# ASU Round 7 vs. Illinois State BS (Neg)

## 1NC

### 1

#### Text: The United States federal government should develop beamed thermal propulsion technology to disposes of fissile waste materials beyond the Earth’s mesosphere.

#### 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.

#### Space disposal solves the nuclear waste problem—it’s cheap, efficient, safe, feasible, and prototype technologies have been used in the past.

Coopersmith, professor of history, 5—associate professor of history at Texas A&M University, specializes in the history of technology and the history of Russia [August 22, 2005, Jonathan Coopersmith, “Nuclear waste in space?” http://www.thespacereview.com/article/437/1]

Neither the space shuttle nor conventional rockets are up to this task. Not only are they expensive, but they lack the desired reliability and safety as insurance rates demonstrate. Instead, we need to develop a new generation of launch systems where the launcher remains on the ground so the spacecraft is almost all payload, not propellant. As well as being more efficient, ground-launched systems are inherently safer than rockets because the capsules will not carry liquid fuels, eliminating the in-flight danger of an explosion. Nor will the capsules have the pumps and other mechanical equipment of rockets, further reducing the chances of something going wrong. We need to develop a new generation of launch systems where the launcher remains on the ground so the spacecraft is almost all payload, not propellant. How would disposal of nuclear wastes in space actually work? In the simplest approach, a ground-based laser system will launch capsules directly out of the solar system. In a more complicated scheme, the laser system will place the capsules into a nuclear-safe orbit, at least 1,100 kilometers above the earth, so that they could not reenter for several hundred years at a minimum. Next, a space tug will attach the capsules to a solar sail for movement to their final destination orbiting around the sun, far, far from earth. The underlying concept is simple: the launcher accelerates the capsule to escape velocity. Like a gun, only the bullet heads toward the target, not the entire gun. Unlike a shuttle or rocket, ground systems are designed for quick reuse. To continue the analogy, the gun is reloaded and fired again. These systems would send tens or hundreds of kilograms instead of tons into orbit per launch. Of the three possible technologies—laser, microwave, and electromagnetic railguns—laser propulsion is the most promising for the next decade. In laser propulsion, a laser beam from the ground hits the bottom of the capsule. The resultant heat compresses and explodes the air or solid fuel there, providing lift and guidance. Although sounding like science fiction, the concept is more than just an elegant idea. In October 2000, a 10-kilowatt laser at White Sands Missile Range in New Mexico boosted a two-ounce (50 gram) lightcraft over 60 meters vertically. These numbers seem small, but prove the underlying feasibility of the concept. American research, currently at Rensselaer Polytechnic Institute in New York with previous work at the Department of Energy’s Lawrence Livermore National Laboratory in California, has been funded at low levels by the United States Air Force, NASA, and FINDS, a space development group. The United States does not have a monopoly in the field. The four International Symposiums on Beamed Energy Propulsion have attracted researchers from Germany, France, Japan, Russia, South Korea, and other countries. The long-term benefit of a ground-based system will be much greater if it can ultimately handle people as well as plutonium. Dartmouth physics professor Arthur R. Kantrowitz, who first proposed laser propulsion in 1972, considers the concept even more promising today due to more efficient lasers and adaptive optics, the technology used by astronomers to improve their viewing and the Air Force for its airborne anti-ballistic missile laser. Where should the nuclear waste ultimately go? Sending the capsules out of the solar system is the simplest option because the laser can directly launch the capsule on its way. Both Ivan Bekey, the former director of NASA’s of Advanced Programs in the Office of Spaceflight, and Dr. Jordin T. Kare, the former technical director of the Strategic Defense Initiative Organization’s Laser Propulsion Program, which ran from 1987-90, emphasized solar escape is the most reliable choice because less could go wrong. A second option, a solar orbit inside Venus, would retain the option of retrieving the capsules. Future generations might actually find our radioactive wastes valuable, just as old mine tailings are a useful source of precious metals today. After all, the spent fuel still contains over three-quarters of the original fuel and could be reprocessed. Terrorists or rogue states might be able to reach these capsules, but if they have that technical capability, stealing nuclear wastes will be among the least of our concerns. This approach is more complex, demanding a temporary earth orbit and a solar sail to move it into a solar orbit, thus increasing the possibility of something going wrong.

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

Konard, PhD Mathematics @ Purdue, CFA, financial analyst, freelance writer, and policy wonk specializing in renewable energy and energy efficiency, ‘9

[Tom, 12/14/2009, “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.

M’erel, Agricultural and Resource Economics @ UC Davis, ‘11

[Pierre, September, “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/~jeh1/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/~jeh1/mailings/2011/20110415_EnergyImbalancePaper.pdf)).

### 2

#### 1. CIR will pass now

Roll Call 2/6 (Jonathan Strong, covers House leadership for Roll Call. He previously served as an investigative reporter for the Daily Caller, http://www.rollcall.com/news/democrats\_see\_hopeful\_signals\_from\_republicans\_on\_immigration-222229-1.html)

LEESBURG, Va. — Top Democrats are walking a fine line in assessing the GOP’s signals on an immigration overhaul, both criticizing what they described as tepid steps forward by House Majority Leader Eric Cantor while praising what Republicans privately say they will be willing to do.¶ At a speech billed as a rebranding of the GOP’s image, the Virginia Republican said he would support citizenship for young people brought to the country illegally as children.¶ But Democratic Caucus Chairman Xavier Becerra called the shift small potatoes.¶ “Been there, done that. We’ve moved on. I think the American people have moved on. It’s great that our Republican colleagues are catching up,” the California lawmaker said at a news conference here, where House Democrats are gathered for a retreat over the next two days.¶ But Becerra, who is part of a secretive bipartisan working group on the topic that includes several conservative Republican lawmakers, did not dismiss signals by the GOP that it is open to moving immigration legislation.¶ He described a House Judiciary Committee hearing Tuesday as encouraging, saying, “I didn’t hear Republicans speaking about how it is impossible and how there should be death placed upon anyone who tries to fix the system comprehensively.”¶ “Perhaps the most encouraging thing for me is the conversations I hear privately outside of the reach of a camera from some of my Republican friends and colleagues who I believe understand that the American people are ready to fix this broken immigration system,” he added.¶ At a closed-door session on immigration moderated by California Democratic Rep. Zoe Lofgren, who is also part of the working group, Lofgren did not update Members on specifics of the bipartisan discussions, Becerra said. Speakers included Angela Kelley from the Center for American Progress and Drew Westen, a professor of psychology and psychiatry at Emory University.

#### 2. Obama’s political capital is key.

Hesson 1/2 (Ted, Immigration Editor at ABC News, Analysis: 6 Things Obama Needs To Do for Immigration Reform, http://abcnews.go.com/ABC\_Univision/News/things-president-obama-immigration-reform/story?id=18103115#.UOTq55JIAho)

On Sunday, President Barack Obama said that immigration reform is a "top priority" on his agenda and that he would introduce legislation in his first year.¶ To find out what he needs to do to make reform a reality, we talked to Lynn Tramonte, the deputy director at America's Voice, a group that lobbies for immigration reform, and Muzaffar Chishti, the director of the New York office of the Migration Policy Institute, a think tank. Here's what we came up with.¶ 1. Be a Leader¶ During Obama's first term, bipartisan legislation never got off the ground. The president needs to do a better job leading the charge this time around, according to Chishti. "He has to make it clear that it's a high priority of his," he said. "He has to make it clear that he'll use his bully pulpit and his political muscle to make it happen, and he has to be open to using his veto power." His announcement this weekend is a step in that direction, but he needs to follow through.¶ 2. Clear Space on the Agenda¶ Political priorities aren't always dictated by the folks in D.C., as the tragic Connecticut school shooting shows us. While immigration had inertia after the election, the fiscal cliff and gun violence have been the most talked about issues around the Capitol in recent weeks. The cliff could recede from view now that Congress has passed a bill, but how quickly the president can resolve the other issues on his agenda could determine whether immigration reform is possible this year. "There's only limited oxygen in the room," Chishti said.

#### 3. Key Senators oppose IFRs

Rizvi 7 (Haider, Inter Press Service News Agency, Bush's Nuclear 'Reprocessing' Plan Under Fire, November 26th, http://www.commondreams.org/archive/2007/11/26/5448)

NEW YORK - The Bush administration is pushing for plans to reuse spent nuclear fuel in power reactors across the United States, but key senators and nuclear analysts have raised economic and security concerns about reusing the weapons-grade fuel.¶ "We have serious concerns about the implications of current plans for commercial spent fuel reprocessing," a group of seven Democratic and one Republican senators told Byron Dorgan (D-ND), chairman of the Senate Subcommittee on Energy and Water Development Appropriations, in a letter last week.¶ The letter urged Dorgan and Ranking Member Pete Domenici (R-NM) to cut funding for spent fuel reprocessing in an energy appropriations bill that is expected to be considered along with many other spending plans next month.¶ The reprocessing is being promoted as part of the administration's Global Nuclear Energy Partnership (GNEP), a plan to form an international partnership to reprocess spent nuclear fuel in a way that renders the plutonium in it usable for nuclear energy but not for nuclear weapons.¶ The energy and water development appropriations bill currently before the Senate would provide $243 million for the initiative, whereas the House version would commit $120 million.¶ Those who signed the letter include Senators Russ Feingold (D-WI), Ron Wyden (D-OR), John Sununu (R-NH), Tom Harkin (D-IA), Bernard Sanders (D-VT), John Kerry (D-MA), Daniel Akaka (D-HI), and Edward Kennedy (D-MA).¶ The eight senators said reprocessing is "not a solution" to the problem of nuclear waste and held that it could weaken U.S. efforts to halt global nuclear proliferation. In addition, they argued that the Energy Department's plans could cost taxpayers at least $200 billion.¶ Arms control activists have welcomed the senators' call for funding cuts and said their letter reflects a growing skepticism in Congress about the administration's reprocessing initiative.¶ "There are a variety of concerns about the program ranging from cost, to nuclear proliferation risks, to past failures in this area," said Leonor Tomero, director for nuclear nonproliferation at the Washington, DC-based Center for Arms Control and nonproliferation.¶ In her view, the Energy Department's request for hundreds of millions of dollars is not reasonable because its initiative and the GNEP "will not provide a viable solution" to the nuclear waste problem.¶ The Senate Committee on Energy and Natural Resources recently held a hearing on GNEP where many of its members expressed their concerns and raised serious questions about the Energy Department's plans.¶ In addition to the senators' objections, the administration's current proposal has also been criticized by the National Academy of Sciences (NAS), a pro bono committee of experts that advises the federal government on scientific issues. In its annual report this year, the NAS described the Energy Department's plan as an "unwise" effort that lacked "economic justification."

#### 4. Immigration reform is key to food security

Fitz 12 (Marshall Fitz is the Director of Immigration Policy at the Center for American Progress, Time to Legalize Our 11 Million Undocumented Immigrants, November 14th, http://www.americanprogress.org/issues/immigration/report/2012/11/14/44885/time-to-legalize-our-11-million-undocumented-immigrants/)

Nowhere is the tension between immigrant labor and the economy more obvious than in agriculture. By most estimates, undocumented immigrants make up more than half of the workers in the agriculture industry. Likewise the U.S. Department of Agriculture has estimated that each farm job creates three “upstream” jobs in professions such as packaging, transporting, and selling the produce, meaning that what happens in the agricultural sector affects the economy as a whole.¶ Agriculture is particularly susceptible to the whims of the labor market, since crops become ripe at a fixed time and must be picked quickly before they rot. Migrant laborers often travel a set route, following the growing season as it begins in places such as Florida and works its way north. Disrupting this flow of pickers can be devastating to local economies and the nation’s food security.¶ After the passage of Georgia’s anti-immigrant law, H.B. 87, for example, the Georgia Agribusiness Council estimated that the state could lose up to $1 billion in produce from a lack of immigrant labor. A survey of farmers conducted by the Georgia Department of Agriculture found 56 percent of those surveyed were experiencing difficulty finding workers—a devastating blow to the state. Even a program by Gov. Nathan Deal (D-GA) to use prison parolees to fill the worker shortage quickly fell apart, with most walking off the job after just a few hours.¶ Creating a process for legalizing these undocumented workers would help stabilize the agricultural workforce and enhance our nation’s food security. It would also diminish the incentive of states to go down the economically self-destructive path that Georgia, Alabama, Arizona, and others have pursued.

