect of the oceans. Sulphur dioxide is emanated from coal, oil and the processing of minerals (breakdown of sulphides to produce copper, zinc, lead and so on), and from other chemical industries. It combines with water in the atmosphere to produce sulphuric acid, which (being heavier than air) condenses and settles to the ground within a few years. Aerosols stay in the atmosphere and stratosphere on time scales ranging from hours to days and to years, depending on their grain size, chemistry and height in the atmosphere and on the physical state and temperature of the atmosphere at different altitudes and latitudes. The aerosols are short-lived, i.e. on time scales of up to a few years, but since they are continuously emitted from industry the overall level is increasing as burning of fossil fuels is rising. The continuing emission of sulphur aerosols in effect constitute a global geo-engineering process without which the atmosphere would warm by another 1.2 degrees (1.6 Watt/m2) above the present level, **resulting in near-doubling of global warming** ([Figure 1](http://www.columbia.edu/%7Ejeh1/mailings/2011/20110415_EnergyImbalancePaper.pdf)).

### 1NC—DA

**Congress will avoid the fiscal cliff now.**

**Postal 11/8**/12 Veteran reporter covering Washington, D.C. and federal insurance regulation

(Arthur Postal, Credit Union Times, Dealmakers at Work on Fiscal Cliff, <http://www.cutimes.com/2012/11/08/dealmakers-at-work-on-fiscal-cliff?ref=hp>)

Washington is again focusing on the so-called “fiscal cliff” now that the election is out of the way, and there is **strong evidence** of a “grand bargain” being agreed to by **Congress** and the **White House** by year-end in order to avert a dramatic impact on the economy.

President Obama signaled support for a compromise in accepting Mitt Romney’s concession early Wednesday, and on Wednesday, both Senate and House leaders made statements implying that talks are underway.

The issue boils down to the fact that, barring action, $668 billion in total spending cuts and tax increases will take effect Jan. 1, constituting 4% of total gross domestic product.

Also critical is that estate-tax policy will revert to 2001 levels if there is no action. If Congress fails to act, 14.7 million U.S. households would have a potential estate tax liability, according to LIMRA.

The **consensus** of congressional staffers is that there will be a one-year deal to avoid the huge year-end impact.

The sources say that this deal would include an agreed-upon deficit reduction number, including an agreement for tax reform that brings in revenues.

**Capital is key.**

**Kalab 11/8**/12 Shorenstein Center's Founding Director, Edward R. Murrow Professor of Press and Public Policy at Harvard, Scholar in Foreign Policy – Brookings

(Marvin, An Overture to Romney, <http://www.brookings.edu/blogs/up-front/posts/2012/11/08-romney-kalb>)

Conservative critics, gloomy after their candidate’s defeat, argue that President Obama, despite his impressive win in a struggling economy, has no mandate. **That is nonsense.** The president has a mandate, or, what former President George W. Bush referred to as “political capital,” to lead the way toward a political reconciliation over the nation’s impending fiscal cliff negotiations—and to do so now, while the glow of his victory still glitters in the political sunrise. **No one else can lead**, and no one else should lead.

In a way unique to Oval Office occupants, who have run their last political campaign, freshly liberated from normal political constraints, President Obama can now embark on this urgent task by dramatically widening the circle of his inner cabinet and inviting prominent Republicans to join it and, in this way, help him reach an unprecedented bipartisan compromise in the best interests of the country. One such Republican is Mitt Romney, the man he just beat. Though technically the head of his party, Romney is now a man without a job but a man who was, only a few days ago, close to being President-elect. Why not appoint Romney to replace Tim Geithner as Secretary of the Treasury?

This is not so wild an idea, though I can imagine, as you can, the obvious pitfalls. He has major disagreements with the president on economic policy, and he may yet dream about another run for the top job. In addition, Obama may already have promised the job to someone else.

But, if words still have meaning, and if the president remains fixed on striking a major deal before dreaded sequestration sinks its claws into the American economy, Obama is now in a position to make a bold move. The stage, in fact, is set.

**IFR’s cost capital.**

**Elias 8** San Diego Tribune Staff, Political Commentator

(Thomas D. Elias, Why isn't this energy solution even on the table?, <http://www.sddt.com/commentary/article.cfm?Commentary_ID=109&SourceCode=20081010tza>)

Remarkably, while proposals for renewed offshore oil drilling, new atomic power plants, expanded carbon trading and other proposed tactics abound in this year's presidential campaign, no one mentions the single most promising technique.

This may be because its name contains the word "reactor." Combined with the fact that it depends on a sophisticated form of nuclear technology, that appears to make the notion of power plants using the Integral Fast Reactor **anathema to today's politicians**.

But it shouldn't. For this technology is demonstrably safer than any existing nuclear power plant, depends almost completely on recycling for its fuel and would make virtually no contribution to worldwide climate change.

Yes, there are serious problems with today's version of nuclear power. The most difficult to solve is waste disposal, with almost no one wanting his or her backyard to be a dumping ground for spent radioactive fuel rods that will stay "hot" for eons. There are longstanding worries about effects of nuclear plants or their waste on water tables and ocean water temperatures. There are terrorism concerns. And there's the possibility -- slim, but still present -- of a meltdown or explosion loosing clouds of radioactivity into the air for many miles around. This has never happened in an American-designed atomic plant, but that doesn't stop people or politicians from worrying.

Meanwhile, no such concerns apply to the Integral Fast Reactor (IFR), designed at the Argonne National Laboratory in Illinois and its Idaho satellite facility during the 1980s and '90s at a cost of more than 1 billion taxpayer dollars.

The design was shelved and a small prototype essentially deep-sixed in 1994, ostensibly because of concerns that it might lead to proliferation of nuclear weapons.

Here are some of the advantages of the IFR, as listed by Steve Kirsch, a multimillionaire Silicon Valley software entrepreneur who has pushed the concept for several years:

These reactors can be fueled entirely with today's used nuclear fuel, consuming virtually all of the long-lived radio-isotopes that make storage of spent fuel rods such a problem. It would take IFRs centuries to use up the supplies of uranium that have already been mined, in part because this design is about 100 times more efficient in milking energy from uranium than those in use today.

IFRs require no enrichment of uranium, can be fueled with plutonium waste from other nuclear plants and emit almost no greenhouse gases. Such reactors would be cooled with liquid sodium, so they would not require massive water supplies and therefore can be located almost anywhere (read: isolated, desolate areas far from the large populations that might use the energy they produce).

The main disadvantage -- the one that killed the idea back in the mid-'90s -- is the fear that it would **lead to prolif**eration of weapons-grade uranium because it is a form of "breeder" reactor that could theoretically produce more fissionable material than it uses.

But that's a matter of choice, making the breeder issue a red herring, an objection raised even though it has little merit only because it will **alarm large numbers** of people. For IFRs can be designed to use just as much fuel as they create, or more. In fact, it is today's thermal reactors that are large producers of ultra-dangerous plutonium.

The other problem with IFRs -- this one legitimate -- is that the liquid sodium cooling them could catch fire. But the scientists who developed the IFR design insisted that adding an extra cooling loop to each reactor would likely prevent this.

Kirsch maintains the IFR project was killed because it threatened **oil companies**, **uranium mines**, **coal mines** and **natural gas companies**. Which it would.

But George Stanford, a Ph.D. nuclear physicist who helped create the IFR design at Argonne, believes the main reason was fear of proliferation. "Well-meaning but ill-informed people claiming to be experts confused the issue and convinced many administrators and legislators the IFR was a threat," he said in a remarkable 2001 essay that can be accessed at nationalcenter.org/NPA378.html.

There is no doubt that American ingenuity has solved innumerable problems and won several wars. That same creativity also produced a power plant idea that could solve many of today's energy problems while doing little or no harm to citizens or the environment.

**The impact is global econ collapse.**

**Mandel 12** Syracuse Business News Examiner

(Harold, Fitch says fiscal cliff could set off global recession, <http://www.examiner.com/article/fitch-says-fiscal-cliff-could-set-off-global-recession>)

Money News has reported on September 27, 2012: "Fitch: US Fiscal Cliff Could Trigger Global Recession, Halve World Growth." Fitch Ratings said on Thursday that the unprecedented belt-tightening, which is known as the fiscal cliff that hangs over the United States could, at the very least, cut world growth in half in 2013. Fitch also said that the fiscal cliff could push the United States and possibly the world into recession.

The ratings agency stated, "The U.S. fiscal cliff represents the single biggest near-term threat to a global economic recovery." Fitch has gone on to warn, “A U.S. fiscal shock would be exported to the rest of the world via a sharply weaker U.S. dollar and asset prices, lower U.S. price and wage inflation and heightened risk of deflation, and the impact on commodity prices.” In the meantime leading U.S. executives have less confidence in the business outlook now than at any time in the past three years, with a primary reason being fear of gridlock in Washington over the fiscal deficit and tax policy. And so unless the fiscal cliff is confronted and avoided this could be bad news for everyone.

**Nuclear war.**

**Kemp 10** Director of Regional Strategic Programs at The Nixon Center, served in the White House under Ronald Reagan, special assistant to the president for national security affairs and senior director for Near East and South Asian affairs on the National Security Council Staff, Former Director, Middle East Arms Control Project at the Carnegie Endowment for International Peace

(Geoffrey Kemp, The East Moves West: India, China, and Asia’s Growing Presence in the Middle East, p. 233-4)

The second scenario, called Mayhem and Chaos, is the opposite of the first scenario; everything that can go wrong does go wrong. The world economic situation weakens rather than strengthens, and India, China, and Japan suffer a major reduction in their growth rates, further weakening the global economy. As a result, energy demand falls and the price of fossil fuels plummets, leading to a financial crisis for the energy-producing states, which are forced to cut back dramatically on expansion programs and social welfare. That in turn leads to political unrest: and nurtures different radical groups, including, but not limited to, Islamic extremists. The internal stability of some countries is challenged, and there are more “**failed states**.” Most serious is the collapse of the democratic government in **Pakistan** and its takeover by Muslim **extremists**, who then take possession of a large number of **nuclear weapons**. The danger of war between **India and Pakistan** increases significantly. **Iran**, always worried about an extremist Pakistan, expands and weaponizes its nuclear program. That further enhances **nuclear proliferation** in the **Middle East**, with Saudi Arabia, Turkey, and Egypt joining Israel and Iran as nuclear states. Under these circumstances, the potential for nuclear **terrorism** increases, and the possibility of a nuclear terrorist attack in either the Western world or in the oil-producing states may lead to a further devastating collapse of the world economic market, with a tsunami-like impact on stability. In this scenario, major disruptions can be expected, with dire consequences for two-thirds of the planet’s population.

**Sequestration destroys US military power --- triggers nuclear war.**

**Hunter 9/30**/12 U.S. Representative from Alaska

(Duncan, “SEQUESTRATION SENDS WRONG MESSAGE TO U.S. FRIENDS AND FOES ALIKE,” 2012, <http://www.utsandiego.com/news/2012/sep/30/tp-sequestration-sends-wrong-message-to-us/?page=1#article>)

Over the next 10 years, because of sequestration, the Pentagon will be forced to absorb $500 billion in budget cuts that will strike at the heart of America’s military. Making this even more dangerous is the fact that the legislation triggering sequestration, the Budget Control Act, also imposed an additional $450 billion in defense budget cuts for a total of nearly $1 trillion of reductions over the next decade. The next 10 years are sure to be no different from the last. In the Middle East, **Iran** is desperately searching to fill a regional power vacuum and enhance its weapons program, while threatening to **close the Strait of Hormuz** and targeting Israel with unapologetic provocation. Meanwhile, the United States still has an obligation to Iraq. There is a necessity for diplomatic support and engagement, even though the ground combat mission is over. **Africa** is also experiencing power struggles of its own. The situations in Libya and Egypt are evolving, while Yemen and Somalia are acting as staging grounds for **al-Qaeda.** There is also the threat of Somali pirates in international waters. Multiple high-profile hostage situations and combat rescues show just how serious of a threat that rogue bands of pirates are to naval and commercial shipping lanes. There is also the threat of **North Korea** with its aggressive pursuit of advanced aerial weaponry, **Russia** with its focus on arms modernization, and China with its large-scale and rapid military buildup. **China’s** display of hostility toward **Taiwan** — a friend and ally of the United States — also shows no sign of diminishing. With all of this, more than 70,000 American troops are in Afghanistan, facing down a dangerous enemy. For the United States and other nations, interest in Afghanistan and the region will continue long after the last of the coalition ground forces leave and the next phase of the mission begins. Ignoring America’s obligation as a world leader and the patchwork of threats that exist today won’t eliminate the risk posed by an Iran that one day acquires nuclear weapons or a North Korea that eventually acquires effective strike capability. More likely, these and other threats will develop more quickly and efficiently, putting the **global interests** of the U.S. directly in the cross hairs. Through a robust national defense, the United States has always sent a clear message around the world that American intentions are good and we stand by our allies. The strength of the U.S. military has **dissuaded conflict** and suggested to adversaries that challenging freedom is a losing proposition. It was this deterrent, in fact, that won the Cold War and turned the U.S. military into the world’s most effective fighting force. **Sequestration would change all of this**, for the worse. In the words of Defense Secretary Leon Panetta, sequestration is a “nutty formula, and it’s goofy to begin with, and it’s not something, frankly, that anybody responsible ought to put into effect.” He also said sequestration is the equivalent of “**shooting ourselves in the head**.” Tough words, but Secretary Panetta is right. Sequestration would produce the smallest ground force since 1940, the smallest Navy since 1915 and the smallest tactical fighter force in Air Force history. Ironically, the president’s defense policy shift to the Pacific increases reliance on the Navy, but with the smallest fleet in nearly a century, controlling the oceans and projecting force will become an even more difficult and selective process, requiring prioritization that would create vulnerabilities elsewhere. Resetting America’s armed forces after a decade-plus of combat action is another necessity that cannot be overlooked. There is also a guarantee of pink slips throughout the uniformed services and every industry that directly supports the U.S. military. In San Diego, the military sustains hundreds of thousands of jobs, and billions of dollars in economic productivity. San Diego — even for all of its strategic value — is not immune to job loss and other economic impacts accompanying deep budget cuts. Sequestration is a term Americans should get to know and understand, because it will have real and lasting consequences if left unchecked. The upside is that the risks and dangers can be avoided as long as Congress and the president act in the coming months. The clock is ticking to stave off sequestration — a move that would signal to our friends and enemies alike that we uphold our promises and stand ready to defend our interests against any threat.

### 1NC—Solvency

#### IFRs are only blueprints and won’t be competitive—empirics prove high costs.

Wauchope 7/5/12—Noel Wauchope works as a Division 1 registered nurse. Noel has been an anti-nuclear campaigner for many years and used to write for the now defunct Nation Review on the subject, as well as being the spokesperson for Women’s Electoral Lobby on nuclear issues. [July 5, 2012, “In dispraise of Integral Fast Nuclear Reactors,” http://www.independentaustralia.net/2012/environment/in-dispraise-of-integral-fast-nuclear-reactors/]

For instance, they ignore the fact that IFRs need plutonium or enriched uranium as fuel. So, to have fast reactors, Australia would need to import these, or set up nuclear reprocessing or uranium enrichment here. This would also involve issues such as cost, politics, public opinion, issues concerning our growing renewable energy systems, radioactive waste storage — just to mention some of the more obvious of the considerable obstacles to Australia ever getting fast reactors. Nuclear lobbyists seem naively oblivious to the importance of these factors in the minds of the general public.

In Australia, the high priest now is Barry Brook. He and his acolytes proselytise the case for Australia to get IFRs. This latest enthusiasm seems to have been inspired by Britain’s present crisis of nuclear waste.

