# ASU RV – Round 3 vs. Cal Berkeley PS (Aff)

## 1AC

#### Same as round 2.

## 2AC

### T

#### We meet: Provide a tax incentive for nuclear fuel recycling which is energy production.

World Nuclear Association 12 [Processing of Used Nuclear Fuel, http://www.world-nuclear.org/info/inf69.html]

Used nuclear fuel has long been reprocessed to extract fissile materials for recycling and to reduce the volume of high-level wastes. ¶ New reprocessing technologies are being developed to be deployed in conjunction with fast neutron reactors which will burn all long-lived actinides. ¶ A significant amount of plutonium recovered from used fuel is currently recycled into MOX fuel; a small amount of recovered uranium is recycled. ¶ A key, nearly unique, characteristic of nuclear energy is that used fuel may be reprocessed to recover fissile and fertile materials in order to provide fresh fuel for existing and future nuclear power plants. Several European countries, Russia and Japan have had a policy to reprocess used nuclear fuel, although government policies in many other countries have not yet addressed the various aspects of reprocessing.¶ Over the last 50 years the principal reason for reprocessing used fuel has been to recover unused uranium and plutonium in the used fuel elements and thereby close the fuel cycle, gaining some 25% more energy from the original uranium in the process and thus contributing to energy security. A secondary reason is to reduce the volume of material to be disposed of as high-level waste to about one fifth. In addition, the level of radioactivity in the waste from reprocessing is much smaller and after about 100 years falls much more rapidly than in used fuel itself.¶

#### Counter interpretation:

#### The aff has to affect both resource extraction and conversion into energy

Australian Government, Department of Climate Change and Energy Efficiency 2011 [“Energy Production and Consumption,” http://www.climatechange.gov.au/government/initiatives/national-greenhouse-energy-reporting/publications/supplementary-guidelines/energy-production-consumption.aspx]

Production of energy: in relation to a facility, means the:

1. extraction or capture of energy from natural sources for final consumption by or from the operation of the facility or for use other than in the operation of the facility
2. manufacture of energy by the conversion of energy from one form to another form for final consumption by or from the operation of the facility, or for use other than in the operation of the facility (regulation 2.23(3) NGER Regulations).

#### We meet the counter-interpretation: recycling involves both the act of reprocessing the used fuel and using it to create new nuclear energy.

#### Our interp good:

A. Predictability – Only our interpretation guarantees link arguments to both extraction and the burning of resources to produce energy. This is crucial link ground for pollution DAs and domestic/foreign energy tradeoff DAs.

B. Limits: Requiring the aff to both extract and convert the energy is necessary to eliminate affs that only extract, like capture carbon or methane or stockpile oil as a strategic military reserve with heg advantages. Also key to prevent affs that only burn fuels like Bataille-style affs that encourage rapid consumption or R&D affs that incentivize new ways to burn the same resources.

#### Their interp bad:

#### They get rid of all uranium extraction affs because extraction from waste is identical to extraction from the ground. This means they get rid of oil and natural gas extraction affs which is literally half the topic.

#### We’re not effects T – we increase electricity production.

#### Competing interpretations are bad: Race to the bottom: they’re just trying to limit out one more case

#### Prefer reasonability: as long as we’re reasonably topical, there’s no reason to pull the trigger. Don’t vote on potential abuse.

### Solvency

#### New nuclear is cheaper than gas even at present prices.

Conca, Staff Writer, ‘12

[James, 8-11-12, “Nuclear Waste Confidence -- NRC Ruling No Big Deal", www.forbes.com/sites/jamesconca/2012/08/11/nuclear-waste-confidence-nrc-ruling-no-big-deal/print/]

Huh? Re-licensing nuclear reactors is the absolute cheapest form of energy, about 2¢/kWhr for 20 years. They are obviously referring to new natural gas plants versus new nuclear GenIII plants which is not impacted by this ruling at all. New nuclear is actually cheaper than new gas in the long run, e.g., 20 years or more, even at present gas prices, but our society doesn’t like to plan for the long-term so it usually gets these things wrong. And why anyone thinks gas plants are environmentally preferable to nuclear is odd from a carbon-emissions standpoint.