#### 5. Food shortages lead to extinction.

Brown, founder of the Worldwatch Institute and the Earth Policy Institute, ‘9

[Lester, “Can Food Shortages Bring Down Civilization?” Scientific American, May]

The biggest threat to global stability is the potential for food crises in poor countries to cause government collapse. Those crises are brought on by ever worsening environmental degradation One of the toughest things for people to do is to anticipate sudden change. Typically we project the future by extrapolating from trends in the past. Much of the time this approach works well. But sometimes it fails spectacularly, and people are simply blindsided by events such as today's economic crisis. For most of us, the idea that civilization itself could disintegrate probably seems preposterous. Who would not find it hard to think seriously about such a complete departure from what we expect of ordinary life? What evidence could make us heed a warning so dire--and how would we go about responding to it? We are so inured to a long list of highly unlikely catastrophes that we are virtually programmed to dismiss them all with a wave of the hand: Sure, our civilization might devolve into chaos--and Earth might collide with an asteroid, too! For many years I have studied global agricultural, population, environmental and economic trends and their interactions. The combined effects of those trends and the political tensions they generate point to the breakdown of governments and societies. Yet I, too, have resisted the idea that food shortages could bring down not only individual governments but also our global civilization. I can no longer ignore that risk. Our continuing failure to deal with the environmental declines that are undermining the world food economy--most important, falling water tables, eroding soils and rising temperatures--forces me to conclude that such a collapse is possible. The Problem of Failed States Even a cursory look at the vital signs of our current world order lends unwelcome support to my conclusion. And those of us in the environmental field are well into our third decade of charting trends of environmental decline without seeing any significant effort to reverse a single one. In six of the past nine years world grain production has fallen short of consumption, forcing a steady drawdown in stocks. When the 2008 harvest began, world carryover stocks of grain (the amount in the bin when the new harvest begins) were at 62 days of consumption, a near record low. In response, world grain prices in the spring and summer of last year climbed to the highest level ever.As demand for food rises faster than supplies are growing, the resulting food-price inflation puts severe stress on the governments of countries already teetering on the edge of chaos. Unable to buy grain or grow their own, hungry people take to the streets. Indeed, even before the steep climb in grain prices in 2008, the number of failing states was expanding [see sidebar at left]. Many of their problem's stem from a failure to slow the growth of their populations. But if the food situation continues to deteriorate, entire nations will break down at an ever increasing rate. We have entered a new era in geopolitics. In the 20th century the main threat to international security was superpower conflict; today it is failing states. It is not the concentration of power but its absence that puts us at risk.States fail when national governments can no longer provide personal security, food security and basic social services such as education and health care. They often lose control of part or all of their territory. When governments lose their monopoly on power, law and order begin to disintegrate. After a point, countries can become so dangerous that food relief workers are no longer safe and their programs are halted; in Somalia and Afghanistan, deteriorating conditions have already put such programs in jeopardy.Failing states are of international concern because they are a source of terrorists, drugs, weapons and refugees, threatening political stability everywhere. Somalia, number one on the 2008 list of failing states, has become a base for piracy. Iraq, number five, is a hotbed for terrorist training. Afghanistan, number seven, is the world's leading supplier of heroin. Following the massive genocide of 1994 in Rwanda, refugees from that troubled state, thousands of armed soldiers among them, helped to destabilize neighboring Democratic Republic of the Congo (number six).Our global civilization depends on a functioning network of politically healthy nation-states to control the spread of infectious disease, to manage the international monetary system, to control international terrorism and to reach scores of other common goals. If the system for controlling infectious diseases--such as polio, SARS or avian flu--breaks down, humanity will be in trouble. Once states fail, no one assumes responsibility for their debt to outside lenders. If enough states disintegrate, their fall will threaten the stability of global civilization itself.

### 3

#### Nuclear energy proves even humans become part of the standing reserve of resources to be consumed by the subject

Kinsella 7 Dr. William J. Kinsella 2007 (Heidegger and Being at the Hanford Reservation: Standing Reserve, Enframing, and Environmental Communication Theory; Environmental Communication Vol. 1, No. 2, November 2007, pp.194-217 Dr. William J. Kinsella is an associate professor at North Carolina State University. His work on nuclear energy communication has encompassed the areas of nuclear fusion, environmental cleanup across the US nuclear weapons complex, and commercial nuclear energy in US and global contexts.)

People, too, became part of the standing reserve of resources for plutonium production at Hanford. Farmers, ranchers, and Tribal members were displaced to make way for nuclear reactors, chemical processing plants, and new communities built to house the Hanford workforce (Harris, 1972; Hein, 2000). Regional residents, some living on the Indian reservations surrounding the Hanford nuclear reservation, found their cultures and environments drastically transformed (D’Antonio, 1993; Loeb, 1982). Innumerable ‘‘downwinders’’ and other neighbors were exposed to radioactivity from Hanford’s operations. Throughout the Cold War era, health, safety, and environmental concerns were routinely subordinated to production imperatives; in at least one episode, Hanford’s managers deliberately released large amounts of radioactivity into the atmosphere for experimental purposes (D’Antonio, 1993; Gerber, 1992; Kinsella, 2001; Kinsella & Mullen, 2007). Meanwhile, nuclear workers received few disclosures regarding the hazards that accompanied their daily tasks (Gerber, 1992; Hales, 1997). Hanford was only one setting for this massive assimilation by a system that comprised, by the end of the Cold War, ‘‘more than 300 scientific and industrial sites employing more than 650,000 people’’ (Taylor, Kinsella, Depoe, & Metzler, 2005, p. 366). The nuclear system enframed nature through calculated processes of uranium mining and enrichment, conversion of uranium to plutonium in reactors, and extraction of plutonium from irradiated reactor fuel. Those processes culminated in the forcible production of energy from uranium and plutonium in two direct attacks on human populations and over 1,000 explosive tests, some of which distributed fallout over vast regions. This huge organizational effort (cf. Rhodes, 1986, 1995) would not have been possible without the extension of the calculability principle into human resource management through increasingly rationalized methods of accounting, scheduling, and industrial planning. Thus, the dominant organizational paradigms of the early and mid-twentieth century, ‘‘scientific management’’ and ‘‘human resources,’’ facilitated the production of a standing reserve that encompassed both nature and people. An anecdote provided by the physicist Edward Teller (2001) illustrates the enormous scale of this program, and inadvertently, its Heideggerian character as a standing reserve. According to Teller, his colleague Niels Bohr was initially skeptical of the prospects for developing nuclear weapons, arguing in 1939 that their production would require ‘‘turning the whole country into a huge factory’’ (p. 186). Teller writes that upon arriving in the United States in 1943, Bohr concluded that the Manhattan project had done exactly that.

#### The rapacious drive to secure energy is a symptom of “challenging-forth,” a mindset that renders everything as disposable. Only through rejecting challenging forth and embracing bringing forth can we avoid this hollowing out of Being

Waddington 5 A Field Guide to Heidegger: Understanding 'The Question concerning Technology' more by David Waddington Educational Philosophy and Theory, Vol. 37, No. 4, 2005 http://concordia.academia.edu/DavidWaddington/Papers/538046/A\_Field\_Guide\_to\_Heidegger\_Understanding\_The\_Question\_concerning\_Technology

Most essays on technology focus primarily on practical issues surrounding the use of particular technologies . Heidegger’s essay, however, does not—instead, it focuses on the ways of thinking that lie behind technology. Heidegger (1977, p. 3) thinks that by coming to understand these ways of thinking, humans can enter into a ‘free relationship’ with technology. After dismissing the conventional account of technology, which supposedly states that technology is simply a means to an end, Heidegger commences a discussion on ancient craftsmanship. He suggests that the ancient craftsmanship involves the four Aristotelian causes: material, formal, ﬁnal, and efﬁcient. Intuitively, one might think that the efﬁcient cause of a given craft-item (the craftsman) was the most signiﬁcant of the four. However, although the craftsman has an important role in that she unites the four causes by considering each of them carefully, each of the four causes is equally co-responsible for the particular craft-item that is produced. Heidegger comments, ‘The four ways of being responsible bring something into appearance. They let it come forth into presencing’ (1977, p. 9). Appropriately enough, Heidegger names this process bringing-forth . Notably, bringing-forth is not merely a descriptive genus under which the four causes are subsumed—rather, it is a uniﬁed process, ‘a single leading-forth to which [each of the causes] is indebted’ (Lovitt, 1972, p. 46).Heidegger writes that bringing-forth ‘comes to pass only insofar as something concealed comes into unconcealment’ (1977, p. 11). Thus, instead of the craft-item being created by the craftsman, as one would think, it was revealed or unconcealed .In ‘The Thing’, Heidegger comments on the making of a jug, The jug is not a vessel because it was made; rather, the jug had to be made because it is this holding vessel. The making … lets the jug come into its own. But that which in the jug’s nature is its own is never brought about by its making. (1971, p. 168)Clearly, revealing/unconcealing in the mode of bringing-forth contains strong hints of Platonism. Bringing-forth is the mode of revealing that corresponds to ancient craft. Modern technology, however, has its own particular mode of revealing, which Heidegger calls challenging-forth . Thinking in the mode of challenging-forth is very different from thinking in the mode of bringing-forth: when challenging-forth, one sets upon the elements of a situation both in the sense of ordering (i.e. setting a system upon) and in a more rapacious sense (i.e. the wolves set upon the traveler and devoured him). In bringing-forth, human beings were one important element among others in the productive process; in challenging-forth, humans control the productive process. Efﬁciency is an additional important element of thinking in the mode of challeng-ing forth; the earth, for example, is set upon to yield the maximum amount of ore with the minimum amount of effort. Essentially, challenging-forth changes the way we see the world—as Michael Zimmerman pointedly remarks, ‘To be capable of transforming a forest into packaging for cheeseburgers, man must see the forest not as a display of the miracle of life, but as raw material, pure and simple’ (1977, p. 79).Production in the mode of challenging-forth reveals objects that have the status of standing-reserve . Objects that have been made standing-reserve have been reduced to disposability in two different senses of the word: (1) They are disposable in the technical sense; they are easily ordered and arranged. Trees that once stood chaotically in the forest are now logs that can be easily counted, weighed, piled, and shipped. (2) They are also disposable in the conventional sense; like diapers and cheap razors, they are endlessly replaceable/interchangeable and have little value. For the most part, challenging things forth into standing-reserve is not a laudable activity, and thus it makes sense to wonder what drives human beings to think in this way. Heidegger’s answer to this motivational question is unconventional— instead of suggesting that the origins of this motivation are indigenous to human beings, he postulates the existence of a phenomenon that ‘sets upon man to order the real as standing-reserve’ (1977, p. 19). Heidegger calls this mysterious phenomenon enframing ( Ge-stell in German). The word ‘Ge-stell’ gathers together several meanings of the -stellen family of German verbs: in Ge-stell, humans are ordered ( bestellen ), commanded ( bestellen ), and entrapped ( nachstellen ) (Harries 1994,p. 229). Heidegger thinks that our default state is that of being trapped by Ge-stell; this is what he means when he writes, ‘As the one who is challenged forth in this way, man stands within the essential realm of [Ge-stell]. He can never take up a relationship to it only subsequently’ (1977, p. 24; Sallis, 1971, p. 162). According to Heidegger (1977, p. 25), there are different ‘ordainings of destining’ for human beings. Although the default destining is that of Ge-stell, it is possible to choose an alternate road. Heidegger thinks that human beings have been granted the special role of ‘Shepherds of Being’—we have been granted the power to reveal the world in certain ways (Ballard, 1971, p. 60). Trapped in Ge-stell, we tend to reveal things in the mode of challenging-forth, but we can also choose to reveal things in the mode of bringing-forth. Heidegger comments, ‘Placed between these possibilities, man is endangered from out of destining’ (1977, p. 26). However, by carefully considering the ways of thinking that lie behind technology, we can grasp the ‘saving power’. We can realize that we, the Shepherds of Being, have a choice : we can bring-forth rather than challenge-forth. Thus, once we understand the thinking behind technology, we become free to choose our fate—‘… we are already sojourning in the open space of destining’ (Heidegger, 1977, p. 26).

### Solvency

#### Long timeframe – their Kirsch 8 evidence says that we have 100 years before we hit peak nuclear.

#### No nuclear renaissance – global trend.

Mez, Department of Political and Social Sciences, Freie Universitat Berlin, ‘12

[Lutz, “5-7-12, “Nuclear Energy—Any Solution for Sustainability and Climate Protection?”, http://www.sciencedirect.com/science/article/pii/S0301421512003527]