Britain had, and still has, nearly 100 metric tonnes of weapons grade plutonium, to deal with. So, they set up the Thermal Oxide Reprocessing Plant (THORP) at Sellafield in Cumbria, which began operating in 1997. It was supposed to make money by recycling plutonium from spent fuel to make mixed oxide fuel (MOX) and then sell it overseas. Trouble was, it was a commercial disaster — costing $2.3 billion to build, and $750 million each year to run. It was closed in August 2011. So, what to do with the radioactive wastes? The cheapest and least dangerous solution was deep burial and the UK government is trying to persuade Cumbria to host an underground radioactive mausoleum — but, for some reason, the Cumbrians are not very keen on the idea…

So, along come the nuclear entrepreneur whiz kids.

Why not have another try at turning toxic wastes into a profitable export, they say. Sell them off overseas to other countries — we will design a gadget to use these, and sell the gadget, too! Enter the Integral Fast Reactors. The Brits are considering starting with one type of these, the Power Reactor Innovative Small Module — General Electric’s PRISM fast reactor. This reactor “consumes” weapons grade plutonium, producing electricity, and turning the plutonium into other radioactive wastes that are not quite as useful for making bombs. General Electric Hitachi proposes to “burn” the UK’s stockpile of plutonium in GEH’s Prism fast reactors”. It’s a complicated process.

Now, doesn’t that sound good?

It would get rid of Britain’s massive amount of plutonium wastes, make it (almost) unsuitable for weapons, make money for UK, and give cheap electricity to the colonials, hmm… say, in Australia! Yep, Barry Brook and his crew think that this is a great idea for Australia.

What’s wrong with this?

Lots.

First of all, I always think “follow the money”. Because of various factors, these reactors will be hugely expensive to build. The construction materials have to be especially tough and durable because of obvious – and non-obvious – safety concerns. The PRISM reactor is cooled by liquid sodium, which can very readily catch fire. They are kept as small reactors, to make it easier to maintain safety features.

Apart from the high costs of building these reactors, because they are small, they would not be economic to sell except in large numbers; they need to be pretty well mass produced to make them viable for export. Bearing in mind that they still exist only as blueprints — it will be a very long stretch until somebody (in Australia?) places an order for them in large numbers.

The Integral Fast Reactor is, after all, just another type of nuclear reactor — it runs on radioactive fuel, provides heat to make electricity and produces radioactive waste. It also uses reprocessed nuclear wastes for its fuel, therefore nuclear reprocessing plants would be needed. So far, all existing nuclear reprocessing has proved to be an expensive failure. For instance, the USA’s MOX reprocessing fuel plant is still under construction — it has cost billions of dollars, is over budget and also behind schedule. In Japan, the super expensive Monju prototype fast breeder reactor is costing 1,000 times more than conventional reactors to run.

Beyond all that, there is the safety factor, mentioned briefly before. The metal fuel gets hot and, unlike oxide based fuels, when it heats, it swells. If the fuel expands too much, it can crack the surrounding cladding — and that presents a big problem.

And just as safety impinges on costs, so does security. These small nuclear reactors have to be guarded, and so does the plutonium and enriched uranium fuel being transported to the reactor. And so do the eventual radioactive wastes produced by the IFRs. Security alone would be a huge expense — and more so because it would involve guarding not just a few big reactors, but a large number of small ones.

#### Nuclear will remain uncompetitive for decades—our evidence cites industry leaders.

Hiltzik 11—Michael Hiltzik is a Pulitzer Prize-winning journalist and author who has covered business, technology, and public policy for the Los Angeles Times for twenty years, master of science degree in journalism from the Graduate School of Journalism at Columbia University [March 23, 2011, “A nuclear renaissance in U.S. was unlikely even before Japan disaster,” *LA Times*, http://articles.latimes.com/2011/mar/23/business/la-fi-hiltzik-20110323]

To all those who may be concerned that the catastrophic events at Japan's Fukushima Daiichi nuclear plant will derail the heralded renaissance of nuclear power in the U.S., you can relax.

The reason is simple: There is no renaissance.

Not even Exelon Corp., the nation's biggest nuclear generation company, has been holding its breath for a surge in orders or appreciable increase in new generating capacity.

The reason has little to do with an unreasoning public's fear of nuclear meltdowns and radiation poisoning, and almost everything to do with pure economics. As John Rowe, Exelon's chairman and chief executive, told an audience at a Washington think tank two weeks ago, you can build a new natural gas plant for 40% less than a new nuclear plant, and the price of its fuel is at rock bottom.

"Natural gas is queen," he says. (To be fair, Exelon also makes a lot of money from gas.)

In recent years, nuclear energy has been promoted as a "green," or at least greenish, alternative to coal power and other fossil-fueled generation. That's been a potent selling point as concern has mounted over the latter's effect on climate change by the production of greenhouse gases. Nuclear power is burdened by its own environmental issues, including the dangers of radioactive release into the atmosphere, but the production of carbon dioxide isn't among them.

Yet the technology's potential as a weapon against global warming has been as oversold, just as its virtues as safe, clean and "too cheap to meter" were during its infancy in the 1950s. To realistically make a dent in climate change, nuclear plant construction would have to take off at such a rate that it would "pose serious concerns" for the availability of construction materials, properly trained builders and operating technicians, and safety and security oversight, as a report by the Council on Foreign Relations observed in 2007.

"For at least a couple of decades to come, nuclear will be very uncompetitive," the report's author, Charles D. Ferguson, told me this week. Ferguson is president of the Federation of American Scientists.

The ongoing disaster in Japan will exacerbate social concerns about nuclear waste disposal — the on-site storage of spent fuel, which is common at U.S. plants, has complicated the situation at Fukushima — as well as concerns about the safety and security of existing plants. But those concerns have existed for years, so the spectacle of the Japanese grappling with the consequences, graphic as it is, may not in itself affect public attitudes.

Talk of nuclear renaissance in the U.S. had been spurred by two developments. One was the dramatic improvement in the operating record of U.S. plants. In recent years the domestic nuclear industry had been operating at close to 90% of capacity, compared with the lousy 65% record it turned in during the 1970s. The change was the product partially of the industry's consolidation into a small number of specialty operators with nuclear expertise, and it tended to reduce the apparent cost of nuclear power to levels competitive with other sources.

But that also means that "people who advocate nuclear power have rose-colored glasses about its economics," says John E. Parsons of the Massachusetts Institute of Technology, the co-author of a 2009 update to a 2003 MIT report on the future of nuclear power.

Further encouragement came from the streamlining of U.S. licensing rules. The new procedure consolidates what formerly were separate construction and operating permits into one, removing the uncertainty that a utility might build an entire facility only to be denied permission to run it.

But no new plant has yet been approved under the new system, so plenty of uncertainty still exists. "An investor has to ask, 'Am I looking at a technology that works only when all the cards fall my way?'" Parsons says.

Despite expressions of support for nuclear power coming from political leaders, including President Obama, who is offering loan guarantees for new reactors, nuclear energy can't develop in a policy vacuum. One of the dismal ironies of the American energy program is that many of the same politicians standing foursquare behind nuclear power are also sworn opponents of policies such as a carbon tax, which would make nukes more competitive by raising the price of fossil-based alternatives.

For example, here's Mitt Romney. In "No Apology," the book he published last year presumably as a manifesto for his 2012 presidential campaign, Romney says he doesn't understand why nuclear power is such a "boogeyman," because America's existing plants are "trouble-free." Romney contends that nuclear plants are economically unfeasible in the U.S. only because of our "interminable permitting, regulatory and legal delays."

Romney should listen more to fellow businessmen like Exelon's Rowe, who would tell him that the real reason is that gas generation is cheaper, thanks to pricing that ignores such external costs of gas as pollution and climate change. Yet in his book Romney condemns policies such as the carbon tax because it would "fatten government, harm employers and employees, and hurt consumers." You can't have it both ways, Mitt.

Romney defends the economics of nuclear power by observing that countries with major nuclear construction programs, such as China, seem to have solved the economic conundrum without much trouble. Yet even pro-nuclear experts here acknowledge that nuclear economics don't easily cross national borders. China, which has 13 operating nuclear plants and 30 under construction, has endowed its state-owned nuclear industry with heavy subsidies.

According to a report by the Federation of American Scientists, China's burgeoning demand for electrical power can't effectively be satisfied from its current main source, coal, which will face a depletion crisis around the end of this decade. That makes ramping up nuclear an urgent issue for China. But in the U.S., says Andrew Kadak, the former CEO of Yankee Atomic Power Co., a New England nuclear plant operator, "we don't have that urgency because natural gas is too cheap an alternative."

With the construction of plants still hampered by economics, nuclear utilities are devoting more attention to improving efficiencies and increasing the output of their existing plants, a process known as "uprating." But that amounts to treading water until the social and economic difficulties of nuclear power can be addressed. And they'll have to be addressed: "It's going to be very hard to reduce carbon dioxide if nuclear is out of the picture," MIT's Parsons says. But the first step is injecting realism into the discussion. Nuclear power may be necessary to our energy future, but it won't be our savior.

#### This card ends the debate---the aff cannot solve---neg on presumption

Lovins 10 AMORY B. LOVINS is Chair and Chief Scientist of Rocky Mountain Institute "Nuclear Socialism" Weekly Standard, VOL. 16, NO. 06 Oct 25 www.weeklystandard.com/articles/nuclear-socialism\_508830.html?page=1

With such juicy incentives, why won’t private investors finance reactors? In 2005-08, with the strongest subsidies, capital markets, and nuclear politics in history, why couldn’t 34 proposed reactors raise any private capital? Because there’s no business case. As a recent study by Citibank U.K. is titled “New Nuclear—the Economics Say No.” That’s why central planners bought all 61 reactors now under construction worldwide. None were free-market transactions. Subsidies can’t reverse bleak fundamentals. A defibrillated corpse will jump but won’t revive.

American taxpayers already reimburse nuclear power developers for legal and regulatory delays. A unique law caps liability for accidents at a present value only one-third that of BP’s $20 billion trust fund for oil-spill costs; any bigger damages fall on citizens. Yet the competitive risks facing new reactors are uninsured, high, and escalating.

Since 2000, as nuclear power’s cost projections have more than tripled, its share of global electricity generation has fallen from 17 percent to 13 percent. That of cogeneration (making electricity together with useful heat in factories or buildings) and renewables (excluding big hydropower projects) rose from 13 percent to 18 percent.

These bite-sized, modular, quickly built projects—with financial risks, costs, and subsidies generally below nuclear’s and declining​—now dominate global power investments. Last year, renewables (wind, water, solar, geothermal), excluding large hydroelectric dams, attracted $131 billion of private capital and added 52 billion watts. Global nuclear output fell for the past three years, capacity for two.

### 1NC SK

#### South Korean ENR undermines US non-prolif efforts with Iran, North Korea, and Southeast Asia.

Keck 12—Zachary Keck, Assistant Editor of The Diplomat [“Rough Waters? The State of the ROK-U.S. Alliance,” The Diplomat, August 22, 2012, http://thediplomat.com/flashpoints-blog/2012/08/22/rough-waters-the-state-of-the-rok-u-s-alliance/]

Washington’s concerns over South Korean’s nuclear ambitions have only been heightened by Seoul’s latest campaign to acquire indigenous enrichment and reprocessing facilities, which it is proscribed from doing under a nuclear pact it signed with Washington in 1974. In contrast, the U.S. has signed agreements recognizing Japan’s reprocessing and enrichment rights as well as India’s de facto reprocessing capability. Now, with the U.S. and South Korea renegotiating the 1974 nuclear pact that will expire in 2014, South Korea has demanded that Washington acquiesce to Seoul building enrichment and processing facilities. South Korea’s immediate interest in acquiring these capabilities is not nuclear weapons but rather further expanding its nuclear energy industry at home and abroad. Nonetheless, the U.S. has rejected South Korea’s request thus far, with President Obama’s top proliferation adviser, Garry Samore, telling South Korean reporters last month, “There is no danger that Korean industry will not be able to get access to low enriched uranium," Washington has a number of reasons to oppose South Korea’s request, many of which have nothing to do with Seoul. For instance, a key component of President Obama’s nuclear security agenda is the goal of securing all nuclear materials worldwide within four years. Allowing South Korea to begin producing its own fissile materials would run counter to this goal and undercut the administration’s important successes in reducing the number of countries that possess and produce these materials. Allowing South Korea to build these facilities would also undermine the current U.S.-led campaign to persuade Iran to abandon its own enrichment facilities. It would also adversely affect a number of U.S. objectives in the Asia-Pacific, including persuading Pyongyang to surrender its own nuclear program, according Japan a heightened status among U.S. allies, and keeping Southeast Asia’s budding nuclear energy programs on their current peaceful trajectories. Under the surface, however, Washington’s opposition is likely due in part to its uncertainty over South Korea’s long-term nuclear intentions. As noted above, South Korea already has a history of covertly seeking nuclear arms. That this took place before Seoul became a democracy is cold comfort to the U.S given that South Koreans have at times been overwhelming in favor of their country acquiring nuclear weapons. In other words, at a time when the region is undergoing sweeping changes, the U.S. is increasingly less confident that South Korea will continue to rely on Washington for its security indefinitely. Indeed, there are already a number of signs that Seoul is seeking greater autonomy. These come at a time when the U.S. will need South Korea more than ever in order to properly rebalance its forces in the region.

#### Deterrence breakdowns don’t cause full-scale nuclear war

Waltz 3—Kenneth, Emeritus Professor of Political Science at UC Berkeley and Adjunct Senior Research Scholar at Columbia University, The Spread of Nuclear Weapons: A Debate Renewed, p. 34-35

States are deterred by the prospect of suffering severe damage and by their inability to do much to limit it. Deterrence works because nuclear weapons enable one state to punish another state severely without first defeating it. "Victory," in Thomas Schelling's words, "is no longer a prerequisite for hurting the enemy." 37 Countries armed only with conventional weapons can hope that their military forces will be able to limit the damage an attacker can do. Among countries armed with strategic nuclear forces, the hope of avoiding heavy damage depends mainly on the attacker's restraint and little on one's own efforts. Those who compared expected deaths through strategic exchanges of nuclear warheads with casualties suffered by the Soviet Union in World War II overlooked the fundamental difference between conventional and nuclear worlds. 38

Deterrence rests on what countries can do to each other with strategic nuclear weapons. From this statement, one can easily leap to the wrong conclusion: that deterrent strategies, if they have to be carried through, will produce a catastrophe. That countries are able to annihilate each other means neither that deterrence depends on their threatening to do so nor that they will necessarily do so if deterrence fails. Because countries heavily armed with strategic nuclear weapons can carry war to its ultimate intensity, the control of force becomes the primary objective. If deterrence fails, leaders will have the strongest incentives to keep force under control and limit damage rather than launching genocidal attacks. If the Soviet Union had attacked Western Europe, NATO's objectives would have been to halt the attack and end the war. The United States had the ability to place thousands of warheads precisely on targets in the Soviet Union. Surely we would have struck military targets before striking industrial targets and industrial targets before striking cities. The intent to hit military targets first was sometimes confused with a war-fighting strategy, but it was not one. It would not have significantly reduced the Soviet Union's ability to hurt us. Whatever American military leaders thought, our strategy rested on the threat to punish. The threat, if it failed to deter, would have been followed not by spasms of violence but by punishment administered in ways that conveyed threats of more to come.

A war between the United States and the Soviet Union that got out of control would have been catastrophic. If they had set out to destroy each other, they would have greatly reduced the world's store of developed resources while killing millions outside of their own borders through fallout. Even while destroying themselves, states with few weapons would do less damage to others. As ever, the biggest international dangers come from the strongest states. Fearing the world's destruction, one may prefer a world of conventional great powers having a higher probability of fighting less- destructive wars to a world of nuclear great powers having a lower probability of fighting more-destructive wars. But that choice effectively disappeared with the production of atomic bombs by the United States during World War II.