#### Nat gas doesn’t kill investment – utilities will use nuclear as a hedge.

Lamonica ‘12

(Martin, “A Glut of Natural Gas Leaves Nuclear Power Stalled”, Technology Review by MIT, 8-9-2012, http://www.technologyreview.com/news/428737/a-glut-of-natural-gas-leaves-nuclear-power/)

Even in United States, of course, super cheap natural gas will not last forever. With supply exceeding demand, some drillers are said to be losing money on natural gas, which could push prices back up. Prices will also be pushed upward by utilities, as they come to rely on more natural gas for power generation, says James. Ali Azad, the chief business development officer at energy company Babcock & Wilcox, thinks the answer is making nuclear power smaller, cheaper, and faster. His is one of a handful of companies developing small modular reactors that can be built in three years, rather than 10 or more, for a fraction of the cost of gigawatt-size reactors. Although this technology is not yet commercially proven, the company has a customer in the Tennessee Valley Authority, which expects to have its first unit online in 2021 (see "A Preassembled Nuclear Reactor"). "When we arrive, we will have a level cost of energy on the grid, which competes favorably with a brand-new combined-cycle natural gas plants when gas prices are between $6 to $8," said Azad. He sees strong demand in power-hungry China and places such as Saudia Arabia, where power is needed for desalination. Even if natural gas remains cheaper, utilities don't want to find themselves with an overreliance on gas, which has been volatile on price in the past, so nuclear power will still contribute to the energy mix. "[Utilities] still continue [with nuclear] but with a lower level of enthusiasm—it's a hedging strategy," says Hans-Holger Rogner from the Planning and Economics Studies section of the International Atomic Energy Agency. "They don't want to pull all their eggs in one basket because of the new kid on the block called shale gas."

### Peak Uranium

#### NNSA is actually terrible and incapable of solving anything – government review – also their cards explaining why they’ve failed are Michael Scott-level excuses

Oak Ridge Environmental Alliance 12 [Sep 11, 2012, “OREPA calls for Abolition of NNSA, cites numerous government”, nonprofit organization, Larry Coleman, Shelley Wascom, Barbara Hickey, President, government watchdog organization]

The National Nuclear Security Administration, responsible for managing the nation’s nuclear weapons stockpile and the facilities which engineer, design, produce and test nuclear warheads, has failed to provide significant “value added” to the federal government since its founding in 2000. Instead, NNSA management incompetence has resulted in massive budget overruns and consistent failure to meet schedules on major construction projects. NNSA failure to provide rigorous oversight of operating contractors at weapons sites has led to breakdowns in basic security operations. NNSA has been the target of remarkable criticisms by the General Accounting Office and the Defense Nuclear Facilities Safety Board, including a remarkable summary of mismanagement on safety, funding, contractor oversight, and project management incompetence released on Tuesday, September 12, 2012 by the GAO in its testimony before Congress. Aside from an occasional personnel shuffle and a rigorous effort to shift blame to contractors, NNSA’s response to criticisms is consistently, “We get it now, we’re compiling lessons learned, we’ll do better.”

#### No tradeoffs—different talent pool, new nuclear demand solves

APS 8

[APS (American Physical Society), Report from the APS Panel on Public Affairs Committee on Energy and Environment, June 2008, Readiness of the U.S. Nuclear Workforce for 21st Century Challenges, http://www.aps.org/policy/reports/popa-reports/upload/Nuclear-Readiness-Report-FINAL-2.pdf]

Workforce shortages in the arena of commercial nuclear power, and the problem of maintaining modernized training facilities, mainly stem from the 30-year stasis in U.S. demand for new civilian nuclear power plants1. The number of operating civilian nuclear reactors in the U.S. has remained at about 100 during this time. Thus, U.S. vendors have been forced to look abroad for sales. Some have either ceased construction of new reactors entirely or else significantly scaled back business in this area. Their continuing, largely static, nuclear engineering workforce needs have been met through a combination of hiring those trained in university nuclear engineering programs and retraining others whose original expertise was in some other field (usually mechanical engineering). Retirees from the nuclear Navy also have played an important role. A natural result of this stasis was for many years a greatly reduced interest among undergraduates in nuclear science and engineering programs2. In turn, this put great pressure on U.S. universities to scale back in these areas. Recently, however, the Federal government, through the Department of Energy (DOE), dramatically increased funding for these educational efforts. This played a major role in increasing undergraduate student enrollments in nuclear engineering from a low point of 480 in 1999 to 1,933 in 2007. Declaring the problem to be solved, DOE called for the termination of its university nuclear science and engineering programs for FY 2007. Congress in turn provided reduced funding for FY 2007 and transferred all the programs except reactor fuel services to the Nuclear Regulatory Commission (NRC) for FY 2008. These “feast or famine” gyrations have led to significant instabilities: the number of university nuclear engineering departments has decreased from 66 in the early 1980s to 30 today, and the number of university reactors has dwindled from 63 to 25 during essentially the same period.