Is the entire world really building nuclear power plants? By no means. According to the IAEA, 63 blocks with a rating of 61,032 MW are currently under construction (see Table 1). The building projects are spread out among fourteen countries: China (26), Russia (10), India (6), South Korea (5), the Ukraine (2), Japan (2), Slovakia (2), Bulgaria (2) and Taiwan (2) and one block each in Argentina, Brazil, Finland, France, and the USA. The World Nuclear Association (WNA) only lists 61 reactors under construction, but another 156 reactors in the category ‘planned.’ Actual development of nuclear technology teaches us, however, that planned reactors by no means automatically move into the category of ‘under construction.’ In 1979, before the Three Mile Island accident in Harrisburg, there were 233 reactors under construction in the world, and over 100 cancellations followed (Schneider, Froggatt, Thomas, 2011). In view of these facts, the metaphor ‘renaissance of nuclear power’ must be viewed as an ideological weapon. Examined more closely, it would appear that nuclear power has even taken a nose-dive in the Western industrialized countries. In the European Union there were 177 reactors in 1989, whereas the IAEA only lists 134 operational reactors in February 2012. Of the 192 members of the United Nations, only 31 countries had nuclear power plants in operation at the beginning of 2012. Three countries (Italy, Kazakhstan and Lithuania) have in the meantime closed down their nuclear power plants, while in Austria a reactor was built in Zwentendorf but never connected to the grid. A similar reactor project is the completed but never fueled Bataan Nuclear Power Plant in the Philippines. The six biggest countries operating nuclear power plants (USA, France, Japan, Russia, Germany and South Korea) include several countries possessing nuclear weapons (USA, France and Russia) and produce three-fourths of total nuclear power. In 2009 nuclear power plants only produced 13.4 percent of electrical power worldwide. This corresponds to 5.8 percent of Total Primary Energy Supply and a little more than two percent of global final energy consumption. In comparison to nuclear power, the potential contribution of renewable energies to easing the strain on the environment and tackling climate change is much higher because they account for 19.5 percent of global power production and more than 12 percent of primary energy production (IEA, 2011). The United States has the most nuclear capacity and generation among the 31 countries in the world that have commercial nuclear power plants. There are currently 104 operational nuclear reactors at 65 nuclear sites in 31 states. Most of the commercial reactors are located east of the Mississippi River, near water sources. Illinois has 11 reactors and the most nuclear capacity. Since 1990, the nuclear power share of the total electricity generation has averaged about 20%. Nuclear generation of electricity has roughly tracked the growth in total electricity output. Between 1985 and 1996, 34 reactors were connected to the grid. In addition, nuclear generation has increased as a result of higher utilization of existing capacity and from technical modifications to increase nuclear plant capacity. In 2007 the American construction site Watts Bar-2 overtook first place for years as far as delays in construction were concerned, replacing the Bushehr nuclear power plant in Iran, for which cement was first poured on 1 May 1975. The construction of Watts Bar-2 began 40 years ago on 1 December 1972, with the project then being frozen in 1985. The company which owns the plant, the Tennessee Valley Authority (TVA), announced in October 2007 that it would complete the reactor at a cost of US-$ 2.5 billion. Connection to the electricity grid is scheduled for August 2012. In August 2009, the U.S. Nuclear Regulatory Commission (NRC) issued an Early Site Permit for two new reactors at Southern Nuclear's Vogtle site. The two new units are the reference plant for the Westinghouse AP1000 pressurized water reactor design. In February 2010, President Obama announced that the DOE had offered a loan guarantee up to 80% of the project estimated cost of $14.5 billion. Southern Nuclear will only have to pay a credit subsidy fee for the $11.6 billion loan. On February 9, 2012, the Nuclear Regulatory Commission (NRC) voted 4 to 1 to issue the Combined Operating License for Vogtle units 3 and 4. This is the first license to be approved in the United States in over 30 years. In the European Union thirteen out of the twenty-seven member states do not produce any nuclear power themselves or have abolished this technology for technical or economic reasons following political decisions. Fourteen EU member states are currently using nuclear energy, while three countries have shut down their nuclear power plants. Two countries decided after Fukushima to phase-out nuclear power and the remaining countries do not have a nuclear energy program. Eight high-risk reactors were closed down in the new accession countries in the expansion of the EU to Eastern Europe, with the EU and other Western donor countries contributing more than one billion Euros to meet the costs of closure. Four reactors are labeled “under construction” in all of Eastern Europe at present, although a series of new nuclear power plants are being planned. In spite of liberalization and partial privatization of the electrical power sector, the completion or construction of new nuclear power plants constitutes a virtually insurmountable financing problem. Looking at the historical development, there were still a total of 134 nuclear power blocks in operation in Europe in February 2012–116 of them in Western Europe and, following the closure of Ignalina nuclear power plant in Lithuania, a total of 18 in Central and Eastern European countries. According to the IAEA, there are two reactor blocks under construction in Western Europe: one in Finland and since December 2007 one in France. Construction of the first so-called European Pressurized Reactor (EPR) with a rating of 1,600 MW began in Olkiluoto, Finland on 12 August 2005. Since then the project has been overshadowed by exploding costs and delays: originally slated for 2009, commercial operation will probably not take place before August 2013 and instead of the originally planned € 3.2 billion, the reactor will cost almost € 6 billion. An EPR is also being built in France. Construction officially commenced on 3 December 2007 and it was expected that it would take 54 months to complete the plant, i.e. by May 2012. According to inspection reports from the supervisory authority ASN, a host of problems have also cropped up here. As a result, the ambitious time schedule cannot be met and connection to the grid is now scheduled for the end of 2016. The three biggest emerging market countries—India, China and Brazil—embarked on their nuclear energy programmes decades ago, but have only partially achieved their goals. Nuclear energy only accounts for a small percentage of electrical power production and the energy supply in these countries. The People's Republic of China has the most ambitious plans for expanding nuclear power, operating sixteen nuclear power plants at present generating 71 TWh, which accounted for 1.8 percent of power production in 2010. As of February 2012, 26 additional nuclear power reactors are under construction. China had an estimated total installed electricity generating capacity of over 1,000 GW at the end of 2011 and will expand to 1,600 GW by 2020. According to China's National Development and Reform Commission the installed nuclear capacity shall be 80 GW (6%) by 2020 and a further increase to 200 GW (16%) by 2030. But following the Fukushima accident, the State Council announced that it would suspend approval for new nuclear power stations and halted work on four approved units. “The announcement marked a significant policy change” (Green-Weiskel, 2011). Nuclear has remained a small fraction of China's total energy mix, because government has given priority to solar and wind for future energy growth. While China has invested the equivalent of about $10 billion per year into nuclear power in recent years, in 2010 it spent twice as much on wind energy alone and some $54.5 billion on all renewables combined. There are several reasons for China to shelve its nuclear industry. China's energy sector is competing with agriculture for water, and the country is not immune to a temblor-triggered disaster. In India 20 smaller reactors are in operation, meeting 2.9 percent of electricity needs, with six more under construction. In Brazil two reactors are in operation, producing 3.2 percent of electrical power, with one additional reactor block under construction. A closer look shows, however, that twelve out of the 63 reactors under construction (see Table 1) were already included in the statistics with the status of “under construction” more than 20 years ago. Construction of the reactor blocks Khmelnitski 3 and 4, for instance, began in the Ukraine as far back as 1986 and 1987. These blocks are listed under the category of “planned” in the WNA statistics, however. Three out of the ten Russian nuclear power plant construction projects also began in 1985 and 1986—recently completed after 25 years under construction was Kalinin 4 in November 2011. The Atucha-2 nuclear power plant in Argentina has been under construction since 1981 and still no date has been set for its commissioning. Construction of both of the blocks in Belene, Bulgaria, began in 1987 and no dates are scheduled when they will be connected to the grid. And construction at Mochovce 3 and 4 in the Slovak Republic started in 1987, with commercial operation scheduled for 2013. This shows that the statistics contain a whole host of unfinished plants. In view of all these facts, it is erroneous to speak of any “global renaissance,” all the more so because such long building periods lead to exorbitant cost overruns which scarcely any bank would finance—unless the financial risk is assumed by a government. The complexity of the licensing procedure as well as the risks involved in a building project of this type should at any rate not be underestimated (Mez et al., 2009).

#### IFRs are bad – don’t solve the waste problem and lead to nuclear terror.

Pearce, reelance author and journalist based in the UK, ‘12

[Fred, serves as environmental consultant for New Scientist magazine and is the author of numerous books, including When The Rivers Run Dry and With Speed and Violence, “Are Fast-Breeder Reactors A Nuclear Power Panacea?”, Yale Environment 360, 7-30-12,

<http://e360.yale.edu/feature/are_fast-breeder_reactors_a_nuclear_power_panacea/2557/>, RSR]

The skeptics include Adrian Simper, the strategy director of the UK’s Nuclear Decommissioning Authority, which will be among those organizations deciding whether to back the PRISM plan. Simper warned last November in an internal memorandum that fast reactors were “not credible” as a solution to Britain’s plutonium problem because they had “still to be demonstrated commercially” and could not be deployed within 25 years. The technical challenges include the fact that it would require converting the plutonium powder into a metal alloy, with uranium and zirconium. This would be a large-scale industrial activity on its own that would create “a likely large amount of plutonium-contaminated salt waste,” Simper said. Simper is also concerned that the plutonium metal, once prepared for the reactor, would be even more vulnerable to theft for making bombs than the powdered oxide. This view is shared by the Union of Concerned Scientists in the U.S., which argues that plutonium liberated from spent fuel in preparation for recycling “would be dangerously vulnerable to theft or misuse.”

#### Nuclear terrorism is likely and causes extinction – security experts agree.

Rhodes 9 (Richard, affiliate of the Center for International Security and Cooperation at Stanford University, Former visiting scholar at Harvard and MIT, and author of “The Making of the Atomic Bomb” which won the Pulitzer Prize in Nonfiction, National Book Award, and National Book Critics Circle Award, “Reducing the nuclear threat: The argument for public safety” 12-14, <http://www.thebulletin.org/web-edition/op-eds/reducing-the-nuclear-threat-the-argument-public-safety>, RSR)

The response was very different among nuclear and national security experts when Indiana Republican Sen. Richard Lugar surveyed PDF them in 2005. This group of 85 experts judged that the possibility of a WMD attack against a city or other target somewhere in the world is real and increasing over time. The median estimate of the risk of a nuclear attack somewhere in the world by 2010 was 10 percent. The risk of an attack by 2015 doubled to 20 percent median. There was strong, though not universal, agreement that a nuclear attack is more likely to be carried out by a terrorist organization than by a government. The group was split 45 to 55 percent on whether terrorists were more likely to obtain an intact working nuclear weapon or manufacture one after obtaining weapon-grade nuclear material. "The proliferation of weapons of mass destruction is not just a security problem," Lugar wrote in the report's introduction. "It is the economic dilemma and the moral challenge of the current age. On September 11, 2001, the world witnessed the destructive potential of international terrorism. But the September 11 attacks do not come close to approximating the destruction that would be unleashed by a nuclear weapon. Weapons of mass destruction have made it possible for a small nation, or even a sub-national group, to kill as many innocent people in a day as national armies killed in months of fighting during World War II. "The bottom line is this," Lugar concluded: "For the foreseeable future, the United States and other nations will face an existential threat from the intersection of terrorism and weapons of mass destruction." It's paradoxical that a diminished threat of a superpower nuclear exchange should somehow have resulted in a world where the danger of at least a single nuclear explosion in a major city has increased (and that city is as likely, or likelier, to be Moscow as it is to be Washington or New York). We tend to think that a terrorist nuclear attack would lead us to drive for the elimination of nuclear weapons. I think the opposite case is at least equally likely: A terrorist nuclear attack would almost certainly be followed by a retaliatory nuclear strike on whatever country we believed to be sheltering the perpetrators. That response would surely initiate a new round of nuclear armament and rearmament in the name of deterrence, however illogical. Think of how much 9/11 frightened us; think of how desperate our leaders were to prevent any further such attacks; think of the fact that we invaded and occupied a country, Iraq, that had nothing to do with those attacks in the name of sending a message.

#### 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.

### Waste

#### **Reprocessing increases the amount of waste.**

Biello 10 (David, Is Reprocessing the Answer to Eliminating Fissile Materials from Bombs and Nuclear Waste? Scientific American, 15 April 2010, http://www.scientificamerican.com/article.cfm?id=is-reprocessing-the-answer-to-eliminating-fissile-materials, da 9-3-12)

But reprocessing can end up producing more waste. According to the DOE, reprocessing spent fuel ends up increasing the total cumulative volume of nuclear waste by more than six times—thanks to more materials being contaminated with plutonium—from a little less than 74,000 cubic meters destined for some form of repository to nearly 460,000 cubic meters. Reprocessing also results in radioactive liquid waste: the French reprocessing plant in La Hague discharges 100 million liters of liquid waste (pdf) into the English Channel each year. "They have polluted the ocean all the way to the Arctic," Makhijani says. "Eleven western European countries have asked them to stop reprocessing."

#### SQUO management of waste mitigates solves – on site storage in dry casks

Lyman, senior staff scientist at the Union of Concerned Scientists’ Global Security Program, and von Hippel, professor of public and international affairs at Princeton University’s Program on Science and Global Security, 8 (Edwin and Frank N., Reprocessing Revisited: The International Dimensions of the Global Nuclear Energy Partnership, Arms Control Association, April 2008, http://www.armscontrol.org/act/2008\_04/LymanVonHippel, da 9-1-12)

In comparison, dry-cask storage of spent fuel, which is being used at U.S. nuclear power plants to handle the overflow from spent fuel storage pools that have reached capacity, is benign. Ninety-five percent of all U.S. spent fuel is at nuclear power plants that will operate for decades longer. At such sites, the added risk from the spent fuel is small in comparison to that from the fuel in the reactor cores and the spent fuel pools. If cooling water is lost to a reactor core, it will begin releasing vaporized fission products within minutes. If cooling water is lost from a spent fuel pond, recently discharged fuel would heat up to ignition temperature with hours. In contrast, the heat from several-year-old spent fuel in dry casks is carried away passively by the convection of the surrounding air. Also, because each dry cask contains only a small fraction of the radioactive material contained in a reactor core or spent fuel pool, even a successful terrorist attack on a dry cask would have a relatively limited impact.

#### Can’t solve waste – illegal dumping

Brook 98 (Daniel, Department of Sociology, San Jose State University, 1998, “Environmental Genocide: Native Americans and Toxic Waste”, American Journal of Economics & Sociology, 57.1, p.105)

Unfortunately, it is a sad but true fact that "virtually every landfill leaks, and every incinerator emits hundreds of toxic chemicals into the air, land and water" (Angel 1991, 3). The U.S. Environmental Protection Agency concedes that "[e]ven if the . . . protective systems work according to plan, the landfills will eventually leak poisons into the environment" (ibid.). Therefore, even if these toxic waste sites are safe for the present generation--a rather dubious proposition at best--they will pose an increasingly greater health and safety risk for all future generations. Native people (and others) will eventually pay the costs of these toxic pollutants with their lives, "costs to which [corporate] executives are conveniently immune" (Parker 1983, 59). In this way, private corporations are able to externalize their costs onto the commons, thereby subsidizing their earnings at the expense of health, safety, and the environment. Sadly, this may not be the worst environmental hazard on tribal lands. Kevin Grover and Jana Walker try "[t]o set the record straight" by claiming that "the bigger problem is not that the waste industry is beating a path to the tribal door [although it is of course doing so]. Rather, it is the unauthorized and illegal dumping occurring on reservations. For most Indian communities the problem of open dumping on tribal lands is of much greater concern than the remote prospect that a commercial waste disposal facility may be sited on a reservation" (Haner 1994, 107).(n3) There are two major categories of people who illegally dump waste on tribal land. They have been called "midnight dumpers" and "native entrepreneurs." Midnight dumpers are corporations and people who secretly dump their wastes on reservations without the permission of tribal governments. Native entrepreneurs are tribal members who contaminate tribal land, without tribal permission, for private profit or personal convenience. Both midnight dumpers and native entrepreneurs threaten Native American tribes in two significant ways: tribal health and safety, and tribal sovereignty. First, toxic waste poses a severe health and safety risk. Some chemical agents cause leukemia and other cancers; others may lead to organ ailments, asthma, and other dysfunctions; and yet others may lead to birth defects such as anencephaly. Toxic waste accomplishes these tragic consequences through direct exposure, through the contamination of the air, land, and water, and through the bioaccumulation of toxins in both plants and animals. And because of what Ben Chavis in 1987 termed "environmental racism," people of color (and poor people) are disproportionately affected by toxic waste. Native Americans are especially hard hit because of their ethnicity, their class, and their unique political status in the United States. A second problem that Native Americans must confront when toxic waste is clumped on their lands is the issue of tribal sovereignty, and more specifically the loss of this sovereignty. "Native American governments retain all power not taken away by treaty, federal statute, or the courts. As an extension of this principle, native governments retain authority over members unless divested by the federal government" (Haner 1994, 109-110). Jennifer Haner, a New York attorney, asserts that illegal dumping threatens tribal sovereignty because it creates the conditions that make federal government intervention on the reservations more likely (ibid., 121). The federal government can use the issue of illegally dumped toxic waste as a pretext to revert to past patterns of paternalism and control over Native American affairs on the reservations; Native Americans are viewed as irresponsible, the U.S. government as their savior.