### 1NC Warming

#### 1. IFRs too slow to solve warming—development time and sodium fires.

Clarke 10—Renfrey Clarke is an Australian writer, a climate change activist, and member of the Socialist Alliance in Adelaide, South Australia [April 8, 2010, “Why James Hansen is wrong on nuclear power,” International Journal of Socialist Renewal, http://links.org.au/node/1607]

When a technology is immature – as is the case with third-generation nuclear power generation – the time needed to make it fully operational is always an important question. And when the task is to replace fossil-fuelled energy generation, the timeframes for perfecting the new equipment and building it out are critically short.

Just how short emerges from work performed by James Hansen himself. If a basically recognisable natural world is to survive, the US climatologist has concluded, atmospheric carbon dioxide must be cut by the end of the century to a level below 350 parts per million (ppm). This will require ending net human-induced CO2 emissions by 2050.

How much CO2 can be emitted during this period, if the eventual concentration of 350 ppm is to be achieved? Other scientists have calculated the allowable “carbon budget” for the years until 2050 at a total of 420 gigatonnes (billion tonnes) of CO2, with other greenhouse gases in proportion. At present emission rates, this budget will be exhausted around 2021.

How might third- and fourth-generation nuclear plants fit these requirements? Highly complex, and still unproven, third-generation plants would not be operating in significant numbers before 2020, and probably for rather longer. This is indicated by experience with the plant now being built at Olkiluoto in Finland. Construction at the site is at least three and a half years behind schedule, and is plagued by cost overruns of some 60 per cent.

Compared to earlier installations, the projected fourth-generation plants – specifically, the “integral fast reactor” (IFR) designs that have drawn most attention – promise important advantages. Passive safety features would make the chance of core meltdown ultra-remote. Unlike most reactor designs, IFRs would use “fast” or high-energy neutrons, allowing them to create more fissile material – in this case, plutonium – than they consume. This would be achieved through the irradiating of depleted uranium, of which large stockpiles exist. Fresh mining of uranium would not be needed for hundreds of years.

Along with plutonium, the reactor products from IFRs would contain highly radioactive isotopes of minor transuranic elements. The “integral” reactor complexes would include facilities for extracting the plutonium from the reactor products for use as fuel, with long half-life transuranics also removed and included in the fuel mix. In this form, the fuel would be unsuitable for nuclear bomb-making without elaborate and easily detected reprocessing. Its attractiveness as a basis for weapons proliferation would arguably be slight.

High-level wastes from other reactors could also be incorporated into the IFR fuel, to be “burned” and transmuted into relatively manageable materials. The wastes left behind after the fuel extraction would initially be dangerous – and quite usable for dirty bombs – but within 200 years would be no more radioactive than natural uranium ores.

Energy bonanza?

Through the use of IFRs, proponents like Hansen maintain, huge quantities of energy could be created without major emissions of greenhouse gases. Meanwhile, the costs and dangers of uranium mining and enrichment would be avoided. With plutonium and highly radioactive wastes never leaving the reactor sites, security would be easier to manage. From being a massive obstacle, end-product waste storage would become quite feasible.

Unfortunately, IFRs do not offer a solution to global warming. The catch, above all, is in the time lines. There is simply no way that IFRs can be designed, brought to practical operating status and built in massive numbers during the few years – barely a decade, if something like today’s natural world is to survive – that the greenhouse emissions budget allows us.

Developing workable IFRs would not be straightforward or quick, even if massive resources were assigned to the task. Since the 1950s nuclear engineers have acquired considerable experience of fast-neutron reactors. Mostly, this experience has been with so-called “fast breeder” reactors, designed to maximise plutonium output for bomb making and reactor fuel, rather than with “burner” reactors like IFRs. But the message is the same for both types: fast-neutron reactors are particularly complex, have a high rate of accidents and breakdowns, and are fiendishly difficult and time consuming to service and repair.

Needing to maintain high neutron energy levels, fast reactors cannot use water as a coolant, since this would slow the neutrons down. The coolant of choice is molten sodium metal. Sodium is highly reactive, burning readily in air and exploding on contact with water. If leaks are not to result in sodium-air fires, the reactor vessel and coolant pipes must be surrounded with inert argon gas, adding to complexity and costs. At a certain point, the sodium coolant must be used for steam generation; here, it is separated from high-pressure water by only a thin barrier of pipe metal, any flaw in which can have drastic consequences.

The sodium that passes through the reactor core becomes highly radioactive. This means that an extra coolant loop must be incorporated, isolating the reactor coolant from the steam-generating equipment so that an explosion cannot disperse radioactive sodium; again, the additional complexity raises capital costs. For various repair and maintenance procedures, the sodium must be drained and the pipes flushed. This has to be done with regard for the radioactivity, while taking care to prevent fires. Even minor malfunctions can result in months of down time.

Sodium fires

Between 1980 and 1997, Russia’s BN-600 fast reactor experienced 27 leaks, 14 of which resulted in sodium fires. Japan’s Monju reactor suffered a major sodium-air fire in 1995, and was still out of action at the end of 2009. The only attempt so far at a commercial-scale fast reactor, the French Superphénix plant, was shut down after a decade in 1996; it had a lifetime capacity factor – that is, actual as compared to designed output – of just 7 per cent.

The development of IFRs, if it goes ahead, will be expensive, difficult and prolonged. Wikipedia predicts a commercialisation date for fourth-generation nuclear plants of 2030. But we cannot wait that long before drastically curtailing greenhouse emissions.

#### 2. No spillover—tech won’t be adopted by China or India—can’t solve warming without the biggest emitters

#### 5. No risk of extinction.

Lomborg 8—Director of the Copenhagen Consensus Center and adjunct professor at the Copenhagen Business School [Bjorn, “Warming warnings get overheated,” The Guardian, August 15, 2008, http://www.guardian.co.uk/commentisfree/2008/aug/15/carbonemissions.climatechange]

These alarmist predictions are becoming quite bizarre, and could be dismissed as sociological oddities, if it weren't for the fact that they get such big play in the media. Oliver Tickell, for instance, writes that a global warming causing a 4C temperature increase by the end of the century would be a "catastrophe" and the beginning of the "extinction" of the human race. This is simply silly. His evidence? That 4C would mean that all the ice on the planet would melt, bringing the long-term sea level rise to 70-80m, flooding everything we hold dear, seeing billions of people die. Clearly, Tickell has maxed out the campaigners' scare potential (because there is no more ice to melt, this is the scariest he could ever conjure). But he is wrong. Let us just remember that the UN climate panel, the IPCC, expects a temperature rise by the end of the century between 1.8 and 6.0C. Within this range, the IPCC predicts that, by the end of the century, sea levels will rise 18-59 centimetres – Tickell is simply exaggerating by a factor of up to 400. Tickell will undoubtedly claim that he was talking about what could happen many, many millennia from now. But this is disingenuous. First, the 4C temperature rise is predicted on a century scale – this is what we talk about and can plan for. Second, although sea-level rise will continue for many centuries to come, the models unanimously show that Greenland's ice shelf will be reduced, but Antarctic ice will increase even more (because of increased precipitation in Antarctica) for the next three centuries. What will happen beyond that clearly depends much more on emissions in future centuries. Given that CO2 stays in the atmosphere about a century, what happens with the temperature, say, six centuries from now mainly depends on emissions five centuries from now (where it seems unlikely non-carbon emitting technology such as solar panels will not have become economically competitive). Third, Tickell tells us how the 80m sea-level rise would wipe out all the world's coastal infrastructure and much of the world's farmland – "undoubtedly" causing billions to die. But to cause billions to die, it would require the surge to occur within a single human lifespan. This sort of scare tactic is insidiously wrong and misleading, mimicking a firebrand preacher who claims the earth is coming to an end and we need to repent. While it is probably true that the sun will burn up the earth in 4-5bn years' time, it does give a slightly different perspective on the need for immediate repenting. Tickell's claim that 4C will be the beginning of our extinction is again many times beyond wrong and misleading, and, of course, made with no data to back it up. Let us just take a look at the realistic impact of such a 4C temperature rise. For the Copenhagen Consensus, one of the lead economists of the IPCC, Professor Gary Yohe, did a survey of all the problems and all the benefits accruing from a temperature rise over this century of about approximately 4C. And yes, there will, of course, also be benefits: as temperatures rise, more people will die from heat, but fewer from cold; agricultural yields will decline in the tropics, but increase in the temperate zones, etc. The model evaluates the impacts on agriculture, forestry, energy, water, unmanaged ecosystems, coastal zones, heat and cold deaths and disease. The bottom line is that benefits from global warming right now outweigh the costs (the benefit is about 0.25% of global GDP). Global warming will continue to be a net benefit until about 2070, when the damages will begin to outweigh the benefits, reaching a total damage cost equivalent to about 3.5% of GDP by 2300. This is simply not the end of humanity. If anything, global warming is a net benefit now; and even in three centuries, it will not be a challenge to our civilisation. Further, the IPCC expects the average person on earth to be 1,700% richer by the end of this century.

### AT: Biodiversity Loss

#### Empirically denied—massive CO2 increases have not caused species extinctions

Willis et al. 10 [Kathy, Tasso Leventis Chair of Biodiversity, is Director of the Biodiversity Institute (BIO) in the Zoology Department and a Professorial Fellow at Merton College, Ph.D. from the University of Cambridge in Plant Sciences, a Selwyn College Research Fellowship, a NERC Postdoctoral Fellowship in the department of Plant Sciences, University of Cambridge, Royal Society University Research Fellowship in the Godwin Institute for Quaternary Research, University of Cambridge, Keith D. Bennett, Shonil Bhagwat and H John Birks, “Perspective 4 ◦ C and beyond: what did this mean for biodiversity in the past?,” Systematics and Biodiversity 8(1):3-9, Ebsco]

Within a time-frame of Earth’s history, current atmospheric CO2 levels at 380 ppmv are relatively low compared with the past; geological evidence and geochemical models suggest intervals of time when levels have been up to 18 times higher than present (Royer, 2008). The fossil record thus provides plenty of opportunity to assess biotic responses to intervals of higher global atmospheric CO2 and temperatures. However, this only makes sense if it is also possible to examine the responses of extant species, which have modern-day distributions; and where the position of global lithospheric plates is relatively similar to the present. Therefore, an ideal time interval for consideration is the past 65 million years when many of the ancestors of modern tropical and temperate trees had evolved (Willis & McElwain, 2002; Murat et al., 2004; Morley, 2007). It is also fair to assume that these species had broadly similar ecological tolerances to present day; it has been demonstrated in a number of studies that most species are remarkably conservative in their ecological niches (Wiens & Graham, 2005), and that these remain relatively unchanged through time despite populations persisting through intervals of wide amplitude ﬂuctuations in climate (Svenning & Condit, 2008).

The most recent climate models and fossil evidence for the early Eocene Climatic Optimum (53–51 million years ago) indicate that during this time interval atmospheric CO2 would have exceeded 1200 ppmv and tropical temperatures were between 5–10 ◦ C warmer than modern values (Zachos et al., 2008). There is also evidence for relatively rapid intervals of extreme global warmth and massive carbon addition when global temperatures increased by 5 ◦ C in less than 10 000 years (Zachos et al., 2001). So what was the response of biota to these ‘climate extremes’ and do we see the large-scale extinctions (especially in the Neotropics) predicted by some of the most recent models associated with future climate changes (Huntingford et al., 2008)? In fact the fossil record for the early Eocene Climatic Optimum demonstrates the very opposite. All the evidence from low-latitude records indicates that, at least in the plant fossil record, this was one of the most biodiverse intervals of time in the Neotropics (Jaramillo et al., 2006). It was also a time when the tropical forest biome was the most extensive in Earth’s history, extending to mid-latitudes in both the northern and southern hemispheres—and there was also no ice at the Poles and Antarctica was covered by needle-leaved forest (Morley, 2007). There were certainly novel ecosystems, and an increase in community turnover with a mixture of tropical and temperate species in mid latitudes and plants persisting in areas that are currently polar deserts. [It should be noted; however, that at the earlier Palaeocene–Eocene Thermal Maximum (PETM) at 55.8 million years ago in the US Gulf Coast, there was a rapid vegetation response to climate change. There was major compositional turnover, palynological richness decreased, and regional extinctions occurred (Harrington & Jaramillo, 2007). Reasons for these changes are unclear, but they may have resulted from continental drying, negative feedbacks on vegetation to changing CO2 (assuming that CO2 changed during the PETM), rapid cooling immediately after the PETM, or subtle changes in plant–animal interactions (Harrington & Jaramillo, 2007).]

Why is there such a discrepancy between model predictions for future vegetational responses and the observed responses in the past recorded in the fossil record? First, it should be noted that modelled predictions are based upon the present-day distribution of the plants under investigation, which almost certainly do not take into account their full ecological tolerances (Svenning & Condit, 2008). It is important also to note that ancestors of many of our modern tropical and temperate plants evolved in the late Cretaceous/early Palaeogene when global temperatures and atmospheric CO2 were much higher than present (summarized in Willis & McElwain, 2004) indicating that they have much wider ecological tolerances than are predicted based on present-day climates alone. In fact it is probable that it is cold conditions and lower levels of atmospheric CO2 that pose a greater extinction threat to many tropical and subtropical plants; a suggestion supported by the evidence for widespread regional extinction of subtropical species in Europe with the onset of the cold-stages of the Quaternary (Svenning, 2003). Second, it is presumed that the rates of climate change are going to be much higher than have been seen before, or at least for the past 60 million years—thus exceeding the capacity of biota to respond—but again this assumption should be questioned critically when looking at the fossil record. An ideal interval of time to address this question is the late-glacial/post-glacial transition about 11 600 years ago. The response of mid-latitude environments to >4 ◦ C temperature increases in less than 60 years Evidence from many fossil records, but in particular from ice-cores, indicate that two rapid increases in temperature occurred in mid-latitude environments at approximately 14 700 years ago and 11 600 years ago at the end of the last glacial with associated sharp increases in precipitation and atmospheric CO2 and CH4. The rapidity and magnitude of this temperature increase have only become properly understood in the past few years. Estimates from the Greenland ice-cores suggest an increase in air temperatures by as much as 10 ◦ C in mid- to high-latitudes within 3–5 years for the ﬁrst abrupt shift at 14 700 cal. yr BP, and ~60 years at 11 600 cal. BP (Steffensen et al., 2008).

Given that this temperature increase was greater in magnitude and rate to anything predicted for the next century, it is an extremely useful time interval to examine possible biotic responses to 4 ◦ C and beyond. In order to assess biotic responses, however, it is also important to have records with a good temporal resolution, ideally annual resolution. A review of the vegetational responses recorded in 11 sedimentary sequences with a suitably high temporal resolution from around the North Atlantic region (Williams et al., 2002), indicates that in North America and Europe, in less than 100 years, vegetation responded to the rapid climate change 11 600 years ago. For tree populations, this change often occurred in less than two or three generations. The nature of the response depended upon the former vegetation; in central Europe (e.g. Willis et al., 1997; Feurdean et al., 2007) and parts of eastern North America, for example, there is evidence in many regions for a change from needle-leaved dominated to broad-leaved dominated forest, often in less than 100 years. In comparison, closer to the ice-sheets, in western Norway, there was a rapid expansion in the herbaceous and shrub ﬂora and a later arrival of trees, probably due to a time lag for migration from refugial areas (Birks & Birks, 2008). The increase in tree populations, however, even in these northerly regions was still rapid (Birks & Ammann, 2000). A recent study from the East Baltic region, for example, indicates that those trees that survived in northerly refugial populations (Betula, Pinus, Picea) established within a century, suggesting climate driven ecosystem changes rather than gradual plant succession on new deglaciated land (Heikkila¨ et al., 2009). Thus some species expanded very fast in response to late-glacial warming. There is also evidence, however, for species that expanded slowly or largely failed to expand from their refugia in response to this interval of rapid climate warming (Svenning & Skov, 2007) suggesting that persistence and expansion is also dependent on being in a location that was continuously suitable during the glacial–interglacial ‘cycle’ (Bennett et al., 1991).

Biotic responses to this interval of rapid climate warming throughout Europe and North America therefore include evidence for (i) rapid expansion of in situ populations, (ii) large-scale species range shifts (Birks & Willis, 2008), (iii) community turnover (Birks & Birks, 2008) and (iv) the formation of novel community assemblages (Williams & Jackson, 2007). However, at no site yet studied, anywhere in the world, is there evidence in the fossil record for large scale climate-driven extinction during this interval of rapid climate change (Botkin et al., 2007). In some regions there was local or regional extinction, as is apparent throughout the cold-stages of the Quaternary when increasing numbers of tropical species went locally or regionally extinct in Europe (Tallis, 1991; Svenning, 2003; Willis & Niklas, 2004). There is evidence in the fossil record for the total extinction of only one species, the east North American spruce Picea critchﬁeldii (Jackson & Weng, 1999), but evidence for widespread global extinction of plants in this interval of very rapid climate warming has yet to be demonstrated. It had been argued previously that the large-scale megafaunal extinction that occurred at the end of the Pleistocene was climatically driven, but a large number of studies now suggests that this was a predominantly human-driven extinction event that spanned thousands of years (Koch & Barnosky, 2006; Johnson, 2009) rather than a rapid response to the large temperature increase at the late-glacial/post-glacial transition.

### AT: Refugee

#### Models flawed—over-predict the rise.

Lowe and Gregory 10 [Jason and Jonathan, writers for Nature, “A sea of uncertainty,” 4-6, Nature Reports Climate Change, http://www.nature.com/climate/2010/1004/full/climate.2010.30.html]

Although increases of up to two metres this century can't be ruled out, this does not mean that they are inevitable or even likely. For climate change to produce much more than one metre of sea level rise, ice sheets would probably have to contribute considerably more to the rise than they do now; one 2009 study put their current contribution at 0.15 metres per century[2](http://www.nature.com/climate/2010/1004/full/climate.2010.30.html#B2). The recent acceleration of Greenland outlet glaciers and Antarctic ice streams may be due in part to natural variability, and it might not continue. Some observations indicate that a number of the outlet glaciers and ice streams that accelerated in the 1990s have since started to slow down[7](http://www.nature.com/climate/2010/1004/full/climate.2010.30.html#B7), and a recent study based on detailed modelling of the Helheim glacier on Greenland suggested that “recent rates of mass loss in Greenland's outlet glaciers are transient and should not be extrapolated into the future”[8](http://www.nature.com/climate/2010/1004/full/climate.2010.30.html#B8).

Not adding up

In this sea of uncertainty, how do we derive a better estimate of sea level rise? While we await the development of climate models that include a more realistic treatment of ice-sheet processes, some researchers have taken a more empirical approach to estimating sea level rise.

Rather than modelling the different processes that contribute to sea level rise and summing them, these semi-empirical methods obtain a quantitative relationship between past global sea level and temperature change[9,](http://www.nature.com/climate/2010/1004/full/climate.2010.30.html#B9)[10,](http://www.nature.com/climate/2010/1004/full/climate.2010.30.html#B10)[11](http://www.nature.com/climate/2010/1004/full/climate.2010.30.html#B11) or radiative forcing[12](http://www.nature.com/climate/2010/1004/full/climate.2010.30.html#B12), typically derived from the last century or so, but sometimes longer. The approach is loosely based on an understanding of physical processes, but the relationship is determined by statistical methods. The general assumption is that the relationship between sea level rise and temperature (or forcing) will hold in the future and for a much greater range of warming than occurred during the period from which it was calibrated. If this assumption is valid, it allows estimates of future sea level rise to be calculated directly from climate model predictions of global warming. Several studies give projections in the range of one to two metres by 2100, much greater than the IPCC projection ranges. It is thus critical to ask whether semi-empirical approaches can be used to provide robust projections suitable for planning purposes.

There has already been some debate about the statistical validity of these approaches[13,](http://www.nature.com/climate/2010/1004/full/climate.2010.30.html#B13)[14,](http://www.nature.com/climate/2010/1004/full/climate.2010.30.html#B14)[15](http://www.nature.com/climate/2010/1004/full/climate.2010.30.html#B15), but it is also important to consider what semi-empirical methods imply regarding possible contributions to sea level rise. Are their predictions of substantially more than one metre of sea level rise in the twenty-first century physically reasonable? And why do these methods give larger projections than IPCC models? It seems unlikely that semi-empirical methods can predict large dynamical changes in ice sheets if they have been calibrated against observations from recent centuries, because the evidence suggests that the contribution of ice sheets to sea level rise was small before the last couple of decades. Of the projected future sea level rise, a proportion would be contributed by the melting of glaciers and ice caps (excluding Greenland and the Antarctic)[1](http://www.nature.com/climate/2010/1004/full/climate.2010.30.html#B1), but even their total loss would be unlikely to produce more than around 40 centimetres of rise, and their contribution could be considerably less[16](http://www.nature.com/climate/2010/1004/full/climate.2010.30.html#B16). According to current understanding of the rate at which the deep ocean takes up heat, it is also unlikely that thermal expansion could be large enough to bring the total twenty-first-century sea level rise to almost two metres. Combined, the loss of ice from glacial melting and thermal expansion of the ocean do not produce such a large future sea level rise as predicted by semi-empirical models.

Adding up the estimates of the various observationally derived contributions to historic sea level rise, which all have uncertainties, we find that their sum may fall short of the measured total sea level rise. The semi-empirical methods assume that any difference is due to a missing contribution that will increase with global warming. Though that assumption may be correct, without understanding/identifying the physical processes that may make up this shortfall in sea level, there is little in the way of supporting evidence.

### AT: Ice Age

#### THC is strengthening, plus if their arg was true ice ages would happen every summer

Leroux 5 (Marcel, Prof. Climatology and Director of the Laboratory of Climatology, Risk, and Environment @ Jean Moulin U. “Global Warming — Myth or Reality? The Erring Ways of Climatology”, Springer, p. 435)

So, this hypothesis involving a cessation of deep water formation has its inaccuracies and paradoxes, and indeed goes against the reality of phenomena: for example, Wu et al. (2004) do not accept ` a decreasing trend of the North Atlantic thermohaline circulation' but instead state that ` the thermohaline circulation unexpectedly shows an upward trend'. Most importantly, there is a considerable disproportion of scale between phenomena///

, in the main concerning density, duration, and the amplitude of consequences. This hypothesis gives the impression that, as usual, the virtual scenario is founded upon a few equations and cells within models, with reality and the gamut of meteorological phenomena ignored. Applying a modicum of common sense to this, could additional freshwater, mostly from the shrinking ice sheets, endanger the planet? There is a good way to test the validity of this scenario (it is indeed difficult to call it a `hypothesis' in the scientific sense of the word): by considering the phenomena on a seasonal scale. Half of the Arctic ice sheet melts in summer ... the considerable volume of additional freshwater will lower salinity ... and if we follow the scenario, there will be immediate cooling, and consequently it should be cold in summer. So, every year, in summer, a new and severe glaciation should be unleashed !

## \*\*\* 2NC

### 2NC Solves Warming

#### It’s the closest we’ve got to a silver bullet.

Alok Jha, 3/13/2009. Green technology correspondent for the Guardian (UK). “'Biochar' goes industrial with giant microwaves to lock carbon in charcoal,” The Guardian, <http://www.guardian.co.uk/environment/2009/mar/13/charcoal-carbon>.

Giant microwave ovens that can "cook" wood into charcoal could become our best tool in the fight against global warming, according to a leading British climate scientist. Chris Turney, a professor of geography at the University of Exeter, said that by burying the charcoal produced from microwaved wood, the carbon dioxide absorbed by a tree as it grows can remain safely locked away for thousands of years. The technique could take out billions of tonnes of CO2 from the atmosphere every year. Fast-growing trees such as pine could be "farmed" to act specifically as carbon traps — microwaved, buried and replaced with a fresh crop to do the same thing again. Turney has built a 5m-long prototype of his microwave, which produces a tonne of CO2 for $65. He plans to launch his company, Carbonscape, in the UK this month to build the next generation of the machine, which he hopes will process more wood and cut costs further. He is not alone in touting the benefits of this type of charcoal, known as biochar or biocharcoal. The Gaia theorist, James Lovelock, and Nasa's James Hansen have both been outspoken about the potential benefits of biochar, arguing that it is one of the most powerful potential solutions to climate change. In a recent paper, Hansen calculated that producing biocharcoal by current methods of burning waste organic materials could reduce global carbon dioxide levels in the atmosphere by 8ppm (parts per million) over the next 50 years. That is the equivalent of three years of emissions at current levels. **Turney said biochar was the closest thing scientists had to a silver-bullet solution to climate change**. Processing facilities could be built right next to forests grown specifically to soak up CO2. "You can cut trees down, carbonise them, then plant more trees. The forest could act on an industrial scale to suck carbon out of the atmosphere." The biochar could be placed in disused coal mines or tilled into the ground to make soil more fertile. Its porous structure is ideal for trapping nutrients and beneficial micro-organisms that help plants grow. It also improves drainage and can prevent up to 80% of greenhouse gases such as nitrous oxides and methane from escaping from the soil. In a recent analysis of geo-engineering techniques published in the journal Atmospheric Chemistry, Tim Lenton, a climate scientist at the University of East Anglia, **rated producing charcoal as the best technological solution to reducing CO2 levels**. He compared it to other geo-engineering techniques such as dumping iron in oceans or seeding clouds to reflect the sun's radiation and calculated that by 2100 a quarter of the effect of human-induced emissions of CO2 could be sequestered with biochar production from waste organic matter, giving a net reduction of 40ppm in CO2 concentration. Johannes Lehmann of Cornell university has calculated that it is realistically possible to fix 9.5bn tonnes of carbon per year using biochar. The global production of carbon from fossil fuels stands at 8.5bn tonnes.

#### Solves quickly—we’d be out of the danger zone by the middle of the century.

Tim Flannery, 1/11/2008. Division of Environmental and Life Sciences Macquarie Uni. “Australian of the Year 2007, Tim Flannery talks bio char and why we need to move into the renewable age,” Beyond Zero Emissions, <http://www.beyondzeroemissions.org/2008/03/19/tim-flannery-australian-of-the-year-2007-talks-bio-char-why-we-need-to-move-into-the-renewable-age>.

Matthew Wright: In a recent address to the American Geophysical Union, Dr. James Hanson from NASA said that we need to go below 350 parts per million to have a stable atmosphere that we are used to experiencing for our agricultural needs, and our biodiversity and ecological systems. In terms of your call about trying to aim for say 5% sequestration per year over 20 years in order to remove that carbon debt, if we can get that going, how do you see, where do you see us going for a stable climate, a safe climate that can continue and maintain the huge populations that we've got around the world now?

Tim Flannery: Well that's a very good question. I mean I suppose implicit in James Hansons' comments is the reality that we are living right now with unacceptable climate risk, very high levels of unacceptable risk, and we need to draw that down as quickly as we can. Now if you used these agri-char based technologies and you have your aggressive reaforestation projects for the worlds tropics, you could conceivably be drawing down in the order of 10 to 15 tonnes, gigatonnes sorry, of carbon per annum by about 2030. **At that rate we could bring ourselves down below the dangerous threshold as early as the middle of this century**, but whether the world can actually get its act together and do that is another matter. This is the first real directed experiment at planetary engineering that we are talking about here, and we don't really have the political structures in place to enable us to implement the technology that we already have. So I would see the change basically as a political one. Its a global political change and the Kyoto process that rolls out now from Potsdam this year and then Copenhagen next year will be the key factors in the success or failure of us humans to do that.

#### Sequestration through ag can offset a third of emissions—equivalent in magnitude to shifting to low-carbon energy.

Claire Schaffnit-Chatterjee, 9/19/2011. Deutsche Bank Research. “Mitigating climate change through agriculture,” [www.dbresearch.com/PROD/DBR\_INTERNET\_EN-PROD/PROD0000000000278568/Mitigating+climate+change+through+agriculture%3A+An+untapped+potential.pdf](http://www.dbresearch.com/PROD/DBR_INTERNET_EN-PROD/PROD0000000000278568/Mitigating+climate+change+through+agriculture%3A+An+untapped+potential.pdf).

The IPCC estimates the global technical potential for GHG mitigation in agriculture production at 5.5 to 6 Gt of CO2 equivalent per year by 2030. These figures do not include improved energy efficiency, biofuels or other changes in demand. This theoretical reduction in emissions, assuming adoption of all technical options is derived mostly (89%) from carbon sequestration in soil, 9% from methane reduction in rice production and livestock/manure management and 2% from nitrous oxide reduction through better cropland management40. It does not take into account fossil fuel offsets from biomass use.¶ The economic potential, taking into account the costs involved, is naturally much lower and depends on carbon prices. For a range of USD 50 to 60 per ton of CO2 eq mitigated, agriculture has a mitigation potential of over 4 billion tons CO2 eq. Even at prices below USD 20 per ton of CO2 eq mitigated, the mitigation potential in agriculture is still substantial at over 1.5 billion tons of CO2 eq. The current price for carbon is 13 EUR per ton.¶ McKinsey identifies terrestrial carbon in agriculture/forestry as one of the three major areas of GHG abatement opportunities (at 12 billion tons of CO2 eq per year in 2030) next to energy efficiency (14 billion) and low-carbon energy supply (also 12 billion). This means that the agriculture/forestry sector accounts for one-third of the total economic abatement potential, while agriculture alone accounts for 12%. In comparison, most of the promising solutions for reducing emissions in the energy sector are still in development and unlikely to be widely used in the next years or maybe decades. Curbing GHG emissions caused by farming practices and deforestation should be cheaper41. Alternative energy systems have the important advantage of lowering GHG emissions by replacing fossil fuels. Many options in the energy sector are subsidized and benefit from high oil prices.¶ The agriculture and forestry sectors provide the crucial possibility of sequestering the carbon already in the atmosphere. Carbon capture and storage from energy-related emissions is technically possible but not doable on a large-scale until 2020 or so42. Most importantly, it is not designed to capture GHGs already present in the atmosphere, which only terrestrial carbon sequestration can do.

#### a. NOx traps heat at different wavelengths, reductions cause a disproportionate drop in GHG effects.

Science Newsline, 4/2/2012. “Fertilizer Use Responsible for Increase in Nitrous Oxide in Atmosphere,” <http://www.sciencenewsline.com/articles/2012040219260050.html>.

Limiting nitrous oxide emissions could be part of a first step toward reducing all greenhouse gases and lessening global warming, Boering said, especially since immediately reducing global carbon dioxide emissions is proving difficult from a political standpoint. In particular, **reducing nitrous oxide emissions can initially offset more than its fair share of greenhouse gas emissions overall**, since N2O traps heat at a different wavelength than CO2 and clogs a "window" that allows Earth to cool off independent of CO2 levels.¶ "On a pound for pound basis, it is really worthwhile to figure how to limit our emissions of N2O and methane," she said. "Limiting N2O emissions can buy us a little more time in figuring out how to reduce CO2 emissions."

#### Second, methane—biochar increases soil efficiency, which decreases emissions.

John Gaunt and Johannes Lehmann, 2008. College of Agriculture and Life Sciences, Cornell University. “Energy Balance and Emissions Associated with Biochar Sequestration and Pyrolysis Bioenergy Production,” Environ. Sci. Technol. 2008, 42, 4152–4158, http://pubs.acs.org/doi/abs/10.1021/es071361i.

Preliminary research (12) suggests that nitrous oxide (N2O) and **methane** (CH4) **emissions from soil may be significantly reduced by biochar application**. Rondon et al. (12) found that CH4 emissions were completely suppressed and N2O emissions were reduced by 50% when biochar was applied to soil. Yanai et al. (13) also found suppression of N2O when biochar was added to soil. The mechanisms by which N2O and CH4 emissions are reduced are not clear. However, the reduction in N2O emissions observed by these authors is consistent with the more widespread observation that fertilizer is used more efficiently by crops in situations where biochar is applied to soil.