### Warming

#### IFRs too costly and too long term to solve warming – also trades off with short-term renewable tech that solves better

Cochran, Senior Scientist, Nuclear Program, Natural Resources Defense Council, 9

[Thomas, “Senate Energy and Natural Resources Committee Hearing; To receive testimony on nuclear energy development; Testimony by Thomas Cochran, Senior Scientist, Nuclear Program, Natural Resources Defense Council” March 18, 2009, Congressional Documents and Publications]

B. Spent Fuel Reprocessing. The federal government should not encourage or support commercial spent fuel reprocessing. Putting aside for the moment the serious proliferation and security concerns involved in any future global shift toward reprocessing, it's clear that combating climate change is an urgent task that requires near term investments yielding huge decarbonization dividends on a 5 to 20 year timescale. For thermal reactors, the closed fuel cycle (spent fuel reprocessing and recycling plutonium) is unlikely ever to be less costly than the once-through fuel cycle, even assuming significant carbon controls. But setting aside such near-term cost barriers, commercial viability for a closed fuel cycle employing fast reactors is an even longer-term proposition. So even fervent advocates of nuclear power need to put the reprocessing agenda aside for a few decades, and focus on swiftly deploying and improving the low-carbon energy solutions. Think about it. In pursuit of closing the fuel cycle, the U.S. government could easily spend on the order of $ 150 billion over 15 years just to get to the starting line of large-scale commercialization. But all that spending will not yield one additional megawatt of low-carbon electricity beyond what could be obtained by sticking with the current once-through cycle, much less by investing that $150 billion in renewable and efficient energy technologies. Spent-fuel reprocessing, plutonium recycle, and fast reactor waste transmutation are currently uneconomical, higher-risk, 100-year answers to an urgent climate question that now requires low-risk 5 to 20 year solutions. For now, Congress and the new Administration should terminate funding for the Global Nuclear Energy Partnership (GNEP) and its associated efforts to close the nuclear fuel cycle and introduce fast burner reactors in the United States. At any point along the way, Mr. Chairman, we can revisit this issue to assess whether there may be truly disruptive innovations in nuclear technology that would alter this negative assessment, and induce us to view closing the fuel cycle as a more costeffective pathway to decarbonization than the host of cheaper alternatives we have available to us today.

#### Tech adaptation solves ice age.

Hansen, head of NASA Goddard Institute and professor of Environmental Sciences, Columbia University , ‘7

[James, Head of the NASA Goddard Institute for Space Studies in New York City and adjunct professor in the Department of Earth and Environmental Science at Columbia University. Al Gore’s science advisor. Briefing http://arxiv.org/pdf/0706.3720, “How Can We Avert Dangerous Climate Change?” delivered as a private citizen to the Select Committee on Energy Independence and Global Warming, United States House of Representatives, revised 25 June 2007]

Thus the natural tendency today, absent humans, would be toward the next ice age, albeit the tendency would not be very strong because the eccentricity of the Earth’s orbit is rather small (0.017). However, another ice age will never occur, unless humans go extinct. Although orbital changes are the ‘pacemaker’ of the ice ages, the two mechanisms by which the Earth becomes colder in an ice age are reduction of the long-lived GHGs and increase of ice sheet area. But these natural mechanisms are now overwhelmed by human-made emissions, so GHGs are skyrocketing and ice is melting all over the planet. Humans are now in control of global climate, for better or worse. An ice age will never be allowed to occur if humans exist, because it can be prevented by even a ‘thimbleful’ of CFCs (chlorofluorocarbons), which are easily produced.

#### No extinction from warming

Barrett 7, professor of natural resource economics – Columbia University

(Scott, Why Cooperate? The Incentive to Supply Global Public Goods, introduction)

First, climate change does not threaten the survival of the human species.5 If unchecked, it will cause other species to become extinction (though biodiversity is being depleted now due to other reasons). It will alter critical ecosystems (though this is also happening now, and for reasons unrelated to climate change). It will reduce land area as the seas rise, and in the process displace human populations. “Catastrophic” climate change is possible, but not certain. Moreover, and unlike an asteroid collision, large changes (such as sea level rise of, say, ten meters) will likely take centuries to unfold, giving societies time to adjust. “Abrupt” climate change is also possible, and will occur more rapidly, perhaps over a decade or two. However, abrupt climate change (such as a weakening in the North Atlantic circulation), though potentially very serious, is unlikely to be ruinous. Human-induced climate change is an experiment of planetary proportions, and we cannot be sur of its consequences. Even in a worse case scenario, however, global climate change is not the equivalent of the Earth being hit by mega-asteroid. Indeed, if it were as damaging as this, and if we were sure that it would be this harmful, then our incentive to address this threat would be overwhelming. The challenge would still be more difficult than asteroid defense, but we would have done much more about it by now.

#### No direct correlation between warming and biodiversity loss – their models are wrong

Stockwell ’12 (4/21/12 – with the San Diego Computer Center at the University of California, David, “Errors of Global Warming Effects Modeling” <http://landshape.org/enm/errors-of-global-warming-effects-modeling/>)

Among those believing gross scientific inaccuracies are not justified, and such attitudes diminish the standing of scientists, I was invited to a meeting of a multidisciplinary group of 19 scientists, including Dan Bodkin from UC Santa Barbara, mathematician Matt Sobel, Craig Loehle and others at the Copenhagen base of BjÃ¸rn Lomborg, author of The Skeptical Environmentalist. This resulted in Forecasting the Effects of Global Warming on Biodiversity published in 2007 BioScience. We were particularly concerned by the cavalier attitude to model validations in the Thomas paper, and the field in general: Of the modeling papers we have reviewed, only a few were validated. Commonly, these papers simply correlate present distribution of species with climate variables, then replot the climate for the future from a climate model and, finally, use one-to-one mapping to replot the future distribution of the species,without any validation using independent data. Although some are clear about some of their assumptions (mainly equilibrium assumptions), readers who are not experts in modeling can easily misinterpret the results as valid and validated. For example, Hitz and Smith (2004) discuss many possible effects of global warming on the basis of a review of modeling papers, and in this kind of analysis the unvalidated assumptions of models would most likely be ignored. The paper observed that few mass extinctions have been seen over recent rapid climate changes, suggesting something must be wrong with the models to get such high rates of extinctions. They speculated that species may survive in refugia, suitable habitats below the spatial scale of the models. Another example of an unvalidated assumptions that could bias results in the direction of extinctions, was described in chapter 7 of my book Niche Modeling. Claims that 20th-century warming is ‘exceptional’ rely on selection of so-called temperature ‘proxies’ such as tree rings, and statistical tests of the significance of changes in growth. I modelled the proxy selection process here and showed you can get a hockey stick shape using random numbers (with serial correlation). When the numbers trend, and then are selected based on correlation with recent temperatures, the result is inevitably ‘hockey stick’ shaped: i.e. with a distinct uptick where the random series correlated with recent temperatures, and a long straight shaft as the series revert back to the mean. My reconstruction was similar to many other reconstructions with low variance medieval warm period (MWP).

#### Nuclear power increase CFCs which contribute more to warming than carbon dioxide and depletes the ozone.

Stein, Chairman of Three Mile Island Alert Inc., ‘8

[Eric Joseph, “The "Brown Side" of Nuclear Power,”

http://www.depweb.state.pa.us/ news/cwp/view.asp?A=3&Q=501756]

Nuclear advocates argue that the problem of greenhouse gases can be solved by nuclear power plants which do not emit carbon dioxide - at the point of production. What they don¹t tell you is what happens to the nuclear wonder pill before it is magically transformed into green penicillin. The nuclear-carbon shell game only works if you ignore the environmental cost on the "front end" of nuclear power production. From the moment uranium is mined - then milled, enriched, fabricated and transported - it releases large of airborne pollutants. How much? Glad you asked. The enrichment of uranium at the Paducah Gaseous Diffusion plant releases massive amounts of chlorofluorocarbons (CFCs) which are more damaging as a global warmer than carbon dioxide. Nuclear fuel production in America creates at least 800,000 pounds of CFCs annually. CFCs remain the primary agent for stratospheric ozone depletion. The industry's official strategy to reduce CFC emissions was to close its Portsmouth enrichment plant and eliminate "roughly half as many miles of leaky pipes." The Ohio fuel plant is closed, but is undergoing a massive site cleanup to recover uranium, treat and isolate contaminated water and sewage, and decontaminate and remove miles of radioactive tubes, pipes and equipment. The production of fuel for nuclear reactors is extremely energy intensive. The Paducah plant, which is currently the plant is also undergoing a $191 million cleanup, requires the electrical output of two 1000-megawatt carbon dioxide producing, coal-fired plants.

#### Independently, Ozone depletion causes extinction.

Williams, Author of Tetron Natural Unified Field Theory, ‘96

[David Crockett, “THE SCIENTIFIC SPIRITUAL REVOLUTION”, 2-7-96,

http://www.angelfire.com/on/GEAR2000/video96.htmls]

Today all life on earth is threatened by many problems associated with the materialistic and shortsighted human activities out of harmony with nature that have led to an oxygen crisis from massive deforestation and fossil fuel combustion which has created global warming responsible for increased weather extremes, flooding, droughts, disease vectors, etc., and an ozone layer depletion that threatens all life on earth by the imminent destruction of the ocean's phytoplankton which produce over half of earth's oxygen and form the beginning of the oceanic food chain. Nuclear testing has caused lasting increases in seismic and volcanic activity, explainable by free energy science, which threatens cataclysmic earth changes. The danger of nuclear conflagration still exists. All these conditions have been predicted independently by many different religious prophecies since many hundreds of years ago. How can this be understood and resolved?

#### Nuclear power produces heat emissions which exacerbate global warming

Science Daily 9 (July 13th, Trapping Carbon Dioxide Or Switching To Nuclear Power Not Enough To Solve Global Warming Problem, Experts Say, http://www.sciencedaily.com/releases/2009/07/090713085248.htm)

Attempting to tackle climate change by trapping carbon dioxide or switching to nuclear power will not solve the problem of global warming, according to energy calculations published in the July issue of the International Journal of Global Warming. Bo Nordell and Bruno Gervet of the Department of Civil and Environmental Engineering at Luleå University of Technology in Sweden have calculated the total energy emissions from the start of the industrial revolution in the 1880s to the modern day. They have worked out that using the increase in average global air temperature as a measure of global warming is an inadequate measure of climate change. They suggest that scientists must also take into account the total energy of the ground, ice masses and the seas if they are to model climate change accurately. The researchers have calculated that the heat energy accumulated in the atmosphere corresponds to a mere 6.6% of global warming, while the remaining heat is stored in the ground (31.5%), melting ice (33.4%) and sea water (28.5%). They point out that net heat emissions between the industrial revolution circa 1880 and the modern era at 2000 correspond to almost three quarters of the accumulated heat, i.e., global warming, during that period. Their calculations suggest that most measures to combat global warming, such as reducing our reliance on burning fossil fuels and switching to renewables like wind power and solar energy, will ultimately help in preventing catastrophic climate change in the long term. But the same calculations also show that trapping carbon dioxide, so-called carbon dioxide sequestration, and storing it deep underground or on the sea floor will have very little effect on global warming. "Since net heat emissions accounts for most of the global warming there is no or little reason for carbon dioxide sequestration," Nordell explains, "The increasing carbon dioxide emissions merely show how most net heat is produced. The "missing" heat, 26%, is due to the greenhouse effect, natural variations in climate and/or an underestimation of net heat emissions, the researchers say. These calculations are actually rather conservative, the researchers say, and the missing heat may be much less. The researchers also point out a flaw in the nuclear energy argument. Although nuclear power does not produce carbon dioxide emissions in the same way as burning fossil fuels it does produce heat emissions equivalent to three times the energy of the electricity it generates and so contributes to global warming significantly, Nordell adds.

## 2NC

### CP

#### And, if we win that our counterplan solves the aff, it accesses their entire ethics framework. It’s irresponsible to refuse our CP if it solves the aff and we have a net-benefit.

John Finnis, Professor of Law & Legal Philosophy, 1980, Natural Law and Natural Rights, p. 111-2

The sixth requirement has obvious connections with the fifth, but introduces a new range of problems for practical reason, problems which go to the heart of ‘morality’. For this is the requirement that one bring about good in the world (in one’s own life and the lives of others) by actions that are efficient for their (reasonable) purpose(s). One must not waste one’s opportunities by using inefficient methods. One’s actions should be judged by their effectiveness, by their fitness for their purpose, by their utility, their consequences… There is a wide range of contexts in which it is possible and only reasonable to calculate, measure, compare, weigh, and assess the consequences of alternative decisions. Where a choice must be made it is reasonable to prefer human good to the good of animals. Where a choice must be made it is reasonable to prefer basic human goods (such as life) to merely instru­mental goods (such as property). Where damage is inevitable, it is reasonable to prefer stunning to wounding, wounding to maiming, maiming to death: i.e. lesser rather than greater damage to one-and-the-same basic good in one-and-the-same instantiation. Where one way of participating in a human good includes both all the good aspects and effects of its alternative, and more, it is reasonable to prefer that way: a remedy that both relieves pain and heals is to be preferred to the one that merely relieves pain. Where a person or a society has created a personal or social hierarchy of practical norms and orienta­tions, through reasonable choice of commitments, one can in many cases reasonably measure the benefits and disadvantages of alternatives. (Consider a man who ha decided to become a scholar, or a society that has decided to go to war.) Where one is considering objects or activities in which there is reasonably a market, the market provides a common de­nominator (currency) and enables a comparison to be made of prices, costs, and profits. Where there are alternative techniques or facilities for achieving definite objectives, cost-benefit analysis will make possible a certain range of reasonable comparisons between techniques or facilities. Over a wide range of preferences and wants, it is reasonable for an individual or society to seek to maximize the satisfaction of those preferences or wants.