### 2NC—No Commercialization

#### Default neg—overwhelming empirics and the world’s leading nuclear tech developers vote neg.

Lovins 9—Amory B. Lovins is a physicist and Cofounder, Chairman, and Chief Scientist of Rocky Mountain Institute and Cofounder and Chairman Emeritus of Fiberforge, Inc. Published in 29 books and hundreds of papers. He has consulted for more than three decades for major firms and governments (including the U.S. DoE and DOD) on advanced energy and resource efficiency in ~50 countries. [March 21, 2009, ““New” nuclear reactors, same old story,” Rocky Mountain Institute, http://www.rmi.org/Knowledge-Center/Library/2009-07\_NuclearSameOldStory]

IFRs might in principle offer some safety advantages over today’s light-water reactors, but create different safety concerns, including the sodium coolant’s chemical reactivity and radioactivity. Over the past half-century, the world’s leading nuclear technologists have built about three dozen sodium-cooled fast reactors, 11 of them Naval. Of the 22 whose histories are mostly reported, over half had sodium leaks, four suffered fuel damage (including two partial meltdowns), several others had serious accidents, most were prematurely closed, and only six succeeded. Admiral Rickover canceled sodium-cooled propulsion for USS Seawolf in 1956 as “expensive to build, complex to operate, susceptible to prolonged shutdown as a result of even minor malfunctions, and difficult and time-consuming to repair.” Little has changed. As Dr. Tom Cochran of NRDC notes, fast reactor programs were tried in the US, UK, France, Germany, Italy, Japan, the USSR, and the US and Soviet Navies. All failed. After a half-century and tens of billions of dollars, the world has one operational commercial-sized fast reactor (Russia’s BN600) out of 438 commercial power reactors, and it’s not fueled with plutonium.

### 2NC—Nat Gas

#### IFRs have no economic advantage.

Lovins 9—Amory B. Lovins is a physicist and Cofounder, Chairman, and Chief Scientist of Rocky Mountain Institute and Cofounder and Chairman Emeritus of Fiberforge, Inc. Published in 29 books and hundreds of papers. He has consulted for more than three decades for major firms and governments (including the U.S. DoE and DOD) on advanced energy and resource efficiency in ~50 countries. [March 21, 2009, ““New” nuclear reactors, same old story,” Rocky Mountain Institute, http://www.rmi.org/Knowledge-Center/Library/2009-07\_NuclearSameOldStory]

Integrated Fast Reactors (IFRs)

The IFR—a pool-type, liquid-sodium-cooled fast-neutron reactor plus an ambitious new nuclear fuel cycle—was abandoned in 1994, and General Electric’s S-PRISM design in ~2003, due to both proliferation concerns and dismal economics. Federal funding for fast breeder reactors halted in 1983, but in the past few years, enthusiasts got renewed Bush Administration support by portraying IFRs as a solution to proliferation and nuclear waste. It’s neither.

Fast reactors were first offered as a way to make more plutonium to augment and ultimately replace scarce uranium. Now that uranium and enrichment are known to get cheaper while reprocessing, cleanup, and nonproliferation get costlier—destroying the economic rationale— IFRs have been rebranded as a way to destroy the plutonium (and similar transuranic elements) in long-lived radioactive waste. Two or three redesigned IFRs could in principle fission the plutonium produced by each four LWRs without making more net plutonium. However, most LWRs will have retired before even one commercial-size IFR could be built; LWRs won’t be replaced with more LWRs because they’re grossly uncompetitive; and IFRs with their fuel cycle would cost even more and probably be less reliable. It’s feasible today to “burn” plutonium in LWRs, but this isn’t done much because it’s very costly, makes each kg of spent fuel 7 hotter, enhances risks, and makes certain transuranic isotopes that complicate operation. IFRs could do the same thing with similar or greater problems, offering no advantage over LWRs in proliferation resistance, cost, or environment.

### LG Fail

#### Loan guarantees not enough – public opposition, economic risk and safety reviews prohibit expansion

Knowledge@Wharton 11—online business journal of the Wharton School at UPenn [March 30, 2011, “U.S. Energy Policy after Japan: If Not Nuclear, Then What?” http://knowledge.wharton.upenn.edu/article.cfm?articleid=2743]

Before the earthquake in Japan, a growing number of people were saying nuclear. Not only would it allow the United States to become more energy independent, but it would also lower greenhouse gas emissions, the industry argued. When measured by carbon footprint, nuclear is on par with solar, hydro, wind, biomass and geothermal, and in terms of the land use required, nuclear comes out ahead of other green energy sources, they say. For a 1,000 megawatt power plant, nuclear requires about one square mile of space, compared with 50 square miles for solar, 250 for wind and 2,600 for biomass.

But nuclear power plants are enormously expensive, costing as much as $2 billion to $6 billion to build, according to "Nuclear Energy Policy," a report from the Congressional Research Service. Financing new reactors is heavily dependent on loan guarantees from the federal government, which are highly controversial. To expand, the industry says it needs more than the $18.5 billion in loan guarantees the government currently allocates, which is enough for three or four reactors. Opponents argue that loan guarantees unfairly subsidize a mature industry and would be better spent elsewhere.

The debate in some other countries is less heated. Unlike the United States, which has significant natural resources, many other countries have fewer energy options and have made a strong commitment to nuclear power. They are unlikely to abandon it now, says Michel-Kerjan. France, for example, which turned to nuclear energy decades ago after suffering through an oil crisis, relies on nuclear for 80% of its power. Emerging economies such as China and India are also investing heavily in nuclear to cope with increasing energy demand.

Although many countries are reevaluating safety measures in the wake of Fukushima, few are likely to abandon plants that are already in the works, especially those with more modern designs. "So many countries are going to be very heavy on nuclear in the next 10 years," Michel-Kerjan suggests. "These are not small decisions. They're billions of dollars.... I don't see China or Brazil saying, 'Oh, we saw what happened in Japan. Let's forget about it.'"

A Decline in Public Support

Yet Fukushima has no doubt had an impact. Italy put a one-year moratorium on its plans to re-establish a nuclear energy program. Germany idled seven of its 17 nuclear reactors for safety checks as protesters clamor for an end to nuclear power. China, which had planned to quadruple its nuclear energy capacity by 2020, temporarily suspended all project approvals.

For projects in the United States, an uphill climb has become even steeper. According to a poll released March 21 from Pew Research Center, public support for the increased use of nuclear power has declined since the earthquake in Japan. More than half (52%) now oppose the increased use of nuclear power, while 39% favor it. That compares to 47% in favor and 47% opposed in October.

"As for the long-term prospects for the industry, I think the implications of Japan will be long-lasting," says Chris Lafakis, an energy economist at Moody's Analytics. It will be more difficult to get approval for a plant and more difficult to obtain financing. Although the federal government is pushing for loan guarantees, projects would still need support from a financial institution to get financed, he points out. "And the large banks are in no hurry to extend credit for a plant knowing the regulatory environment" and current public sentiment, he says. There may not be a "formal moratorium" against new nuclear power plants, "but I think there's an effective one."

Even before the Japanese earthquake, the nuclear industry was struggling to expand in the U.S. because of a sluggish economy and a sudden abundance of cheap natural gas. Based on recent shale discoveries, the U.S. Energy Information Administration estimates the country's recoverable shale gas resources are more than double the volume it assumed just one year ago.

"Cheap natural gas makes it difficult to pull the trigger on nuclear investment," Chris Hansen, director of strategy and initiatives at IHS Cambridge Energy Research Associates, noted during a panel discussion at the Wharton Energy Conference in October 2010. "The outlook is that the 'Shale Gale' will really increase the chance for natural gas to grow its market share."

Japan's nuclear crisis will not create that much more additional delay, Hansen told Knowledge@Wharton in a follow-up interview. Low gas prices had already slowed down proposed projects because investors were hesitant to commit billions of dollars that might not pay off. Safety reviews will simply be added to an already delayed process. "I see market share in the U.S. probably eroding for the next 10 years," Hansen says. "All of the new build will be gas, so nuclear will slip."

Economics prevented the much-touted "nuclear renaissance" from ever taking hold in the United States, adds Debra K. Decker, a research associate with the Belfer Center for Science and International Affairs at the John F. Kennedy School of Government at Harvard. "Like all business, the nuclear business is about risks and returns," says Decker, who studies nuclear proliferation and proposals for reform. "The risk of getting approvals has been high enough in the United States, and the electricity business has been deregulated enough, that the risk-return ratio has not really supported new builds. When you factor in the high upfront capital costs of nuclear and the still relatively inexpensive gas and coal options, the economics are not there. Nuclear does not come out as an attractive option without supports."

### AT: L.G. Solves Nuke Industry

#### Loan guarantees can’t solve economic risk—05 bill proves.

Blake 10—Mariah Blake is an editor at the Washington Monthly. Her work has also appeared in Christian Science Monitor and Foreign Policy. [January/February 2010, “The Bailout Goes Nuclear,” Mother Jones, http://www.motherjones.com/environment/2010/01/bailout-nuclear]

The ceda provision builds on the work of Sen. Pete Domenici (R-N.M.), who until his retirement in January 2009 was the Senate's most tireless nuclear crusader. During his reign as chairman of the energy committee from 2003 to 2007, he packed the committee staff with former nuclear-power lobbyists—a clique dubbed "the glow-in-the-dark crew" by some of their Senate colleagues—who shepherded through Congress the Energy Policy Act of 2005. Among other things, the bill provided $13 billion in nuclear subsidies and federal loan guarantees to cover 80 percent of the costs of building low-carbon nuclear technologies, including new reactors.

For any other industry, this would have been an enormous victory. But for nuclear, even these generous subsidies weren't enough. In July 2007, six of the nation's largest financial firms—including Citigroup, Lehman Brothers, and Goldman Sachs, companies hardly averse to risky investments—informed the DOE in a letter that nuclear projects would not find financing because they were too chancy. Unless, of course, the agency (which had interpreted the new law to mean 80 percent of project debt) would rewrite the rules so that 100 percent of the debt was covered—foisting almost all of the risk on taxpayers.

#### Loan guarantees can’t solve—uncertainty.

Sokolski 10—Testimony by Henry David Sokolski, Executive Director of the Nonproliferation Policy Education Center and serves on the U.S. congressional Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, to the Domestic Policy Subcommittee of the Oversight and Government Reform Committee [April 20, 2010, “Nuclear Power Federal Loan Guarantees: The Next Multi-Billion Dollar Bailout?” The Nonproliferation Policy Education Center, http://www.npolicy.org/article.php?aid=39&tid=2]

C. The value of federal loan guarantees is so uncertain and the ability of the utilities to cover their risks with their own capital so low that even with loan guarantees, private investors are leery of putting their own money at risk. One of the worries Moody’s report, New Nuclear Generation: Ratings Pressure Increasing,” raised when it was released last June is that the loan guarantees that the federal government is offering to the nuclear industry are too conditional. Will loan guarantees apply to plants that the NRC has stopped construction for safety reasons? Will the loan guarantees only be paid after a utility project goes bankrupt or some time before? In the case of default, who has first call on the remaining assets – the US Treasury or other creditors (those that cover the required remaining 20 percent of the project’s capital costs)? What will the DoE assess the loan subsidy fee to be to cover the costs of such defaults? Will they assess this fee to be one or two percent of the loan, which the nuclear industry says it can tolerate or will the fees be higher? How much might the fees vary from project to project? Will the DoE continue to argue that this information is proprietary and must be kept from the public? Without clear answers to these and other questions, private investors (including the firms that might consume the electricity produced and are being asked to pay higher rates to help cover the unguaranteed portion of the financing) are unlikely to find proposed federal loan guarantees entirely comforting. A simple fix on this would be to have Congress demand that DoE supply Congress with the answers before authorizes such guarantees.

### L.G. Bad—Default Rate

Ari Peskoe, associate in the law firm of McDermott Will and Emery LLP and focuses his practice on regulatory, legislative, compliance, and transactional issues related to energy markets, 4-20-2012, “A Solution Looking For a Problem: Building More Nuclear Reactors after Vogtle,” The Electricty Journal, vol 25 issue 3, Science Direct

Given the checkered history of reactor construction projects,56 private lenders are understandably skittish about lending billions of dollars to develop a new reactor. Construction of the Vogtle and SCANA reactors will be a critical test, and significant cost overruns on these two projects could doom the prospects for construction of additional reactors. Even if the construction of Vogtle and SCANA are on budget, it will likely still be difficult for future project developers to raise enough debt financing without government support.57 Federal loan guarantees shift “a large part of the learning costs and construction risks” from private lenders to the federal government by ensuring that lenders receive payment in the event that the developer defaults on repayments.58 Appropriations for the guarantees authorized by the Energy Policy Act of 2005 will soon run out, so future guarantees will require congressional action.59 Loan guarantees cost the federal government little or nothing unless there is an event of default.60 Creating a long-term guarantee program would be entirely consistent with the government's historic role in accepting risks and liabilities of nuclear power. Although it has not been implemented effectively, the Nuclear Waste Policy Act (NWPA) of 1982 requires the DOE to transport nuclear waste from privately owned reactors to permanent government storage facilities.61 Concerned about a “cloud of bankruptcy” hanging over its operations,62 the nascent nuclear industry pushed Congress to pass the Price-Anderson Act in 1957, which indemnifies the industry against claims arising from a nuclear incident. Both the NWPA and the Price-Anderson Act socialize costs of nuclear energy. In the case of the NWPA, the industry pays the DOE a tenth of a penny for each kilowatt-hour of nuclear energy sold to fund waste disposal activities.63 The Price-Anderson Act also requires generators to contribute to a fund, but the federal treasury would likely cover much of the liabilities associate with a nuclear disaster.64

#### CBO estimates the default rate would be 50%—empirics prove loan guarantees fail for nuclear.

Blake 10—Mariah Blake is an editor at the Washington Monthly. Her work has also appeared in Christian Science Monitor and Foreign Policy. [January/February 2010, “The Bailout Goes Nuclear,” Mother Jones, http://www.motherjones.com/environment/2010/01/bailout-nuclear]

Most of the industry is banking on a similar strategy—and in the climate legislation staggering through Congress, it just may have found the vehicle. Key Senate Democrats have signaled that they are willing to use nuclear subsidies as a bargaining chip to overcome Republican opposition. The Nuclear Energy Institute (NEI), the industry's main lobby, is pushing for at least $100 billion in federal loan guarantees—a dicey proposition given that the Congressional Budget Office has determined that the risk of default would be "well above 50 percent." This raises the question: Will the cost of passing a climate bill be a massive, taxpayer-funded nuclear bailout?

The public has rescued the industry once before. The last batch of reactors built in the US during the 1970s and '80s was plagued by a series of boondoggles, one of the most infamous being Long Island's Shoreham Nuclear Power Plant, which took 20 years to build and cost $6 billion—more than 80 times the original estimate—but was never put into commercial operation. Similar debacles pushed utilities into bankruptcy, triggered the largest municipal bond default in US history, and helped cause a sixfold increase in wholesale electricity prices. The total cost to the public, in rate hikes and taxpayer bailouts, was more than $300 billion (in 2006 dollars), according to the Union of Concerned Scientists.