#### Propulsion technology is viable and cost effective

**Patel 11**—Prachi Patel, Astrobiology Magazine, Internally Qualified, 1/21/2011 ("Laser Propulsion Could Beam Rockets into Space," Space.com, Accessed online at http://www.space.com/10658-laser-rocket-propulsion-technology.html, Accessed on 9/6/11)

Space launches have evoked the same image for decades: bright orange flames exploding beneath a rocket as it lifts, hovers and takes off into the sky. But an alternative propulsion system proposed by some researchers could change that vision. Instead of explosive chemical reactions onboard a rocket, the new concept, called beamed thermal propulsion, involves propelling a rocket by shining laser light or microwaves at it from the ground. The technology would make possible a reusable single-stage rocket that has two to five times more payload space than conventional rockets, which would cut the cost of sending payloads into low-Earth orbit. NASA is now conducting a study to examine the possibility of using beamed energy propulsion for space launches. The study is expected to conclude by March 2011. In a traditional chemical rocket propulsion system, fuel and oxidizer are pumped into the combustion chamber under high pressure and burnt, which creates exhaust gases that are ejected down from a nozzle at high velocity, thrusting the rocket upwards. A beamed thermal propulsion system would involve focusing microwave or laser beams on a heat exchanger aboard the rocket. The heat exchanger would transfer the radiation's energy to the liquid propellant, most likely hydrogen, converting it into a hot gas that is pushed out of the nozzle. "The basic idea is to build rockets that leave their energy source on the ground," says Jordin Kare, president of Kare Technical Consulting, who developed the laser thermal launch system concept in 1991. "You transmit the energy from the ground to the vehicle." With the beam shining on the vehicle continually, it would take 8 to 10 minutes for a laser to put a craft into orbit, while microwaves would do the trick in 3 to 4 minutes. The vehicle would have to be designed without shiny surfaces that could reflect dangerous beams, and aircraft and satellites would have to be kept out of the beam's path. Any launch system would be built in high-altitude desert areas, so danger to wildlife shouldn't be a concern, Kare says. Thermal propulsion vehicles would be safer than chemical rockets since they can't explode and don't drop off pieces as they fly. They are also smaller and lighter because most of the complexity is on the ground, which makes them easier and cheaper to launch. "People can launch small satellites for education, science experiments, engineering tests, etc. whenever they want, instead of having to wait for a chance to share a ride with a large satellite," Kare says. Another cost advantage comes from larger payload space. While conventional propulsion systems are limited by the amount of chemical energy in the propellant that's released by combustion, in beamed systems you can add more energy externally. That means a spacecraft can gain a certain momentum using less than half the amount of propellant of a conventional system, allowing more room for the payload. "Usually in a conventional rocket you have to have three stages with a payload fraction of three percent overall," says Kevin Parkin, leader of the Microwave Thermal Rocket project at the NASA Ames Research Center. "This propulsion system will be single stage with a payload fraction of five to fifteen percent." Having a higher payload space along with a reusable rocket could make beamed thermal propulsion a low-cost way to get material into low Earth orbit, Parkin says. Parkin developed the idea of microwave thermal propulsion in 2001 and described a laboratory prototype in his 2006 Ph.D. thesis. A practical real-world system should be possible to build now because microwave sources called gyrotrons have transformed in the last five decades, he says. One megawatt devices are now on the market for about a million U.S. dollars. "They're going up in power and down in cost by orders of magnitude over the last few decades," he says. "We've reached a point where you can combine about a hundred and make a launch system." Meanwhile, the biggest obstacle to using lasers to beam energy has been the misconception that it would require a very large, expensive laser, Kare says. But you could buy commercially available lasers that fit on a shipping container and build an array of a few hundred. "Each would have its own telescope and pointing system," he says. "The array would cover an area about the size of a golf course." The smallest real laser launch system would have 25 to 100 megawatts of power while a microwave system would have 100 to 200 megawatts. Building such an array would be expensive, says Kare, although similar to or even less expensive than developing and testing a chemical rocket. The system would make most economic sense if it was used for at least a few hundred launches a year. In addition, says Parkin, "the main components of the beam facility should last for well over ten thousand hours of operation, typical of this class of hardware, so the savings can more than repay the initial cost." In the near term, beamed energy propulsion would be useful for putting microsatellites into low Earth orbit, for altitude changes or for slowing down spacecraft as they descend to Earth. But the technology could in the future be used to send missions to the Moon or to other planets and for space tourism.

#### Laser propulsion technology is effective, safe, and cheaper than geological disposal.

**Kare**, PhD in Astrophysics, **90** [Jordin T. Kare, “GROUND-TO-ORBITLASER PROPULSION ADVANCED APPLICATIONS” www.osti.gov/bridge/servlets/purl/6203669-Uxrfwv/6203669.pdf]

Unlike weight- and volume-limited conventional systems, a laser launcher could potentially handle unprocessed or minimally-processed waste. This minimizes boda radiation and toxic chemical hazards on the ground, and is therefore crucial to an economical system. A laser system could even be cheaper than geological disposal, because there would be less handling (separation, glassification) of waste. Lasers can launch waste directly to any desirable disposal site -- the Lunar surface, interplanetary space, or deep space (solar escape). The required delta-V's are roughly 11 to 15 km/s, beyond the capability of any single-stage chemical rocket or proposed cannon launcher. Laser propulsion could even launch payloads directly into the Sun, at 30 km/s delta-V. The precision guidance and flexible launch direction of a laser system could allow dumping payloads into, e.g., a selected lunar crater, for future recovery if desired. Very small laser propulsion payloads could present problems of shielding (to protect both launch-site workers and possible crash site bystanders) and safe any-angle reentry [11]. However, some problems of laser propulsion, such as launch delays due to weatller, are not important as long as the total mass launched is constant and the reliability is high.

#### Prefer our modeling—the Hadley Center model puts the rest to shame.

Olive Heffernan, February 2010. Editor of Nature Reports Climate Change. “Earth science: The climate machine,” Nature 463, 1014-1016.

This massive supercomputer at the UK Met Office in Exeter is home to what is possibly the world's most sophisticated climate model. Developed by researchers at the Hadley Centre, the Met Office's climate-change branch, the newly finished model will be put to its first big test over the coming months. It will run a series of climate simulations out to the year 2100 for the next report of the Intergovernmental Panel on Climate Change (IPCC), on the physical-science basis of climate change, which is due out in 2013.¶ Four years in the making, the model is known as HadGEM2-ES, short for the Hadley Centre Global Environmental Model, version two, with an added Earth-system component. It is one of a dozen Earth-system models under development worldwide that reach far beyond their distant forebears, which represented just the physical elements of the climate, such as air, sunlight and water. The new generation includes all that and much more: forests that can shrink or spread as conditions change; marine food webs that react as the oceans grow more acidic with carbon dioxide; aerosol particles in the atmosphere that interact with greenhouse gases, enhancing or sapping their warming power.¶ The Hadley Centre is at the forefront of efforts around the world to develop such complex climate models. "It's really pushing the envelope", says Andrew Weaver, a climate modeller at the University of Victoria in British Columbia, Canada.

#### Climate commitment means warming would be unmasked.

K. C. Armour 1 and G. H. Roe 2, 2010. 1Department of Physics, University of Washington, Seattle,; and 2Department of Earth and Space Sciences, University of Washington, Seattle. “Climate commitment in an uncertain world,” Geophysical Research Letters 38, L01707, 5 PP.

Climate commitment—the warming that would still occur given no further human influence—is a fundamental metric for both science and policy. It informs us of the min- imum climate change we face and, moreover, depends only on our knowledge of the natural climate system. Studies of the climate commitment due to CO2 find that global temperature would remain near current levels, or even decrease slightly, in the millennium following the cessation of emissions. However, this result overlooks the important role of the non-CO2 greenhouse gases and aerosols. This paper shows that global energetics require an immediate and significant warming following the cessation of emissions as aerosols are quickly washed from the atmosphere, and the large uncertainty in current aerosol radiative forcing implies a large uncertainty in the climate commitment. Fundamental constraints preclude Earth returning to pre-industrial temperatures for the indefinite future. These same constraints mean that observations are currently unable to eliminate the possibility that we are already beyond the point where the ultimate warming will exceed dangerous levels. Models produce a narrower range of climate commitment, but under- sample observed forcing constraints.

#### Short lifetime means SO2 reductions would immediately cause warming.

Zeke Hausfather, 6/24/2008. MA Environmental Management @ Yale, Chief Scientist and Executive Vice President of Energy at Efficiency 2.0. “Why Reducing Sulfate Aerosol Emissions Complicates Efforts to Moderate Climate Change,” Yale Climate Forum, http://www.yaleclimatemediaforum.org/2008/06/common-climate-misconceptions-why-reducing-sulfate-aerosol-emissions-complicates-efforts-to-moderate-climate-change/.

A reduction of anthropogenic SO2 of around 50 percent worldwide over the next century, as projected in the most recent IPCC report, would result in a significant warming effect on the global climate. Sulfates are extremely short-lived particles, and emission reductions would have immediate effects on radiative forcing. A 50 percent reduction in sulfate aerosol emissions would reduce by half their current radiative forcing of -0.83 W m-2. This change in forcings would increase global temperatures by roughly 0.36 degrees C (.64 F) relative to a scenario where aerosol emissions remain constant.¶ Figure three below shows the practical implications of a reduction in aerosols in the next century. If current greenhouse gas concentrations remain constant at current levels, scientists project about 1.34 degrees C (2.41 F) warming relative to pre-industrial temperatures by the end of the century (the world has already warmed 0.74 degrees C (1.33 F) in the past century, and 0.60 degrees C (1.08F) additional warming is in the pipeline as a result of Earth’s thermal inertia). A reduction of anthropogenic atmospheric sulfate aerosols by 50 percent means that 1.34 degrees C (2.41 F) warming suddenly becomes 1.70 degrees C (3.06 F).

#### More IPCC models show that aerosols are masking more than half of GHG warming—reduction in emissions would cause a doubling of warming, above 2-degrees, within decades.

V. Ramanathan\* and Y. Feng, 9/23/2008. Scripps Institution of Oceanography, University of California at San Diego. “On avoiding dangerous anthropogenic interference with the climate system: Formidable challenges ahead,” PNAS 105.38, 14245-14250, www.pnas.org/content/105/38/14245.full.pdf.

IPCC (12) recommends a climate sensitivity of 3°C (2–4.5°C) warming for a doubling of CO2. The radiative forcing (i.e., additional energy trapped) caused by CO2 doubling is 3.7 Wm􏲐2 (11). Thus it takes 􏲏1.2 Wm􏲐2 (0.8–1.9) of forcing to warm the planet by 1°C. The preindustrial to present (year 2005) GHGs forcing is 3 (2.6 to 3.5) Wm􏲐2 (Fig. 2). It then follows that the expected warming caused by the 3 Wm􏲐2 forcing is 2.4°C (1.4–4.3°C), i.e., if the only anthropogenic climate forcing on the planet is caused by the build-up of GHGs and even if we prevent further increases in the GHGs beyond their 2005 levels, the planetary warming (since the preindustrial era) would reach 2.4°C (1.4–4.3°C). The probability distribution of this committed warming, determined by the uncertainty of the current understanding in climate feed- back processes (7), is shown in Fig. 1. Why have we not seen this large warming? First, we have to consider the effect of aerosols, which start off as urban haze or rural smoke and ultimately be- come transcontinental and transoceanic plumes of ABCs (17) consisting of sulfate, nitrate, hundreds of organics, black carbon, soil dust, fly ash, and other aerosols (11). ABCs have masked GHG warming by enhancing the albedo (per- cent of incoming solar radiation reflected back to space) of the planet. A recent review of available literature (18) estimates the masking effect of ABCs to be 􏲏47% (􏲐1.4 Wm􏲐2) with a 90% confidence interval of 20–80%. The IPCC-AR4 (11) value for the masking is 40% (see Fig. 2). Effectively, the forcing ‘‘felt’’ by the climate system is only 53%, i.e., 1.3°C, which is identical to CEW􏲘G􏲑A, the committed warming adapted by earlier studies (13–15). About 8% of the committed warming (0.2°C) is compensated by increases in the surface albedo because of land-use changes; 􏲏20% (0.5°C) is delayed by the thermal inertia of the oceans (14, 15) and it is only the balance of 􏲏25%, i.e., 0.6°C, that should by now have manifested as observed warming (14). This algebraic exercise demonstrates that the observed surface warming of 0.76°C (since the latter half of 1800s) (12) is not inconsistent with the committed warming of 2.4°C.¶ The fundamental deduction (subject to the assumption of IPCC climate sensitivity) is that if we get rid of the ABCs today the Earth could warm another 1.6°C (which includes the delayed warming caused by ocean thermal inertia) unless we act now to reduce GHG concentrations. As shown by coupled ocean atmosphere models used in IPCC (14, 15), 50% of this warming can happen in few decades, and most of the balance will manifest during the course of this century. The situation with respect to sea-level rise is considerably more complex. Sea-level rise caused by thermal expansion (in the range of 10 to 30 cm per century; see refs. 13 and 14) is likely to continue for centuries (even if the warming asymptotes to values close to CEW􏲘G by 2100) because of the time required for mixing of the heating to deeper oceans. In addition, the range of CEW􏲘G (1.4—4.3°C) raises another major DA I-related issue. As suggested by the IPCC (12) the Greenland Ice Sheet can disappear completely if surface warming is maintained in excess of¶ 1.9—4.6°C for millennia and raise sea level by 7 m or more.

### Solve

#### No nuclear renaissance – gas prices, tech problems, public resistance, construction and cost delays

Wasserman, author or co-author of a dozen books, 10-29 (Harvey, The Rust-Bucket Reactors Start to Fall, Huffington Post, 29 October 2012, http://www.huffingtonpost.com/harvey-wasserman/us-nuclear-plants\_b\_2016046.html, da 11-8-12)

The U.S. fleet of 104 deteriorating atomic reactors is starting to fall. The much-hyped "nuclear renaissance" is now definitively headed in reverse.¶ The announcement that Wisconsin's Kewaunee will shut next year will be remembered as a critical dam break. Opened in 1974, Kewaunee has fallen victim to low gas prices, declining performance, unsolved technical problems and escalating public resistance.¶ Many old U.S. reactors are still profitable only because their capital costs were forced down the public throat during deregulation, through other manipulations of the public treasury, and because lax regulation lets them operate cheaply while threatening the public health.¶ But even that's no longer enough. Dominion Energy wanted a whole fleet of reactors, then backed down and couldn't even find a buyer for Kewaunee. As the company put it: "the decision" to shut Kewaunee "was based purely on economics. Dominion was not able to move forward with our plan to grow our nuclear fleet in the Midwest to take advantage of economies of scale". Ironically, Kewaunee was recently given a license extension by the Nuclear Regulatory Commission.¶ Though Kewaunee may become the first U.S. reactor to shut in more than a decade, it won't be the last:¶ Two reactors at San Onofre, between Los Angeles and San Diego, are down with massive steam generator problems. The potential cost of restarting them could easily run into the hundreds of millions. A new leak of hydrogen gas has just complicated the situation as public hearings have drawn large, angry crowds demanding the reactors not reopen.¶ Repairs to Florida's Crystal River have been so thoroughly botched by Progress Energy that holes in the containment may cost $2 billion or more to fix. Odds are strong this reactor will never operate again.¶ Official reports now confirm that Nebraska's Cooper and Ft. Calhoun reactors are at considerable risk from flooding. One or both may soon face decommissioning.¶ A fierce public confrontation over Entergy's leaky, accident-prone Vermont Yankee may soon bring it down. Vermont's governor and legislature have voted to deny permits necessary under state law, but Entergy has gone to the courts to prolong its operation.¶ A parallel confrontation at Entergy's Indian Point may turn on whether the state's denial of water permits could force shut a reactor just 35 miles north of Manhattan. That the first plane to hit the World Trade Center flew directly over Indian Point has been a source of serious public tension since 9/11/2001.¶ New Jersey's Oyster Creek is slated to shut by 2019 as a compromise forced by the state's demand that it add cooling towers to avoid further thermal damage to local marine eco-systems. But this dangerously decrepit reactor could go down early due to technical, economic and political pressures.¶ Ohio's infamous "hole-in-the-head" reactor at Davis-Besse continues to operate with a compromised containment and a long list of unresolved technical problems. Like Kewaunee, its economic future has been darkened by cheap natural gas.¶ The list of other reactors with immediate technical, economic and political challenges is long and lethal. The world still has no place for high-level radioactive waste. Renewable energy prices continue to drop while projected cost estimates for new reactors soar out of control -- here, in Finland, France and elsewhere. The two reactors under construction in Georgia, along with two in South Carolina, are all threatened by severe delays, massive cost overruns and faulty construction scandals, including the use of substandard rebar steel and inferior concrete, both of which will be extremely costly to correct.¶ A high-priced PR campaign has long hyped a "nuclear renaissance." But in the wake of Fukushima, a dicey electricity market, cheap gas and the failure to secure federal loan guarantees in the face of intensifying public opposition, the bottom may soon drop out of both projects. A proposed French-financed reactor for Maryland has been cancelled thanks to a powerful grassroots campaign. Any other new reactor projects will face public opposition and economic pitfalls at least as powerful.¶ The announcement that Kewaunee will shut could send the U.S. fleet into free fall. Richard Nixon promised the U.S. a thousand reactors by the year 2000. But in fact there were 104. And with the needle now dropping, it's clear the "Peaceful Atom" is on its way out.¶ The decline is worldwide. China may still be weighing more reactor construction, as are Russia and South Korea. But public resistance has vastly escalated in India. Virtually all of Europe is abandoning the technology, with Germany leading the way to a green-powered future.¶ A fuel pool laden with radioactive rods still hangs precariously in the air at Fukushima, casting an even harsher light on the two dozen GE reactors of similar design still operating here. All but two of Japan's reactors remain shut while an angry debate rages over whether any of the rest will ever reopen.¶ Should the very pro-nuclear Mitt Romney win here in November, another surge may come aimed at reviving this industry. But the mountains of money, litany of technical fixes and heavy political costs that would be required are staggering to say the least.¶ In the long run, the real worry is that one or more of these old reactors might just blow before we can get them decommissioned. In that light, the shut-down of Kewaunee and the rest of its aging siblings can't come soon enough.

### Warming

#### Here’s more evidence – fast reactors are not viable for commercial use,

Cochran 9

[Thomas, Senior Scientist, Nuclear Program, Natural Resources Defense Council, “Senate Energy and Natural Resources Committee Hearing; To receive testimony on nuclear energy development; Testimony by Thomas Cochran, Senior Scientist, Nuclear Program, Natural Resources Defense Council” March 18, 2009, Congressional Documents and Publications]

B. Spent Fuel Reprocessing. The federal government should not encourage or support commercial spent fuel reprocessing. Putting aside for the moment the serious proliferation and security concerns involved in any future global shift toward reprocessing, it's clear that combating climate change is an urgent task that requires near term investments yielding huge decarbonization dividends on a 5 to 20 year timescale. For thermal reactors, the closed fuel cycle (spent fuel reprocessing and recycling plutonium) is unlikely ever to be less costly than the once-through fuel cycle, even assuming significant carbon controls. But setting aside such near-term cost barriers, commercial viability for a closed fuel cycle employing fast reactors is an even longer-term proposition. So even fervent advocates of nuclear power need to put the reprocessing agenda aside for a few decades, and focus on swiftly deploying and improving the low-carbon energy solutions. Think about it. In pursuit of closing the fuel cycle, the U.S. government could easily spend on the order of $ 150 billion over 15 years just to get to the starting line of large-scale commercialization. But all that spending will not yield one additional megawatt of low-carbon electricity beyond what could be obtained by sticking with the current once-through cycle, much less by investing that $150 billion in renewable and efficient energy technologies. Spent-fuel reprocessing, plutonium recycle, and fast reactor waste transmutation are currently uneconomical, higher-risk, 100-year answers to an urgent climate question that now requires low-risk 5 to 20 year solutions. For now, Congress and the new Administration should terminate funding for the Global Nuclear Energy Partnership (GNEP) and its associated efforts to close the nuclear fuel cycle and introduce fast burner reactors in the United States. At any point along the way, Mr. Chairman, we can revisit this issue to assess whether there may be truly disruptive innovations in nuclear technology that would alter this negative assessment, and induce us to view closing the fuel cycle as a more costeffective pathway to decarbonization than the host of cheaper alternatives we have available to us today.

#### Can’t solve warming in time -- the US would have to start bringing a new reactor online every week.

Alvarez, ‘10

[Robert, Senior Scholar at the Institute for Policy Studies, currently focused on nuclear disarmament, environmental, and energy policies, 2-17, “Five Reasons NOT to Invest in Nuclear Power,” http://www.huffingtonpost.com/robert-alvarez/five-reasons-not-to-inves\_b\_465585.html?]

Assuming that all $54.5 billion in nuclear loan guarantees being sought by Obama are successful -- this will provide less than one percent of the nation's current electrical generating capacity. Replacing the existing fleet of 104 reactors which are expected to shut down by 2056 could cost about $1.4 trillion. Add another $500 billion for a 50% increase above current nuclear generation capacity to make a meaningful impact on reducing carbon emissions. This means the U.S. would have to start bringing a new reactor on line at a rate of once a week to once a month for the next several decades.

#### Nuclear power increases C02 emissions—mining and regeneration make it worse than natural gas.

Olson, Director of the Southeast Office at the Nuclear Information and Resource Service, ‘6

[Mary, 5-3-6, “Confronting a False Myth of Nuclear Power: Nuclear Power Expansion is Not a Remedy for Climate Change”, NIRS,

http://www.nirs.org/climate/background/climatetalk\_mary\_un\_050306.htm]

Nuclear power is being widely promoted as a “solution” to global climate change. Unfortunately nuclear power is not a solution and it is further counterproductive to any real remedy for human impacts on climate.3 Those selling the expansion of nuclear power are on a par with any salesman of counterfeit medicine; one must closely examine the motives of anyone associated with nuclear schemes of any kind.4 In the service of this disinformation campaign U.S. Vice President Cheney has publicly stated5 a falsehood: he asserted that nuclear power is carbon-free. Nuclear power is not free from carbon emissions. A number of recent studies have found that when mining, processing, and extensive transportation of uranium in order to make nuclear fuel is considered, the release of carbon dioxide (CO2) as the result of making electricity from uranium is comparable to burning natural gas to make electric power.6 Additional energy required for decommissioning and disposition of the wastes generated increases this CO2 output substantially.

#### Nuclear power production speeds up warming

Caldicott 6 (Helen, “Nuclear power is not the answer to global warming or anything else”, p.4)

What exactly is nuclear power? It is a very expensive, sophisticated, and dangerous way to boil water. Uranium fuel rods are placed in water in a reactor core, they reach critical mass, and they produce vast quantities of heat, which boils the water. Steam is directed through pipes to turn a turbine, which generates electricity. The scientists who were involved in the Manhattan Project creating nuclear weapons developed a way to harness nuclear energy to generate electricity. Because their guilt was so great, they were determined to use their ghastly new invention to help the human race. Nuclear fission harnessed “atoms for peace,” and the nuclear PR industry proclaimed that nuclear power would provide an endless supply of electricity – referred to as “sunshine units” – that would be good for the environment and “too cheap to meter.” They were wrong. Although a nuclear power plant itself releases no carbon dioxide, the production of nuclear electricity depends upon a vast, complex, and hidden industrial infrastructure that is never featured by the nuclear industry in its propaganda, but that actually releases a large amount of carbon dioxide as well as other global warming gases. One is led to believe that the nuclear reactor stands alone, an autonomous creator of energy. In fact, the vast infrastructure necessary to create nuclear energy, called the nuclear fuel cycle, is a prodigious user of fossil fuel and coal. The production of carbon dioxide (CO2) is one measurement that indicates the amount of energy used in the production of the nuclear fuel cycle. Most of the energy used to create nuclear energy – to mine uranium ore for fuel, to crush and mill the ore, to enrich the uranium, to create the concrete and steel for the reactor, and to store the thermally and radioactively hot nuclear waste – comes from the consumption of fossil fuels, that is coal or oil. When these materials are burned to produce energy, they form CO2 (reflecting coal and oil’s origins in ancient trees and other organic carboniferous material laid down under the earth’s crust millions of years ago). For each ton of carbon burned, 3.7 tons of CO2 gas added to the atmosphere, and this is the source of today’s global warming.

### Waste

#### Morality must take a backseat to the possibility of catastrophic consequences

Stelzig 98 (Tim Stelzig, Attorney Advisor in the Competition Policy Division of the FCC's Wireline Competition Bureau, former associate with Arnold & Porter in Washington, D.C., JD from the University of Pennsylvania Law School, March 1998, University of Pennsylvania Law Review, 146 U. Pa. L. Rev. 901, p. 959)

Rights act as "trumps,"(n3) "side-constraints,"(n4) or "shields"(n5) against the intrusive designs of the utility-maximizing consequenualist,(n6) insulating each person from being sacrificed for the public good. For example, torturing an innocent child is morally impermissible not because it fails to produce the greatest good, but because doing so would violate the child's rights.(n7) Nothing more need be said.(n8) Yet, as Blackstone also realizes, the "local or occasional necessities of the state" sometimes demand that rights be "modified, narrowed, or enlarged."(n9) Bluntly put, sometimes the public good wins out. Rights clearly must give way in catastrophic cases, where harms of colossal proportion will be suffered unless some fight is violated. For example, if stopping a terrorist from launching a salvo of nuclear missiles against China required killing several innocent hostages, it would be undeniably(n10)Libertarians have argued that such a state violates deontological norms, that governmental intervention going beyond what is minimally necessary to preserve social order is not justified.

#### Nuclear waste recycling does not solve on-site waste or Yucca – best case scenario takes decades to solve.

Lester, expert testifying before the House Subcommittee on Energy, 5 (Richard K., The Economics of Reprocessing in the United States, Massachusetts Institute of Technology, 12 July 2005, http://web.mit.edu/ipc/publications/pdf/The\_Economics\_of\_Reprocessing.pdf, da 9-16-12)

A similar point can be made about the waste¶ management implications of reprocessing. The selection¶ of PUREX reprocessing technology would not¶ fundamentally change either the impending problem of¶ inadequate interim spent fuel storage capacity or the¶ problem of finding a suitable site for final waste¶ disposal. The need for additional storage capacity and¶ for a final repository, whether at Yucca Mountain or¶ elsewhere, would still remain.¶ Advanced reprocessing technologies, if coupled with¶ transmutation schemes, could in principle improve the¶ prospects for successful disposal. Such schemes would¶ partition plutonium and other long-lived actinides from¶ the spent fuel – and possibly also certain long-lived¶ fission products – and transmute them into shorter-lived¶ and more benign species. The goals would be to reduce¶ the thermal load on the repository, thereby increasing its¶ storage capacity, and to shorten the time for which the¶ waste must be isolated from the biosphere. It is¶ important for research to continue on advanced fuel¶ cycle technologies potentially capable of achieving these¶ goals will be important to pursue. But even in the best¶ case these technologies are not likely to be available for¶ large-scale deployment for at least two or three decades.¶ Indeed, there is no guarantee that the desired¶ performance objectives could be achieved on any¶ timescale. The eventual economic impact of such¶ schemes cannot now be predicted with confidence. But¶ the strong likelihood is that they would be more costly¶ than conventional PUREX reprocessing and MOX¶ recycle, since they would entail more complex¶ separations processes, more complete recovery of¶ radionuclides, a more complex fuel fabrication process,¶ and the need to transmute a broader array of¶ radionuclides than just the plutonium isotopes.