### 2NC UQ—U.S. Won’t Cave Now

#### Keck says we have rejected S.K. efforts in squo—holding firm

#### US won’t cave to South Korea on reprocessing now

Yonhap, 3-8-2012, “U.S. unlikely to allow S. Korea to reprocess nuclear fuel,” http://english.yonhapnews.co.kr/national/2012/03/08/23/0301000000AEN20120308007100315F.HTML

The United States is unlikely to allow South Korea to adopt its indigenous technology aimed at reprocessing highly radioactive spent nuclear fuel in their negotiations to revise a bilateral nuclear accord, a senior Seoul diplomat involved in the talks said Thursday. The refusal by U.S. negotiators stemmed from a "deep-rooted distrust" of South Korea, which had once authorized a clandestine nuclear weapons program in the early 1970s under former president Park Jung-hee but shut it down under pressure from Washington, the diplomat said on the condition of anonymity. Rather than pressing the U.S. to allow South Korea to adopt the proliferation-resistant reprocessing technology, called "pyroprocessing," Seoul is focusing on revising the nuclear accord to make it easier to export nuclear power plants, the diplomat said.

#### Even if they win their tech is prolif resistant, it still links—any perception of support for reprocessing will spillover to other tech, undermines US credibility, and builds international expertise that causes prolif

Cochran 4—Thomas B. Cochran, dir. Nuclear Program @ Nat. Resources Defense Council, 3-26-2004, “Critique of “The Future of Nuclear Power: An Interdisciplinary MIT Study””, http://www.c2es.org/docUploads/10-50\_Cochran.pdf

In addition, the MIT Study recognizes that the closed fuel cycle represents a serious proliferation threat when undertaken in any number of non-weapon states, e.g., Iraq, Iran, North Korea, and even Russia. Despite the acknowledgement of poor economic prospects, no significant waste management advantages and high proliferation risks associated with closed fuel cycles, the MIT Study unfortunately leaves the door open to develop new reprocessing technologies. On the other hand, we [the MIT Study group] support modest laboratory scale research and analysis on new separation methods with the objective to learn about separation methods that are less costly and more proliferation resistant. There has been little exploration in the United States of alternatives to PUREX and pyro-processing since their invention decades ago with entirely different purposes in mind: obtaining weapons usable material and reprocessing metal fuel, respectively. We note however that there is considerable skepticism for even this modest approach, because some see any U.S. work on reprocessing sending the wrong signal to other nations about the credibility of our expressed attitude toward the proliferation risks of reprocessing, and the concern that DOE will move from analysis and research to development before the technical basis for such action has been developed. We propose that this program begin at a modest scale, reaching $10 million per year in about five years. (MIT Study, p. 92) Instead of curbing DOE’s appetite for promoting technologies that are both dangerous and uneconomical, this MIT Study recommendation likely will be used by DOE to justify its Advanced Fuel Cycle Initiative (AFCI). The DOE FY 2004 budget for the AFCI is $63 million—over six times what the MIT recommends be spent in five years. The AFCI is coordinated with DOE’s Generation IV program to develop new reactor concepts for possible introduction in the 2030 to 2050 time period. Last year DOE organized the Generation-IV International Forum, an effort by 10 countries to jointly develop six nuclear energy systems, including several fast reactor concepts that require closed fuel cycles. The countries included five non-weapon states that formerly had clandestine nuclear weapon programs, namely, South Africa, Argentina, Brazil, South Korea and Switzerland. Although the MIT Study recommends that “[t]he DOE R&D program should be realigned to focus on the open, once-through fuel cycle” (MIT Study, p. x), I fear the recommendation to engage in modest R&D on closed fuel cycles will be used to bolster the DOE AFCI effort. This will promote in non-weapon states, including states that in the past had clandestine nuclear weapon programs, the construction of hot cells for reprocessing R&D and training of cadres of experts in plutonium chemistry and metallurgy. This DOE effort is clearly a threat to U.S. national security. Because closed fuel cycles are so uneconomical, U.S. government sponsored research on closed fuel cycles is not likely to lead to their adoption. Consequently, in the next fifty years I believe U.S. nuclear plants will stick with the open fuel cycle.

### 2NC Link—Clear Signal

#### U.S. hardline on domestic reprocessing is key to send a clear signal that checks ENR spread

Harrell 11—research associate at the Project on Managing the Atom at Harvard University's Belfer Center for Science and International Affairs (Eben, “Bury Our Nuclear Waste — Before It Buries Us,” August 15, Time Magazine, http://www.time.com/time/health/article/0,8599,2086917,00.html)

The Blue Ribbon Commission doesn't reach a conclusion on whether the U.S. should pursue reprocessing, arguing that consensus on the issue would be "premature." That is a mistake. Reprocessing is a manifestly dangerous technology. In the 1970s, the U.S. renounced commercial reprocessing at home and the spread of the technology abroad because of concerns that it would lead to weapons proliferation. It should not reverse this policy. The spread of reprocessing to countries in unstable or nuclear-armed regions gives them the infrastructure and expertise needed to quickly develop a bomb should they choose to do so. (And don't think safeguards imposed by the International Atomic Energy Agency can stop them. Commercial-scale reprocessing facilities handle so much plutonium that it is almost impossible for inspectors to keep track of it all.) The U.S. must send a message: if the country with the world's largest number of nuclear reactors renounces reprocessing, it delivers a clear signal to countries newly interested in nuclear power that the process is not necessary for the future of the nuclear industry.

### 2NC Link—Credibility

#### Credibility—any form of US reprocessing crushes US credibility on ENR

UCS 11—Union of Concerned Scientists (“Nuclear Reprocessing: Dangerous, Dirty, and Expensive,” April 5, http://www.ucsusa.org/nuclear\_power/nuclear\_power\_risk/nuclear\_proliferation\_and\_terrorism/nuclear-reprocessing.html)

Reprocessing would increase the ease of nuclear proliferation. U.S. reprocessing would undermine the U.S. goal of halting the spread of fuel cycle technologies that are permitted under the Nuclear Non-Proliferation Treaty but can be used to make nuclear weapons materials. The United States cannot credibly persuade other countries to forgo a technology it has newly embraced for its own use. Although some reprocessing advocates claim that new reprocessing technologies under development will be "proliferation resistant," they would actually be more difficult for international inspectors to safeguard because it would be harder to make precise measurements of the weapon-usable materials during and after processing. Moreover, all reprocessing technologies are far more proliferation-prone than direct disposal.

### 2NC Warming—Too Slow

#### IFRs are too slow to solve warming—

#### First is threshold—scientists have calculated that we will reach our carbon budget by 2021. They have to prove they can solve by then.

#### Second is scale—there is no way to build enough IFRs in the time we have, even if massive resources were assigned to the task. Engineers have no experience with “burner” reactors like IFRs. Fast neutron reactors are complex, have a high rate of accidents and breakdown and are difficult and time consuming to repair.

#### Third is sodium fires—IFRs use molten sodium as a coolant to slow down the neutrons in the core. Sodium is highly reactive and explodes on contact with air and water. The coolant pipes have to be surrounded by argon gas which adds complexity and costs to the project. Any flaw can bring down the project. This is empirically proven—Russia’s only fast reactor experienced 27 leaks and 14 sodium fires. Japan’s reactor suffered a sodium fire in 1995 and was shut down in 2009. The only commercial fast reactor was shut down in 1996. Even if they can build enough IFRs in time—there is no way they will be consistent enough to solve in time.

That’s all our Clarke evidence.

#### Can’t solve warming—transportation alt cause

Green 9—Jim Green, B. Med. Sci. (Hons.), PhD in science and technology studies for his analysis of the Lucas Heights research reactor debates, National nuclear campaigner - Friends of the Earth, Australia [August 1, 2009, “Nuclear Weapons and 'Fourth Generation' Nuclear Power,” http://www.energybulletin.net/49949]

'Integral fast reactors' and other 'fourth generation' nuclear power concepts have been gaining attention, in part because of comments by US climate scientist James Hansen. While not a card-carrying convert, Hansen argues for more research: "We need hard-headed evaluation of how to get rid of long-lived nuclear waste and minimize dangers of proliferation and nuclear accidents. Fourth generation nuclear power seems to have the potential to solve the waste problem and minimize the others."

Others are less circumspect, with one advocate of integral fast reactors promoting them as the "holy grail" in the fight against global warming. There are two main problems with these arguments. Firstly, nuclear power could at most make a modest contribution to climate change abatement, mainly because it is used almost exclusively for electricity generation which accounts for about one-quarter of global greenhouse emissions. Doubling global nuclear power output (at the expense of coal) would reduce greenhouse emissions by about 5%. Building six nuclear power reactors in Australia (at the expense of coal) would reduce Australia's emissions by just 4%.

### IFR Indict—Experts

#### Reject calls of technical expertise—IFRs are just the latest gimmick from the nuclear lobby.

Wauchope 7/5/12—Noel Wauchope works as a Division 1 registered nurse. Noel has been an anti-nuclear campaigner for many years and used to write for the now defunct Nation Review on the subject, as well as being the spokesperson for Women’s Electoral Lobby on nuclear issues. [July 5, 2012, “In dispraise of Integral Fast Nuclear Reactors,” http://www.independentaustralia.net/2012/environment/in-dispraise-of-integral-fast-nuclear-reactors/]

The nuclear lobby seems to get quite irate when some amateur comes along and criticises their latest gimmicks. They sure revel with delight if some non-technical peasant should make any mistake, however small, in using the approved language of nuclear terminology. It’s really like the Catholic Church in earlier days, when they had all their dogmas and liturgy in Latin, so that the people just had to believe it all, with no explanation available in the vulgar tongue.

It must be reassuring to the nuclear lobby to know that the great unwashed, the hoi polloi, the peasantry, have no idea about the differences between the various types of nuclear reactors now in operation — the Generation 2 and Generation 3 reactors. Let alone the new developing blueprints of Generation IV: Integral Fast Reactors, Lead Cooled Fast Reactors, Molten Salt Reactors, Sodium Cooled Fast reactors, Thorium Liquid Fuel reactors; the peasant mind boggles! And wait, like those old TV commercials – there’s more! – Generation V is now in the minds and on some bits of paper of the nuclear boffins.

Well, the nuclear priesthood is pretty safe in all this. They keep the argument narrowly technical, with pages and pages on the various technicalities of cooling systems, reprocessing of fuel systems, passive safety systems and so on; in other words, they induce in the public a kind of mindless torpor as they dazzle us with science.

At the same time, the nuclear priesthood, like some gifted but autistic child with specialist knowledge in just one area, seems to have little grasp of other issues concerning nuclear power — blinkered as they are in their apparent view that the technicalities are the whole story. This is the case with their latest propaganda for the ‘Integral Fast Reactor’ or IFR.

### 2NC No Exports

#### Can’t export—takes out ability to solve china and india

Platts, 10/1/2012. “Export reform needed to increase US nuclear market share: NEI,” http://www.platts.com/RSSFeedDetailedNews/RSSFeed/ElectricPower/6666149.

Export controls on technology related to nuclear power should be reformed to allow US companies to capture a larger share of growing international markets, the Nuclear Energy Institute said Monday. The US Department of Commerce estimates the world market for nuclear power technology, fuel and related services and equipment at "upwards of" $750 billion over the next 10 years, Richard Myers, vice president for policy development, planning and supplier programs at NEI, said at a press conference Monday in Washington to release a report the US nuclear power industry commissioned on the topic. "It is a myth that the US nuclear supply chain has disappeared," Myers said. Most manufacturing of large "heavy metal" components for nuclear power plants, such as reactor vessels, is now done in Asia, but many US firms manufacture "precision components" for the nuclear industry and would stand to benefit from increased ability to compete with other countries, Myers said. US licensing and regulatory reviews of nuclear exports, however, are "unduly burdensome," have confusing "layers of jurisdiction" shared by at least four federal agencies, and typically take at least a year to complete, "months longer" than reviews in other exporter countries, he said. As a result, the US export control regime is "far more complex and more difficult to navigate ... than comparable regimes in other nations," Myers said. The report prepared by the law firm Pillsbury Winthrop Shaw Pittman for NEI said that "US agencies should be able to increase the efficiency of their license processing through stronger executive branch procedures. By signaling to potential customers that US exports may be licensed on a schedule comparable to those of foreign export control regimes, such an improvement could significantly 'level the playing field' for US exporters in the near term." Many such reforms can be accomplished "administratively," without the need for legislation, James Glasgow, a partner at Pillsbury who specializes in nuclear export law, said during the press conference. The US Department of Energy is currently amending some of its export regulations, known as the Part 810 rule, and reforming that rule could provide significant opportunities to US exporters, Glasgow said. Unfortunately, some of DOE's proposed revisions to the rule go in the wrong direction, adding regulatory requirements and hurdles, Myers said. Some potential customers for US nuclear exports see DOE's Part 810 review as "the choke point" for an order, and "sometimes that's an evaluation criterion" for deciding whether to buy from a US firm, Glasgow said. In such situations, delay in the review can be "the functional equivalence of denial" of permission for the export because the buyer looks elsewhere, he said.

\*\*\*Burdensome U.S. export regulations are the critical obstacle to nuclear leadership—the U.S. actually still has the supply chain, but massive delays in processing push countries away from the U.S.

## \*\*\* 1NR

### 2NC—Nuclear OV

**Economic collapse outweighs --- it results in worldwide instability and a collapse of democracy.**

**It specifically causes Pakistani nuclear use, which they have conceded causes extinction --- that's Kemp.**

**Failure to avert the cliff results in automatic sequestration in a matter of weeks.**

**Craig 9/24/**12 Fox News Business Writer

(Victoria, “Fiscal Pitfalls Hinge on Gridlocked Congress” <http://www.foxbusiness.com/government/2012/09/20/fiscal-pitfalls-hinge-on-gridlocked-congress/>)

A fix for the national economy is not as simple as just passing a budget, or reducing government spending. And the risk is potential to seriously destabilize an economy that is already at a tipping point. If more than one credit ratings service decides to downgrade its outlook on the U.S., it not only spells trouble for lawmakers, but financial markets as well. In its report, Moody’s warns what follows multiple downgrades would be a very different scene than when S&P took action. That’s because money-markets funds and other investment tools hold only the highest quality bonds. But the report adds, “Even without any action by the ratings agencies, a failure to make progress toward fiscal sustainability would signal that policymakers will not act until the budget is out of control and the nation is in a serious financial crisis.” Holtz Eakin takes that one step further, describing what the bigger picture would look like in the absence of some kind of Congressional action. “It would be an unambiguously bad event in the financial markets,” Holtz-Eakin said. “We’ve seen turbulence in the past and Main Street’s unimmune. We’d have bad equity market performance, bond yields would go up, credit channels would be depressed. It would send us into another recession.” Still, no matter how you slice it, it seems the future of the economy all comes down to politics.

**These cuts lead to global collapse rendering the AFF irrelevant.**

**Means 10/25/**12 Businessman, Former assistant to Vice President Nelson Rockefeller, Former economist at the U.S. Department of Health, Education & Welfare (Grady, “US economy on schedule to crash March 2014.” The Washington Times, <http://www.washingtontimes.com/news/2012/oct/25/us-economy-on-schedule-to-crash-march-2014/>)

Those wild and crazy Mayans put down their marker that the end of the world would occur on Dec. 21, 2012 — about two months from now. There is, of course, some small chance that they might be right. On the other hand, there is a very large probability that the real end of the world will occur around March 4, 2014.

The doomsday clock will ring then because the U.S. economy may fully crash around that date, which will, in turn, bring down all world economies and all hope of any recovery for the foreseeable future — certainly over the course of most of our lifetimes. Interest rates will skyrocket, businesses will fail, unemployment will go to record levels, material and food shortages will be rampant, and there could be major social unrest. Any wishful thinking that America is in a “recovery” and that “things are getting better” is an illusion.

The problem is not Medicare, which won’t quit on us for another six or seven years. Nor is it Social Security, which will not be fully bankrupt for another 15 years or so. The crisis is much more immediate and much more serious.

The central problem is that America is the bank of the world. What this means, simply, is that the dollar is the world’s currency (often termed the “reserve currency”). Throughout the world, nearly all traded goods, oil, major commodities, real estate, etc., are denominated in dollars. The world needs dollars, and the U.S. provides them and provides confidence that the dollar is the “safest” currency in the world. Countries get dollars by trading with us on attractive terms, which enables Americans to live very well. Countries support this system and cover their risk by investing in dollars through T-bill auctions and other mechanisms, which enables us to run budget deficits — up to a point.

The central issue is confidence in America, and the world is losing confidence quickly. At a certain point, soon, the United States will reach a level of deficit spending and debt at which the countries of the world will lose faith in America and begin to withdraw their investments. Many leading economists and bankers think another trillion dollars or so may do it. A run on the bank will start suddenly, build quickly and snowball.

At that point, we will need to finance our own deficit, and we will not be able to do so. We will raise bond rates to re-attract foreign investment, interest rates will go up, and businesses will fail. Unemployment will skyrocket. **The rest of the world will fully crash along with us**. Europe will continue to decline, and the euro will not replace the dollar. Russia will see a collapse in oil prices as market demand softens, and Russia will collapse along with it. China will find nowhere to export and also will collapse. The Russian and Chinese governments, which see all this coming and have been stockpiling gold to hedge against such a dollar collapse, will find that you cannot eat gold. There will be uprisings — think of the streets in Spain and Greece today — everywhere. Technological advances that traditionally drive productivity increases and economic growth will not be able to keep up with this collapse.

When might this all happen? Paul Volker indicates we might face a mess like this in the next year and a half. David Walker, former U.S. comptroller, i.e., the former chief accountant of the U.S. government, has suggested similar time frames for economic catastrophe. Most agree that the **budget sequestration** approach **won’t work** from either economic or political perspectives, and mindless across-the-board cuts in spending will only exacerbate a mess. The Federal Reserve’s third round of quantitative easing, in which we print money to buy our own bonds in order to goose economic and employment numbers, means we are floating our own debt, a good formula for sudden hyperinflation.

**It prevents nuclear plant construction.**

**Carbon Control News 8**

(October 10th, 2008)

For instance, the nuclear industry's hope for renaissance in the face of looming greenhouse gas regulations could be one the first causalities of the economic crisis. The nation's first application for the construction of a new nuclear reactor in over three decades, submitted by Maryland-based Constellation Energy, has already been delayed in part due to the company's financial ties to the now-bankrupt Lehman Brothers investment firm

**Fiat does not solve this --- its about company willingness to invest.**

**Growth turns proliferation.**

**Schrage 9** (Michael J. Green and Steven P., Michael J. Green is Senior Advisor and Japan Chair at the Center for Strategic and International Studies (CSIS) and Associate Professor at Georgetown University. Steven P. Schrage is the CSIS Scholl Chair in International Business and a Former Senior Official with the US Trade Representative's Office, State Department and Ways & Means Committee, *It's not just the economy*, Available Online @ the Asian Times)

Dangerous states It is noteworthy that North Korea, Myanmar and Iran have all intensified their defiance in the wake of the financial crisis, which has distracted the world's leading nations, limited their moral authority and sown potential discord. With Beijing worried about the potential impact of North Korean belligerence or instability on Chinese internal stability, and leaders in Japan and South Korea under siege in parliament because of the collapse of their stock markets, leaders in the North Korean capital of Pyongyang have grown increasingly boisterous about their country's claims to great power status as a nuclear weapons state. The junta in Myanmar has chosen this moment to arrest hundreds of political dissidents and thumb its nose at fellow members of the 10-country Association of Southeast Asian Nations. Iran continues its nuclear program while exploiting differences between the US, UK and France (or the P-3 group) and China and Russia - differences that could become more pronounced if economic friction with Beijing or Russia crowds out cooperation or if Western European governments grow nervous about sanctions as a tool of policy. It is possible that the economic downturn will make these dangerous states more pliable because of falling fuel prices (Iran) and greater need for foreign aid (North Korea and Myanmar), but that may depend on the extent that authoritarian leaders care about the well-being of their people or face internal political pressures linked to the economy. So far, there is little evidence to suggest either and much evidence to suggest these dangerous states see an opportunity to advance their asymmetrical advantages against the international system

**Growth turns the environment.**

**Friedman 5** (Benjamin M. Friedman, William Joseph Maier Professor of Political Economy at Harvard University, former Chair of the Department of Economics at Harvard University, holds a Ph.D. in Economics from Harvard University, 2005 (“Growth and the Environment,” *The Moral Consequences of Economic Growth*, Published by Knopf Publishing Group, ISBN 0679448918, p. 380-382)

But it does not take much traveling around the world to discover that the places where pollution is greatest and environmental blight is most readily visible are not those with the highest living standards. Whether the issue is smoke in the air or germs in the water, or even just the discarded clutter and refuse accumulated from ongoing human habitation, countries, regions, and even individual cities where living standards are high in other respects rarely have the most pollution or present the worst eyesores. Within Europe, one of the greatest shocks to many people after the collapse of the Soviet Union was the stark gap in environmental standards between the former Soviet satellites and their higher-income neighbors just to the west, with whom the newly independent countries now sought to affiliate themselves economically and politically. Not until 1990 did the first eastern European country— the Czech Republic— introduce unleaded gasoline. Four years later it became the first to require catalytic converters on new automobiles. 30

In short, scale is not all that matters. As an economy develops, and the living standard of its people rises, the composition of economic activity typically changes as well. When an agricultural economy first develops a significant manufacturing capacity, many familiar kinds of pollution, especially those that result from burning coal and oil, increase. (Agricultural expansion often brings its own forms of pollution, however, especially from burning in order to clear land or from applying fertilizers to the soil.) But the [end page 380] service industries that normally emerge as incomes rise yet further mostly involve less pollution than does manufacturing. In the forty-two countries where per capita income today is below $2,000 (after allowing for international differences in purchasing power), on average only 43 percent of the economy’s production is in services. Where per capita income is between $2,000 and $8,000, the service sector share averages 54 percent. In the $8,000 to $20,000 range, it is 60 percent, and in the countries where per capita income is above $20,000 (there are twenty-three of them), the service sector on average accounts for 69 percent of total output. 31

This shift into services as incomes rise is not just a matter of moving manufacturing facilities “offshore.” If the composition of what a society consumes remained unchanged as living standards improved, and richer countries simply shifted their manufacturing operations to distant locations and correspondingly increased their reliance on imports, their doing so might help to contain their own pollution problem but it would make no difference on a global basis. Many services are not readily transportable, however, at least not across international lines. The service sector’s share of what the United States produces, for example, is nearly identical to the share of services in what the country consumes. Moreover, the shift in American production toward “cleaner” industries in recent decades, with the advance of free trade and the tightening of anti-pollution laws, has been matched by a shift to cleaner industries in what the United States imports. 32 Throughout the world, the increase in the share of services in overall economic activity as living standards rise mostly represents a change not just in what people make but also in what they consume.

Rising living standards also influence the technology by which economies produce. For example, roughly four-fifths of the world population’s total exposure to particulates in the air takes the form of smoke from indoor cooking fires, typically fueled by wood or coal or peat. 33 For the most part, this form of pollution does not result from any externality. The families that cook their food on these indoor fires expose themselves to smoke inhalation, but typically not others. Most of them have low incomes, and live in low-income countries. If their income were greater, they could afford to cook their food using some other technology.

The same influence of rising living standards on people’s choice of technology also applies, however, in settings in which externalities are the crux of the issue, so that the choices involved are matters of collective decision making— in other words, public policy: whether to allow the use of (cheaper) leaded gasoline, whether to require cars to carry (expensive) catalytic converters, whether to ban (cheaper) high-sulfur coal, whether to [end page 381] require (expensive) stack scrubbers for factories and utility plants. In each case, altering individuals’ or firms’ behavior in ways that reduce pollution imposes a cost. Just as families who have sufficient incomes typically choose not to live with the smoke created by cooking indoors over an open fire, societies where living standards are high can afford to bear some cost for limiting pollution, and most choose to do so. As a result, their incomes as conventionally measured are usually smaller than would otherwise be the case. But because they also care about the air they breathe and the water they drink, and perhaps also about the global climate and the preservation of species, they are nonetheless better-off.\*

### 2NC—UQ Wall

**We’ll avoid the cliff now --- a bargain is likely --- Obama & Congressional leaders are compromising --- it’ll be enough to avoid cuts and a tax shock --- that’s Postal.**

**Framing issue --- political capital controls uniqueness --- the more he has the more he can hold the line against the GOP.**

**Rowland 11/7**/12 Writer at the Boston Globe

(Christopher and Scott Helman, Economy kept Obama afloat, blocked Romney win, Boston Globe, <http://bostonglobe.com/news/nation/2012/11/07/economy-kept-obama-afloat-blocked-romney-win/GGjoaHhlk06KobPutBJoSP/story.html>)

Next up for Obama is proving to those voters that he can achieve results. That remains an exceedingly difficult task in a deeply divided capital, with Republicans retaining control of the House on Tuesday and Democrats staying in charge in the Senate. Latinos who voted for Obama in large numbers Tuesday will demand that he seriously pursue immigration reform. Hurricane Sandy’s devastating effects in New York and New Jersey have renewed calls to address climate change.

Most immediately, the president and Congress will have to deal with the looming “fiscal cliff’’ — a set of automatic budget cuts that were put in place by Washington leaders to extract themselves from the 2011 debt-ceiling standoff, combined with the expiration of the George W. Bush-era tax cuts.

Economists warn that the nation will slide into another recession if the president and Congress do not come up with a plan to avoid the sudden shock to the economy that would result. How these fiscal talks proceed will depend on how much political capital Obama is perceived to have gained in the election. He was narrowly winning the popular vote as the ballots were tallied into Wednesday. If Republicans see political danger in continuing to dig in their heels, will they be more willing to negotiate a tax overhaul that includes higher taxes for the wealthy?

**He has enough now.**

**Cohen 11/7**/12 Formerly the executive editor of The American Prospect, Cohn is currently a senior editor at The New Republic magazine

(Jonathan Cohn, Yes, Obama Won a Mandate, <http://www.tnr.com/blog/plank/109818/obama-wins-four-more-years-mandate-agenda-validation-obamacare>)

But what about the next four years? Doesn’t Obama still need a governing plan? Sure. And if Obama has been relatively silent lately on some urgent issues—chief among them, climate change—he’s been quite clear when it comes to economic policy. He’s produced plans for strengthening the recovery. He’s laid out principles for reducing the deficit: Relatively modest reductions in spending coupled with higher taxes on the wealthy. And with the coming debate over the spending sequester and expiration of the Bush tax cuts, both set for January 2013, Obama will get a chance to apply those principles.

The stakes in this fight are large: Depending on the terms, they will define the scope of the federal government for at least a generation to come. And, unlike in recent fiscal debates, **Obama should have leverage**—more, perhaps, than at any time since the earliest days of his presidency. He can hold out in the debate over the sequester and Bush tax cuts, because the default action—doing nothing—is far worse for Republicans than it is for him. And with the newly elected Tammy Baldwin and Elizabeth Warren joining the reelected Sherrod Brown and Sheldon Whitehouse in the Senate, Obama should have a more unified and incrementally more liberal congressional party behind him. (Hopefully they will push Obama, even as they get his back.)

**It will pass ---**

**Momentum.**

**WSJ 11/9**/12 (Pressure Rises on Fiscal Crisis; White House, Lawmakers Try to Push Ahead Amid New Warnings Over Inaction, Paletta, Damian; Lee, Carol E; Bendavid, Naftali. Wall Street Journal (Online) [New York, N.Y] 09 Nov 2012: n/a)

Since Mr. Obama's election victory, White House and congressional leaders of both parties have taken a more conciliatory stance. That has stirred hopes of a bipartisan deficit-reduction deal among some--and agitated people in both parties who object to any compromise calling for higher tax revenues on one hand, and cuts to government entitlement programs on the other.

"Personally, I think the conditions are **exactly perfect** for us to move ahead with this **right now**," said Sen. Bob Corker (R., Tenn.), who won re-election Tuesday. "It is going to take the president being committed to doing this and sitting down and rolling up his sleeves and making it happen."

House Speaker John Boehner of Ohio in a conference call Wednesday told fellow Republicans to avoid drawing lines in the sand. "We don't want to box ourselves in, and we don't want to box the White House out," he said, according to someone familiar with the call.

**The GOP will budge.**

**Corbin 11/8**/12 On Wall Street Staff Writer

**(**Kenneth Corbin, Fiscal Cliff Looms Large in 'Mother of All Lame-Duck Sessions' in Congress, http://www.onwallstreet.com/news/Fiscal-Cliff-Looms-Large-in-Mother-of-All-Lame-Duck-Sessions-in-Congress-2681772-1.html)

\*Andrew Friedman, principal at the policy-analysis shop Washington Update

Friedman, too, expects that the parties will be able to reach some sort of a deal, at least in the short term. He anticipates that Republicans will eventually give ground on the tax issue, taking the president's advisors at their word that Obama would veto any deficit plan that does not include higher taxes for the top earners.

But the threshold might move, he said, suggesting that instead of the $250,000 mark the president has proposed, they might find a compromise by allowing taxes to increase only for those earning $1 million or more.

"I think on balance we probably will avoid it," Friedman said. "I think the Republicans will ultimately agree to perhaps raise taxes above a certain income level, maybe $1 million, and keep taxes low on everyone else."

He pointed to comments that House Speaker John Boehner (R-Ohio) made on Wednesday that held the door open to increasing revenues as part of a deficit-reduction plan, though Boehner qualified his remarks, saying, "We're willing to accept new revenue, under the right conditions." He called for an overhaul of the tax code patterned after the 1986 Tax Reform Act that would cut "special-interest loopholes and deductions" to create a "fairer, simpler, cleaner tax code."

**Boehner optimistic.**

**Davis 11/8**/12 USA Today Washington Bureau

(Susan Davis, Boehner sees short-term budget fix, <http://www.usatoday.com/story/news/politics/2012/11/08/boehner-outlines-session/1691661/>)

Boehner is proposing what he calls a short-term "bridge" that would extend all of the tax rates for one year and buy more time to overhaul the federal tax code. Boehner says that would increase revenue by closing tax loopholes, not by raising the rates individuals pay on their wages.

"There's a lot of ways you could do this that would allow the Congress to fix our tax code next year, look at real spending cuts and entitlement reforms that would produce what the president's called for — a balanced approach," he said.

No deal, Senate Democrats say. Majority Leader Harry Reid, D-Nev., outlined an opposing view: Democrats want an agreement to extend the Bush-era cuts on everyone except the top earners, and they want it done in the next 53 days. "Waiting for a month, six weeks, six months, that's not gonna solve the problem. We know what needs to be done," Reid said.

Boehner said his rank-and-file views heading over the cliff as "unacceptable," but he acknowledged there is no clear path forward for compromise. He was **optimistic** that a deal would be reached between himself, Reid and President Obama.

"I have no doubts that they're as interested in doing the will of the American people as I am," he said.

Obama is scheduled to make a statement about the fiscal situation at the White House Friday afternoon.

Boehner pledged to work with Obama to find consensus but offered a critical assessment of his re-election victory speech. "It sounded pretty good, but you know, I remember that speech from four years ago, and that sounded real good, too," he said. "I don't mean to seem harsh, but actions speak louder than words."

**Vote counts.**

**Becker 12** The Hill’s Finance & Economy Blog

(Bernie and Erik Wasson, GOP fears reelected Obama would have the upper hand on taxes, <http://thehill.com/blogs/on-the-money/domestic-taxes/251095-gop-fears-reelected-obama-would-have-leverage-to-raise-taxes>)

But Republicans are also eager to avoid the automatic spending cuts set to start in January that would slash heavily from defense and national security.

GOP defense hawks like Sen. John McCain (Ariz.) have sounded more open to using revenue increases to avoid those cuts. If more Republicans take that position, it could give Democrats the upper-hand in the lame-duck negotiations.