#### Reprocessing does not solve the waste problem – the level of heat does not change.

Nikitin, et al., ‘10

[Mary (Analyst in Nonproliferation), Anthony Andrews (Specialist in Energy and Energy Infrastructure Policy ) and Mark Holt (Specialist in Energy Policy), “Managing the Nuclear Fuel Cycle: Policy Implications of Expanding Global Access to Nuclear Power”, 3-5-10, CRS Report, RSR]

Removing uranium from spent nuclear fuel through reprocessing would eliminate most of the volume of radioactive material requiring disposal in a deep geologic repository. In addition, the removal of plutonium and conversion to shorter-lived fission products would eliminate most of the long-term (post-1,000 years) radioactivity in nuclear waste. But the waste resulting from reprocessing would have nearly the same short-term radioactivity and heat as the original spent fuel, because the reprocessing waste consists primarily of fission products, which generate most of the radioactivity and heat in spent fuel. Because heat is the main limiting factor on repository capacity, conventional reprocessing would not provide major disposal benefits in the near term.

#### Reprocessing does not solve the waste problem and is more expensive to use.

Saillan, attorney with the New Mexico Environment Department, ‘10

[Charles, Harvard Environmental Law Review, 2010, “DISPOSAL OF SPENT NUCLEAR FUEL IN THE UNITED STATES AND EUROPE: A PERSISTENT ENVIRONMENTAL PROBLEM”, Vol. 34, RSR]

Reprocessing spent nuclear fuel has proven to be very problematic and costly, and it is questionable whether it can be technically and economically practical. First, reprocessing does not solve the high-level waste disposal problem. As we have seen, reprocessing generates a significant volume of highly radioactive and very acidic liquid waste that itself must be managed as high-level radioactive waste. Moreover, although reprocessing reduces the total volume of waste, it does not significantly reduce its heat output, and it is the level of heat, not volume, that determines the capacity of the disposal facility. Consequently, reprocessing does not significantly reduce the size of the repository. 181 Furthermore, the uranium recovered from reprocessing — which comprises about ninety-five percent of the volume of the spent fuel — is presently more expensive to fabricate into fuel than is fresh uranium ore, leading reprocessing countries like France to stockpile recovered uranium instead of using it. 182 Similarly, only a fraction of the recovered plutonium is needed for MOX fuel fabrication, and the surplus may ultimately need to be managed as waste. 183 Finally, once MOX fuel is used in a reactor and becomes “spent,” it is not reprocessed a second time and must eventually be disposed of. 184 Thus, reprocessing does rather little to solve the disposal problem.

## 1NR

### Politics

### Overview

**Open immigration key to US aging transition – solves global aging.**

**Haas, '7** (Political Science Professor -- Duquesne, International Security, Summer)

**The more the U**nited **S**tates **maintains its enviable demographic position** (compared with the other great powers) **and relatively superior ability to pay for the costs of its elderly** population, **the more it will** be able both to **preserve its own position of international power dominance and** to **help other states address their aging** (and other) **problems** when it is in U.S. interests to do so. A critical implication of these facts is that such domestic policies as means-testing Social Security and Medicare payments, raising the retirement age to reflect increases in life expectancies, **maintaining largely open immigration policies to help keep the United States’ median age relatively low,** encouraging individual behaviors that result in better personal health, **and** perhaps above all **restraining the rising costs of its health-care system are critical international security concerns.** A defining political question of the twenty-first century for U.S. international interests is whether U.S. leaders have sufficient political will and wisdom to implement these and related policies. **The more proactive U.S. leaders are in minimizing** the scope of its **aging** population **and** the **costs associated** with it, **the more protected U.S. international interests will be. To ignore these costs, or even to delay** implementing various **reforms designed to limit their size, will jeopardize the level of global influence and security that the U**nited **S**tates enjoys today.

**Multiple nuclear wars.**

**Jackson & Howe, 11** (Senior Fellow – CSIS & Senior Associate – CSIS, http://csis.org/files/publication/110104\_gai\_jackson.pdf)

**A number of demographic storms are now brewing in different parts of the developing world**. The moment of maximum risk still lies ahead—just a decade away, in the 2020s. Ominously, this is the same decade when the developed world will itself be experiencing its moment of greatest demographic stress. Consider China, which may be the first country to grow old before it grows rich. For the past quarter-century, **China has been “peacefully rising,” thanks** in part **to a one-child**-per-couple **policy** that has lowered dependency burdens and allowed both parents to work and contribute to China’s boom. **By** the **2020**s, however, **the huge Red Guard generation**, which was born before the country’s fertility decline, **will move into retirement**, **heavily taxing the** resources of their children and **the state.** **China’s coming age wave**—by 2030 it will be an older country than the United States—**may weaken the t**wo pillars of the current **regime’s legitimacy**: rapidly rising GDP and social stability. Imagine workforce growth slowing to zero while tens of millions of elders sink into indigence without pensions, without health care, and without large extended families to support them. **China could careen toward social collapse**—**or**, in reaction, toward an **authoritarian clampdown**. The arrival of China’s age wave, and the turmoil it may bring, will coincide with its expected displacement of the United States as the world’s largest economy in the 2020s. According to “power transition” theories of global conflict, this moment could be quite perilous. By the 2020s, **Russia**, along with the rest of Eastern Europe, **will be in the midst of an extended population decline** as steep or steeper than any in the developed world. The Russian fertility rate has plunged far beneath the replacement level even as life expectancy has collapsed amid a widening health crisis. Russian men today can expect to live to 60—16 years less than American men and marginally less than their Red Army grandfathers at the end of World War II. By 2050, Russia is due to fall to 16th place in world population rankings, down from 4th place in 1950 (or third place, if we include all the territories of the former Soviet Union). Prime Minister Vladimir Putin flatly calls Russia’s demographic implosion “the most acute problem facing our country today.” **If the problem is not solved, Russia will weaken progressively, raising the nightmarish specter of a** failing or **failed state with nuclear weapons**. Or **this cornered bear may lash out** in revanchist fury rather than meekly accept its demographic fate. Of course, **some regions** of the developing world **will remain extremely young** in the 2020s. Sub-Saharan Africa, which is burdened by the world’s highest fertility rates and is also ravaged by AIDS, will still be racked by large youth bulges. So will a scattering of impoverished and chronically unstable Muslim-majority countries, including Afghanistan, the Palestinian territories, Somalia, Sudan, and Yemen. **If the correlation between extreme youth and violence endures, chronic unrest and state failure could persist** in much of sub-Saharan Africa and parts of the Muslim world through the 2020s, or even longer if fertility rates fail to drop. Meanwhile, many fast-modernizing countries where fertility has fallen very recently and very steeply will experience a sudden resurgence of youth in the 2020s. It is a law of demography that, when a population boom is followed by a bust, it causes a ripple effect, with a gradually fading cycle of echo booms and busts. In the 2010s, a bust generation will be coming of age in much of Latin America, South Asia, and the Muslim world. But by the 2020s**, an echo boom will follow**—dashing economic expectations and perhaps **fueling political violence, religious extremism, and ethnic strife**. These echo booms will be especially large in Pakistan and Iran. In Pakistan, the decade-overdecade percentage growth in the number of people in the volatile 15- to 24-year-old age bracket is projected to drop from 32 percent in the 2000s to just 10 percent in the 2010s, but then leap upward again to 19 percent in the 2020s. In Iran, the swing in the size of the youth bulge population is projected to be even larger: minus 33 percent in the 2010s and plus 23 percent in the 2020s. **These echo booms will be occurring in countries whose social fabric is already strained by rapid development**. **One country teeters on the brink of chaos, while the other aspires to regional hegemony. One already has nuclear weapons, while the other seems likely to obtain them**.

### Uniqueness

#### House proves that compromise is possible.

The Hill 2/8 (http://thehill.com/blogs/blog-briefing-room/news/281987-house-group-on-the-cusp-of-deal-on-immigration-reform)

LANSDOWNE, Va. — A bipartisan House group working on immigration is “on the cusp” of an agreement, a senior House Democrat participating in the talks said Friday.¶ Rep. Xavier Becerra (Calif.), the chairman of the House Democratic Caucus, told reporters that lawmakers on both sides of the aisle were being pragmatic about the issue, and that he was hopeful the Senate would also deliver on legislation soon.¶ “The reality is that we are on the cusp of actually having an opportunity to put forward a bipartisan proposal in the House of Representatives,” Becerra said at a news conference capping off the House Democrats’ annual retreat ¶ “I am optimistic that the conversations will bear fruit. But make no mistake, there are voices out there that would love nothing more than to destroy ... the progress.” ¶ Becerra would not say whether the group hoped to release legislation next week in conjunction with President Obama's State of the Union address, which had been a target for the coalition. He said only that conversations are continuing.¶ The bipartisan House group also includes Reps. John Carter (R-Texas), Mario Diaz-Balart (R-Fla.), Luis Gutiérrez (D-Ill.), Sam Johnson (R-Texas) and Zoe Lofgren (Calif.).

#### GOP getting on board for pathway right now.

Merrills and Coffey 2-4 [Andrew, Justin, lawyers @ Ogletree Deakins, "Post-election immigration reform - What's at issue?" Lexology -- www.lexology.com/library/detail.aspx?g=fec318c5-d79a-4a70-8b8d-3ed17e59f65d]

The prospect of comprehensive immigration reform appears to be gaining momentum. On January 28, a bipartisan group of eight senators announced a broad proposal for immigration reform. Meanwhile, a similar bipartisan effort is underway in the House and, as this issue was going to press, it was expected that President Obama would announce his proposal for comprehensive immigration reform.¶ The Senate Proposal¶ The Senate proposal has four basic elements: (1) a path to legalization for illegal immigrants; (2) increased border security; (3) increased employer verification requirements; and (4) increased employment-based immigration. Illegal immigrants would pay monetary penalties to legalize but would not be eligible for permanent resident status until other enforcement-related measures are in place (such as increased border security).¶ The proposal would also increase certain types of employment-based immigration and allow individuals who have an advanced degree in science, technology, engineering, or mathematics from a U.S. university to obtain permanent resident status. The proposal includes increased fines and criminal penalties for employers that knowingly employ unauthorized workers.¶ Highlights of the proposal include:¶ Increased border security (additional unmanned drones, surveillance equipment, and border agents);¶ Entry-exit system to monitor visa overstays;¶ A commission to provide a recommendation as to whether increased border security measures have been completed;¶ A government registry for illegal immigrants who must pass background checks, pay fines, and back taxes in order to obtain temporary legal status (when increased border security measures are completed they can apply for permanent resident status behind others who have already applied);¶ A quicker path to legalization for foreign nationals that were brought to the United States as children;¶ A reduction in the immigrant visa backlogs for both family-based and employment-based immigration;¶ Permanent resident status for individuals who have an advanced degree in science, technology, engineering, or mathematics from U.S. universities;¶ Electronic verification of employment authorization and identity for new hires;¶ Increased fines and criminal penalties for employers that knowingly employ unauthorized workers;¶ Increased employment-based immigration where it can be demonstrated that employment of a foreign national would not displace U.S. workers;¶ Creation of an agricultural worker program;¶ Increased or decreased immigration for lower-skilled workers as needed depending on economic conditions; and¶ Permanent resident status for long-term employees who have contributed to the community and to the workplace.¶ Reaction from the White House¶ Initial reaction from the White House to the Senate’s proposal has been positive; and with a similar bipartisan effort underway in the House, the prospect of comprehensive immigration reform seems a possibility. President Obama has made comprehensive immigration reform a priority, referencing the idea in recent speeches including his inaugural address.¶ With approximately 70 percent of Latinos voting for Obama in the past election, Republicans appear to have become more receptive to a comprehensive overhaul of immigration laws. Latinos accounted for approximately 11 percent of the electorate in 2012 (up from eight percent in 2008) and this community has been especially important in key swing states, such as Florida, Colorado, Nevada, and New Mexico. More than two-thirds of exit polls were in favor of comprehensive immigration reform.¶ The perception is that Republicans have alienated the Latino community, the fastest-growing demographic group in the country, on the immigration issue. Immigration policy, largely overlooked during President Obama’s first term, has now re-emerged as a key issue as Republicans scurry to rebound from their election performance, motivated by the need to repair the electoral damage through comprehensive immigration reform.¶ The fact that Latinos cast significantly fewer votes for Mitt Romney than they had for previous Republican presidential candidates has led to an ostensible shift in the GOP’s position on immigration, forcing Republicans to reconsider their opposition to reform. In fact, following the election, many Republican Congressional Leaders (including House Speaker John Boehner), well aware of the election results, the polls, and demographic trends, have stepped forward to show support for comprehensive immigration reform.