“In my view, their position becomes less and less defensible every day that goes on,” said Rep. Chris Van Hollen (Md.), the top Democrat on the House Budget Committee. “Because come January, unless they agree to provide tax relief to 98 percent of Americans, those taxes are going to go up.”

House GOP leaders would only need a small minority of their conference to pass any measure extending tax cuts up to $250,000 of family income, given that Democrats support that proposal.

And while members of the GOP rank-and-file on Friday said they remain steadfast against tax increases, some said the **votes would likely be there** if leadership needed them.

“I would not,” Rep. Tim Scott (R-S.C.) said when asked if the votes could be found to pass a high-end tax increase. “Enough [votes], probably.”

Top Republican officials say it is difficult to predict exactly what the political environment would look like in the immediate aftermath of an Obama victory. **The newly reelected president could**, for example, **use his moment of maximum leverage** to demand that Congress extend tax rates for the middle class, creating enormous pressure for Republicans coming off a loss at the polls.

### AT: No Capital

**Obama has capital for the fiscal cliff fight**

**WSJ 11 – 9 – 12** [The President's Cliff Walk; Boehner offers a fiscal olive branch to the White House. Anonymous. Wall Street Journal (Online) [New York, N.Y] 09 Nov 2012: n/a.]

There's little doubt that Mr. Obama has the political whip hand for the moment. The tax increases and defense spending cuts will automatically take effect if Congress and the President fail to act. Mr. Obama could bludgeon Republicans to accept a deal on his terms, then if they balk simply pocket the tax increases as a revenue windfall, while blaming Republicans if there's a recession.

What that strategy won't do is solve the real problems he's inheriting from his own first term. The deficit is growing by $1 trillion a year and another U.S. credit-rating downgrade beckons as entitlement spending escalates. Above all, the economy is growing too slowly to raise incomes or raise enough revenue for the government.

The question is whether Mr. Obama wants to solve these problems--or continue demonizing Republicans while getting nothing done.

**Obama has capital – using it to leverage his agenda**

**WASHINGTON TIMES 11 – 8 – 12** [Obama lies low as calls for fiscal action grow, <http://www.washingtontimes.com/news/2012/nov/8/obama-lies-low-calls-fiscal-action-grow/?page=all#pagebreak>]

Mr. Obama’s top supporters, Democrats on Capitol Hill, and even some prominent Republicans say the president now has **far more leverage to push his agenda** of increasing taxes on high earners as a way to address the impending crisis. With a mix of automatic spending cuts and tax increases set to take effect in a little more than seven weeks, House Speaker John A. Boehner has implored the president to take charge of the crisis.

“Mr. President, this is your moment,” the Ohio Republican said Wednesday. “Let’s challenge ourselves to find the common ground that has eluded us.”

The president seemed to agree in his victory speech in the early hours Wednesday morning that he has earned a bargaining chip, although he has been careful not to say so directly since then.

“You made your voice heard,” Mr. Obama told supporters in Chicago, an indication that he thinks the majority of the country backs his ideas.

David Plouffe, senior adviser to the president, said the election has given Mr. Obama an obvious edge in achieving his goal of “balanced” deficit reduction.

“Voters clearly chose the president’s view of making sure the wealthiest Americans are asked to do a little more in terms of reducing the deficit,” Mr. Plouffe told reporters in a conference call Thursday. “The voters don’t view compromise as a dirty word.”

However, the president has yet to utter the word “mandate” or to lay claim to more political capital than he had before the election, when many analysts viewed his bargaining leverage as weakened by a lackluster economic recovery and predicted a much tighter election battle.

The president’s decision to lay low in the White House immediately after his electoral triumph was the opposite of Republican George W. Bush’s first full day in Washington following his re-election eight years ago. On Nov. 4, 2004, Mr. Bush held a Cabinet meeting and a full press conference in which he laid out the agenda for his second term.

“I’ve earned capital in this election — and I’m going to spend it for what I told the people I’d spend it on,” Mr. Bush said.

Many of Mr. Bush’s goals for his second term, however, didn’t pan out, and Mr. Obama and his top aides seem to be deliberately avoiding talk of a mandate even as they argue that voters backed the president’s economic plan of reducing the deficit by increasing taxes on high earners.

“You don’t say you have a mandate, you don’t threaten people,” said Chris LeHane, a longtime Democratic strategist who worked for former President Bill Clinton. “As soon as you say you have political capital, you start losing it. Reagan didn’t say he had political capital, and George W. Bush said he had political capital and he lost it.”

Mark Mellman, a longtime Democratic pollster and strategist, said Mr. Obama is smart to keep a low profile and reach out to congressional leaders rather than immediately using his bully pulpit to push his weight around.

### AT: Thumpers

**Negotiations are already happening.**

**Politico 11/8**/12 Washington Staff

(Behind Boehner's new tone, <http://www.politico.com/news/stories/1112/83608.html>)

Since Boehner gave the speech, Rep. Kevin McCarthy and his whip operation have called more than 120 House Republicans to gauge their reaction. By week’s end, they’ll have reached out to the entire House Republican Conference. When they return, McCarthy will meet with small groups of Republicans to feel them out for opposition.

At the staff level, the talks have **actually begun**. Boehner’s policy director, Brett Loper, has met informally with the Obama administration. Top aides to Boehner and Reid have also quietly huddled.

Inside Boehner’s operation, planning for these talks began in September on the second floor of the Capitol.

Boehner chief of staff Mike Sommers, Loper and Dave Schnittger — a Boehner hand from the Ohio Republican’s early days in D.C. — took to the famous “Board of Education” room to begin planning for two scenarios: a Romney win and an Obama victory.

**It's the immediate focus.**

**Reuters 11/7**/12

(As Fiscal Cliff fast approaches, Obama reaches out to Romney to help break Congress gridlock, <http://news.nationalpost.com/2012/11/07/as-fiscal-cliff-fast-approaches-obama-reaches-out-to-romney-to-help-break-congress-gridlock/>)

The **immediate focus** for Obama and U.S. lawmakers will be to deal with the “fiscal cliff,” a mix of tax increases and spending cuts due to extract some $600 billion from the economy at the end of the year barring a deal with Congress. Economists warn it could push the United States back into recession.

House Majority Leader John Boehner moved swiftly on the fiscal cliff issue, saying he would issue a statement on it on Wednesday, citing “the need for both parties to find common ground and take steps together to help our economy grow and create jobs, which is critical to solving our debt.”

Concern about U.S. fiscal problems after Obama’s re-election contributed to a decline in global financial markets. World shares turned lower and Wall Street stocks, which had been expected to rise on relief over the clear election outcome, opened lower partly due to fears over economic weakness in Europe.

### 2NC—Link Debate

**Nuclear fuels held back because other energies will fight**

**ADAMS 7 – 24 – 12 Pro-nuclear advocate with small nuclear plant operating and design experience. Former submarine Engineer Officer. Founder, Adams Atomic Engines, Inc** [Rod Adams, The Atomic Show #185 – Is Thorium Superior to Uranium?, <http://atomicinsights.com/2012/07/the-atomic-show-185-is-thorium-superior-to-uranium.html>]

On July 23, 2012, busy schedules aligned and I had the chance to talk with Richard Martin, the author of SuperFuel: Thorium, the Green Energy Source for the Future and Kirk Sorensen, the co-founder and chief technology officer of Flibe Energy, a start-up company formed to “develop small modular reactors based on liquid-fluoride thorium reactor (LFTR) technology.” Kirk is also the founder of Energy from Thorium.

Thought I did not think of phrasing it in this manner until I sat down to post the show, the initial question we discussed was “is thorium superior to uranium”? Even if Martin and Sorensen were able to win that argument, the more important question was determining whether the answer matters as much as the fact that both uranium and thorium (and their periodic table neighbor, plutonium) are atomic fission fuels that have serious advantages over combustion fuels in terms of energy density, total energy value and ability to produce power without pollution.

We talked quite a bit about my solidifying theory that a major part of the long running battle against using any of the three available nuclear fission fuels has derived from the fact that the current kings of the energy hill do not want either one to **take their market share away**. As is often the case, my discussion opponents initially labeled my theory as a crackpot conspiracy theory; I stubbornly continued explaining that pointing to a business strategy that includes efforts to “raise the barriers of entry” for formidable competitors should not be dismissed.

It is not a conspiracy theory to point out the enormous amount of capital that is invested in the global effort to locate, extract, transport, refine, distribute and market coal, natural gas and oil. It is not a conspiracy theory to point out that politicians and the advertiser supported media have numerous reasons to help their friends continue to capture trillions of dollars worth of revenue each year from suppling industrial society with the fuels that keep it running at prices that are far higher than they would be if there were amply supplies of nuclear fission based machines being allowed to operate on a remotely level playing field.

**Picking nuclear to win insures a fight**

**NELSON & NORTHEY 9 – 24 – 12 E&E reporters** [Gabriel Nelson and Hannah Northey, NUCLEAR ENERGY: DOE funding for small reactors languishes as parties clash on debt, <http://www.eenews.net/public/Greenwire/2012/09/24/3?page_type=print>]

That the grants haven't been given out during a taut campaign season, even as President Obama announces agency actions ranging from trade cases to creating new national monuments to make the case for his re-election, may be a sign that the reactors are ensnared in a broader feud over energy spending.

Grant recipients would develop reactor designs with an eye toward eventually turning those into pilot projects -- and the loan guarantees that these first-of-a-kind nuclear plants are using today to get financing **would be blocked under the "No More Solyndras" bill** that passed the House last week (Greenwire, Sept. 14).

Congress has given the grant program $67 million for fiscal 2012, shy of the amount that would be needed annually to reach full funding. If the "sequester" kicks in at year's end and slashes DOE funding or the balance of power changes in Washington, the amount of money available could dwindle yet again.

Even the staunchest supporters of the federal nuclear program are acknowledging it is a tough time to promise a $452 million check.

Former Sen. Pete Domenici, a New Mexico Republican who pushed for new reactors as chairman of both the Senate Energy and Natural Resources Committee and the Energy and Water Appropriations Subcommittee, said during a brief interview Tuesday that well-designed loan guarantees won't cost too much because they get repaid over time. The cost could be borne by a "tiny little tax" on the nuclear industry, he said.

But when it comes to straight-up spending, like the grants that would support getting these cutting-edge reactors ready for their first demonstrations, the solution may not be so clear. While some Republicans remain staunch supporters of funding for the nuclear power industry, there are others who label the government subsidies as a waste of taxpayer dollars.

"It's awful hard, with the needs that are out there and the debt that haunts us, to figure out how you're going to establish priorities," said Domenici, who has advocated for the deployment of new nuclear reactors as a fellow at the Bipartisan Policy Center. "I can't stand here and tell you that I know how to do that."

### AT: Winners Win

**Winners win debate:**

**No uniqueness post election where the president looks like a winner already.**

**Discount their evidence that does not assume the current political environment.**

**Their evidence is about large wins on closely divided and hugely significant issues like health care and the stimulus not the plan.**

#### Energy policies overload the agenda.

Mann 9 Senior Fellow in Governance Studies at Brookings

(Thomas E., “From Campaigning to Governing: Politics and Policymaking in the New Obama Administration”)

New presidents who get off to a good start almost always have agenda control. They **focus** on a limited number of issues, keep extraneous matters from stepping on their priorities, and avoid overloading the circuits in Congress. Carter sent a flood of proposals to Capitol Hill with little concern for priority or sequencing. He reaped little in the way of legislative harvest from them and the public began to wonder if he was up to the job. Reagan focused relentlessly on cutting taxes and spending, ultimately succeeding in shifting policy for decades. Clinton allowed the issue of gays in the military to overwhelm his policy priorities at the outset of his administration and then misjudged the market for a small economic stimulus in the Senate and suffered a humiliating defeat. Obama identified stabilizing the financial markets and shortening the recession as his highest initial priority. His early efforts to ensure the release of $350 billion in TARP funds, pass a large economic stimulus bill, and develop a new strategy for dealing with the troubled banking system reflected that priority. Nonetheless, he was widely criticized for diluting his focus on economic crisis management by **linking it to** reform of health policy, energy and education. Critics argued that his economic recovery leadership and proposals were not up to the seriousness of the crisis, that the staggering costs of the recession and bailout made health, energy and education reform **wildly unrealistic**, and that his huge agenda would overwhelm the **capacity of Congress** to deliver on its central components. Obama insisted that the linkage was essential to long-term economic security and prosperity and refused to back down. At his insistence, the stimulus bill contained very generous allocations for health technology, renewable energy and education.

**And energy policy is a no win issue.**

**Light 99** Paulette Goddard Professor of Public Service, New York University; Founding Director, Brookings Center for Public Service; Senior Adviser, National Commission on the Public Service; Senior Adviser, Brookings Presidential Appointee Initiative

(Paul C., “The President’s Agenda: Domestic Policy Choice from Kennedy to Clinton”, 3rd Edition, p. 34)

In the final chapter, I will take a deeper look at recent changes which have altered the domestic agenda process. The Presidency of the 1980s is quite different from the Presidency of the 1960s. The political and economic costs of domestic programs have escalated, with no corresponding increase in the President's ability to absorb the "inflation." At least five explanations arise. First, Congress has become more competitive in the search for scarce agenda space—whether because of changes in congressional membership and norms or because of a steady growth in the institutional resources for program initiation. Second, Congress has become more complex. The evolution of subcommittee government during the late 1960s increased the sheer number of actors who wield influence in the domestic policy process and tangled the legislative road map. Though there are fewer single obstacles to passage of the President's program, there are many more potential dead ends and delays. Third, as Congress has become more competitive and complex, the congressional parties have weakened. The dispersion of congressional power has, in turn, reduced the President's potential influence over domestic legislation. As we shall see, party is no longer the "gold standard" of presidential influence. Unfortunately, Presidents must still cling to their party as the source of their political capital. Fourth, Presidents must now conduct domestic policy under increasing congressional and media surveillance. I will suggest that this atmosphere of suspicion has reduced the opportunities for effective presidential leadership in domestic policy. Finally, and perhaps most important, the basic issues that fuel the domestic policy process have changed since 1960. We have witnessed the rise of a new group of "**constituentless**" issues, issues that generate remarkably little congressional support and considerable single-interest-group opposition. **Energy**, social-security financing, welfare reform, and hospital-cost control are all examples of a new generation of constituentless issues. Separately these five trends have created difficult problems for the President's agenda. Together they have contributed to the rise of a **no- win presidency** in domestic affairs. We will return to the concept of a No Win Presidency in chapter 9. For now, it is important to note that the domestic policy process continues to shift. In the few short years since Kennedy and Johnson occupied the Oval Office the Presidency has undergone a dramatic era of change. As one Johnson aide remarked, "This office is nothing like it used to be. It might look similar, but the relationships have all changed.

**Replenishment takes too long.**

**Lashof 10** Director of the Climate Center at NRDC

(Dan, “Coulda, Shoulda, Woulda: Lessons from Senate Climate Fail”, http://switchboard.nrdc.org/blogs/dlashof/coulda\_shoulda\_woulda\_lessons.html)

Lesson 2: Political capital is **not** necessarily a renewable resource.

Perhaps the most fateful decision the Obama administration made early on was to move healthcare reform before energy and climate legislation. I’m sure this seemed like a good idea at the time. Healthcare reform was popular, was seen as an issue that the public cared about on a personal level, and was expected to unite Democrats from all regions. White House officials and Congressional leaders reassured environmentalists with their theory that success breeds success. A quick victory on healthcare reform would renew Obama’s political capital, some of which had to be spent early on to push the economic stimulus bill through Congress with no Republican help. Healthcare reform was eventually enacted, but only after an exhausting battle that eroded public support, drained political capital and created the Tea Party movement. Public support for healthcare reform is slowly rebounding as some of the early benefits kick in and people realize that the forecasted Armageddon is not happening. But this is occurring **too slowly to rebuild** Obama’s political capital in time to help push climate legislation across the finish line.