#### Top democrats also see passage.

Reuters 2/3 ["Reid predicts Congress will pass immigration legislation" -- news.yahoo.com/reid-predicts-u-congress-pass-immigration-legislation-172812947.html]

The top Senate Democrat on Sunday predicted that Congress will pass and send to President Barack Obama legislation overhauling the U.S. immigration system, saying "things are looking really good."¶ Obama last week expressed hope Congress can get a deal done on immigration, possibly in the first half of the year.¶ The president is proposing to give the roughly 11 million U.S. illegal immigrants - most of whom are Hispanics - a pathway to citizenship, a step that many Republicans have long fought.¶ Obama's fellow Democrats control the Senate, but Republicans control the House of Representatives.¶ Appearing on the ABC program "This Week," Senate Majority Leader Harry Reid was asked whether immigration legislation can win House passage.¶ "Well, it's certainly going to pass the Senate. And it would be a bad day for our country and a bad day for the Republican Party if they continue standing in the way of this. So the answer is yes," Reid said.¶ Obama choose Reid's home state of Nevada, with a sizable Hispanic population, as the site for a major speech last Tuesday pushing Congress to pass an immigration bill.¶ Hispanic voters were crucial in helping Obama beat Republican nominee Mitt Romney - who advocated "self-deportation" of illegal immigrants - in Nevada in November.¶ "It has to get done," Reid said of immigration legislation.¶ "It's really easy to write principles. To write legislation is much harder. And once we write the legislation, then you have to get it passed. But I think things are looking really good," Reid added.¶ After years on the back burner, immigration reform has suddenly looked possible as Republicans, chastened by the fact that more than 70 percent of Hispanic voters backed Obama in the November election, appear more willing to accept an overhaul.

#### Obama has the upper hand now

Reuters 2/4 www.reuters.com/article/2013/02/04/us-usa-immigration-idUSBRE9130V620130204

Obama is expected to use his February 12 State of the Union speech to Congress - a major annual address by the president in which he lays out his legislative priorities for the year - to keep the heat on Republicans, who appear more willing to accept an immigration overhaul after they were chastened by Latino voters' rejection in the November election.¶ But differences have emerged since Obama and a bipartisan Senate working "group of eight" rolled out their proposals last week aimed at the biggest U.S. immigration revamp in decades.¶ Obama wants to give America's 11 million illegal immigrants a clear process to achieve citizenship, including payment of fines, criminal background checks and going to the "back of the line" behind legal applicants. He has vowed to introduce his own bill if Congress fails to act in a timely fashion.¶ But top Republicans want to defer citizenship until the county's borders are deemed more secure - a linkage that Obama and most of his fellow Democrats would find hard to accept.¶ Obama's aides are confident the president has enough leverage to avoid giving ground - not least because they believe that if the reform effort fails in Congress, voters are more likely to blame the Republicans and they would suffer in the 2014 midterm congressional elections.

#### Spending PC

Benen 2/6 [Steve, political writer, "Defining the 'extremes' in the immigration debate" MSNBC -- maddowblog.msnbc.com/\_news/2013/02/06/16868677-defining-the-extremes-in-the-immigration-debate]

At the surface, there's ample reason for optimism on comprehensive immigration reform. President Obama is investing considerable political capital into the issue; the public strongly supports the reform efforts; a bipartisan bill is already progressing in the Senate; and every Republican strategist and consultant is warning the party not to further alienate the fastest-growing voting constituency in the country.

#### Predictive ev

Rusling 2/6 [Matthew, Special Correspondent at Xinhua, "Chances for US immigration reform good, but pitfalls remain" Philippines News Agency -- lexis]

The chances of passing U.S. immigration reform are high, but the devil is in the details, and those finer points could be a stumbling block for cooperation in a bitterly divided Congress. ¶ The long-simmering debate over fixing the nation's broken immigration system kicked off Tuesday with a House hearing after President Barack Obama vowed last week to take action in his second term.¶ While former President George W. Bush tried his hand at reform with a bill that ultimately failed, experts said conditions this time are ripe for Congress to hammer out a deal.¶ "For the first time in many years, members of both parties have political incentives to reform our broken immigration system," said Darrell M. West, director of governance studies at the Brookings Institution.¶ "With the poor showing of Republicans in the 2012 elections, they need to address the immigration issues that are at the top of the political agenda for most Latino voters," he said, referring to the Republican Party's loss of more than 70 percent of the Latino vote and that party's need, by its own admission, to cast off the image of a party of old, white males.¶ Citing polls showing 70 percent of Americans want immigration reform, Democratic Strategist Joe Trippi expressed hope Monday during a Fox News panel that Congress could come to an agreement.

#### No thumpers – one issue of compromise.

Marketwatch 2/8 (quoting Ethan Siegal, founder of the Washington Exchange, a firm that monitors Washington for Wall Street., http://www.marketwatch.com/story/obama-to-reward-coalition-in-state-of-union-speech-2013-02-08?pagenumber=1)

The goal will be to find something he can accomplish given the fact that he doesn’t control the House.¶ “His confidence can only take him so far, every time he wants to go the distance, he runs up against 218,” the number of votes needed to pass a bill in the House, Siegal said.¶ In most cases, there is little, if any, “middle ground” for compromise between House Republicans, Obama and congressional Democrats, Siegel said.¶ Comprehensive immigration reform may be the one item that Obama can enact this year, Siegal said.¶ Douglas Holtz-Eakin, president of the American Action Forum, a Republican think tank, said the GOP wants Obama to put out solutions to issues.

#### Immigration reform will pass, Obama is key, and it’s the top priority

Maestas 1/25 (http://politic365.com/2013/01/25/chc-meets-with-president-on-immigration-signaling-top-legislative-priority/)

Congressman Gutierrez said the following in a statement after the meeting, “Immigrants need action now and immigration reform cannot wait. We have a unique opportunity to finally put our government on the side of hard-working immigrants. We all need to work together — the President and Congress, Republicans and Democrats — to get something done right away.”¶ “The President is the quarterback and he will direct the team, call the play, and be pivotal if we succeed. I am very optimistic based on conversations with Republicans in the House and Senate that we will do more than just talk about the immigration issue this year. The President putting his full weight and attention behind getting a bill signed into law is tremendously helpful. We need the President and the American people all putting pressure on the Congress to act because nothing happens in the Capitol without people pushing from the outside.”¶ Gutierrez also mentioned what the immigration legislation will likely include, “We need a secure border and an electronic employment verification system that is combined with a generous and rigorous legalization program to get immigrants already living here on-the-books and in the system. We also need visas and visa reform for the people waiting decades to come here and a system for the future that people and employers will actually use and not try to go around. All of this is achievable if Republicans work with Democrats and that work has already begun.”¶ The White House released the following in a statement after the meeting, “The President was pleased to hear from CHC members and noted that they share the same vision, including that any legislation must include a path to earned citizenship. The President further noted that there is no excuse for stalling or delay. The President made it clear he will continue to lead on this issue, and that he looks forward to working with the Congressional Hispanic Caucus and other key Members of Congress in a bipartisan process to move this debate forward at the earliest possible opportunity.”¶ On Tuesday, President Obama is expected to travel to Nevada to deliver an immigration speech to signal his commitment to achieving legislation on this topic.¶ Also of note today, The Washington Post has reported that a bipartisan working group of senators has come close to an agreement on a broad set of principles that will guide the immigration reform legislation.

#### Immigration comes before guns

AP 1/26 (http://www.usnews.com/news/politics/articles/2013/01/26/white-house-senators-launching-immigration-push?page=2)

The president met privately Friday morning with the Congressional Hispanic Caucus to discuss his next steps on immigration. Among those in the meeting was Rep. Linda Sanchez, D-Calif., who said Obama told lawmakers "immigration reform is his number one legislative priority."¶ That could bump back the president's efforts to seek legislation enacting stricter gun laws, another issue he has vowed to make a top second term priority.

### A2: Bills will Suck

**Capital key ensures an effective bill.**

**Chazan 1-24** [Jackie, former news producer and editor, "Citizenship for undocumented immigrants gains favor" Examiner -- www.examiner.com/article/citizenship-for-undocumented-immigrants-gains-favor]

A new poll released Wednesday, shows an increase in support for a path to citizenship for undocumented immigrants which, interestingly, has been fueled by Republicans.¶ The Associated Press-GfK poll released on Wednesday shows 62 percent Americans favor allowing undocumented immigrants to eventually gain citizenship, up from 50 percent in 2010. More than half of Republicans – 53 percent - now favor a path to citizenship, up 22 percentage points from 2010.¶ Congress is expected to take up an immigration reform package this year. A path to citizenship remains one of the most contentious issues of reform. Democrats support it and Republicans do not, although, Sen. Marco Rubio (R-Fla.) proposal allows undocumented immigrants to apply for legal status but provides no special pathway to citizenship.¶ President Barack **Obama made immigration reform a centerpiece** of his re-election campaign, garnishing a plurality of votes in the November election from Latino voters.¶ Democrats have opened up a 41 percent to 34 percent lead over Republicans as the party most trusted to deal with immigration. That's a significant shift from October 2010, when Republicans led Democrats on that question by a margin of 46 percent to 41 percent.¶ Republican leaders have increasingly recognized the need for a shift in party stance on the issue, as Latino power grows in the United States. Whether Latino voters will convert electoral clout into meaningful, comprehensive immigration legislation has yet to be seen.¶ “I think the republicans are ready to do something on immigration,” former Republican presidential candidate, Rick Santurum said on ABC’s This Week. “You saw Marco Rubio’s plan which is pretty far down the road. It looks a lot like what President Bush put forward four years ago.”¶ But just because Republicans were prepared to talk about immigration policies doesn’t mean they are in complete agreement with Democrats on what policies to enact, Santorum cautioned. “They’re willing to do it but they’re not willing to give the President everything he wants.” Santorum said, “because I think they believe the rule of law still matters in this country and that we have to respect those who did it the right way who waited in line and did — and made sacrifices and that they shouldn’t be treated the same as people who broke the law and came here.”

### Link Debate

#### Here’s more ev - IFRs are extremely unpopular and cost capital.

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

[Thomas, 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 proliferation 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.

#### Recent fights on reprocessing prove clout is denied.

Oelrich 12. [Ivan, Ph.D. is the Senior Fellow for the Strategic Security Program at the Federation of American Scientists, “Prospects for a Plutonium Economy in the United States” in the report: The Future of Nuclear Power in the United States -- Federation of American Scientists -- February -- http://www.fas.org/pubs/\_docs/Nuclear\_Energy\_Report-lowres.pdf]

The United States began a demonstration fast reactor at Clinch River, Tennessee, ¶ near Oak Ridge. When the cost exploded several fold, Congress cancelled the program in ¶ 1983. But only in the United States was the parallel reprocessing program also cancelled. ¶ Presidents Ford and Carter actually made opposition to reprocessing a government policy, ¶ primarily **because of fears that widespread reprocessing would increase the risks of nuclear ¶ weapon proliferation**. President Reagan rescinded the ban, allowing commercial reprocessing. **But Congress did not reinstate government** financial support, and industry showed no ¶ interest in restarting reprocessing.

#### Budget fight proves it kills capital.

Nelson and Northey, ‘12

[Gabriel and Hannah, Reporters at E&E, “DOE funding for small reactors languishes as parties clash on debt,” http://www.eenews.net/public/Greenwire/2012/09/24/3]

It's not just wind and solar projects that are waiting for federal help as Congress duels over the importance of putting taxpayer dollars on the line for cutting-edge energy projects. Some of the nation's largest nuclear power companies are anxious to hear whether they will get a share of a $452 million pot from the Department of Energy for a new breed of reactors that the industry has labeled as a way to lessen the safety risks and construction costs of new nuclear power plants. The grant program for these "small modular reactors," which was announced in January, would mark the official start of a major U.S. foray into the technology even as rising construction costs -- especially when compared to natural-gas-burning plants -- cause many power companies to shy away from nuclear plants. DOE received four bids before the May 21 deadline from veteran reactor designers Westinghouse Electric Co. and Babcock & Wilcox Co., as well as relative newcomers Holtec International Inc. and NuScale Power LLC. Now the summer has ended with no announcement from DOE, even though the agency said it would name the winners two months ago. As the self-imposed deadline passed, companies started hearing murmurs that a decision could come in September, or perhaps at the end of the year. To observers within the industry, it seems that election-year calculations may have sidelined the contest. "The rumors are a'flying," said Paul Genoa, director of policy development at the Nuclear Energy Institute, in an interview last week. "All we can imagine is that this is now caught up in politics, and the campaign has to decide whether these things are good for them to announce, and how." Small modular reactors do not seem to be lacking in political support. The nuclear lobby has historically courted both Democrats and Republicans and still sees itself as being in a strong position with key appropriators on both sides of the aisle. Likewise, top energy officials in the Obama administration have hailed the promise of the new reactors, and they haven't shown any signs of a change of heart. DOE spokeswoman Jen Stutsman said last week that the department is still reviewing applications, but she did not say when a decision will be made. "This is an important multiyear research and development effort, and we want to make sure we take the time during the review process to get the decision right," she wrote in an email. 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."

#### Obama draw in would still happen.

Trembath 2/4/11 (Alex, Policy Fellow in AEL’s New Energy Leaders Project, “Nuclear Power and the Future of Post-Partisan Energy Policy”) <http://leadenergy.org/2011/02/the-nuclear-option-in-a-post-partisan-approach-on-energy/>

The politician with perhaps the single greatest leverage over the future of nuclear energy is President Obama, and his rhetoric matches the challenge posed by our aging and poisonous energy infrastructure. “This is our generation’s Sputnik moment,” announced Obama recently. Echoing the calls of presidents past, the President used his [State of the Union](http://www.slate.com/id/2281847/)podium to signal a newly invigorated industrialism in the United States. He advocated broadly for renewed investment in infrastructure, education, and technological innovation. And he did so in a room with many more members of the opposition party than at any point during the first half of his term. The eagerness of the President to combine left and right agendas can hopefully match the hyper-partisan bitterness that dominates our political culture, and nuclear power maybe one sector of our economy to benefit from his political leadership.