#### NNSA can adapt – were able to save money by strategic sourcing when it became necessary

LA Daily Post 10/31 (http://www.ladailypost.com/content/nnsa-saves-more-519m-through-strategic-sourcing

WASHINGTON, D.C. – The National Nuclear Security Administration (NNSA) today announced that the agency has saved taxpayers $519.3 million since 2007 through strategic sourcing.¶ In 2010, Secretary Steven Chu recognized NNSA for saving $213 million over the prior four years, but challenged the agency to increase cumulative savings to $450 million by 2012.¶ NNSA achieved this goal by implementing an enterprise-wide strategic sourcing solution, which includes the processes of the Supply Chain Management Center (SCMC) created by NNSA Administrator Thomas D’Agostino in late 2006 and other management and operating (M&O) contractor strategic sourcing initiatives.¶ “NNSA is fully committed to the responsible stewardship of our nation’s tax dollars,” said NNSA Associate Administrator for Acquisition and Project Management Robert Raines. “Given the current budget environment, we are making every effort to increase our spending power by taking a common sense approach to saving taxpayer money across our enterprise.”

### SMR CP

#### Perm do both.

#### Links to politics – fears from Fukushima have made regulatory relief super unpopular.

Hopf, senior nuclear engineer and member of ANS, ‘12

[Jim, “Good and bad news stories for nuclear 2011/2012”, ANS Nuclear Café, 3-22-12,

<http://ansnuclearcafe.org/category/small-modular-reactors/>, RSR]

The double standard is also alive and well in the United States. Not only has the U.S. nuclear industry accepted the NRC’s new requirements without significant resistance, but they’ve even proactively pursued improvements on their own, without being legally required to do so. And yet, in congressional hearings¶ and elsewhere, many are not satisfied with the rate or amount of improvement,¶ saying that having to wait over five years is an unacceptable risk. Meanwhile, old “grandfathered” coal plants in the United States are still not meeting the requirements of the 1970 Clean Air Act, the result being tens of thousands of annual deaths. Despite the fact that the public health risks in question are orders of magnitude larger in the coal plants’ case, apparently taking over 40 years is okay for them, whereas five years is too long for nuclear’s Fukushima upgrades. Nuclear has always been held to standards thousands of times as strict (in terms of dollars spent per life saved, etc.) than fossil fuels. Before Fuksushima, with all the attention being paid to global warming, I had thought that the playing field might start to become somewhat more balanced. Now, after Fukushima, nuclear requirements are becoming even more strict (with any notions of regulatory relief being put to bed), whereas attempts are now being made (in the United States, anyway) to reduce regulations/requirements on fossil fuels even further. Humble requests to reduce air pollution and/or CO2 emissions are met with calls to eliminate the Environmental Protection Agency.

#### SMRs empirically fail at commercialization

Magwood, commissioner – NRC, ’11

[William, “ECONOMICS AND SAFETY OF MODULAR REACTORS; COMMITTEE: SENATE APPROPRIATIONS; SUBCOMMITTEE: ENERGY AND WATER DEVELOPMENT,” 7-14-11, CQ Congressional Testimony]

That is not to say that SMRs are a new idea. The conceptual benefits of small reactors have been the subject of discussion and analysis for decades, and all the potential benefits I've mentioned have been considered in the past. The potential advantages of smaller reactors prompted the government to provide considerable financial support for the development of the mid- size, passive-safety reactors in the 1990s and to encourage the pursuit of the pebble-bed modular reactor in the early years of this century. Both efforts proved unable to overcome the economic realities of building and operating nuclear power plants realities that tend to penalize small reactors and reward larger designs. Thus, instead of the AP-600 and 500 megawatt Simplified Boiling Water Reactor of the early 1990s, the market pushed vendors to increase the size of their designs; today, vendors offer Generation III+ technologies based on those smaller systems the 1100 megawatt AP- 1000 and the 1600 megawatt Economic Simplified Boiling Water Reactor.2 Around the turn of the century, both DOE and industry became interested in the Pebble Bed Modular Reactor, or PBMR. This was a small, high-temperature gas-cooled reactor with a generating capacity of about 165 megawatts. This technology captured considerable media attention after U.S. companies became involved in an effort to build a commercial pilot in South Africa. However, as the high costs of the project became apparent, commercial participants began to peel away and eventually the South African project was abandoned. All small reactor technologies of the past failed to find a way to overcome the fact that the infrastructure required to safely operate a nuclear power reactor of any size is considerable. Tons of steel and concrete are needed to construct containment buildings. Control rod drives, steam generators, and other key systems are hugely expensive to design and build. A larger plant with greater electric generating capacity simply has an inherently superior opportunity to recover these large up-front costs over a reasonable period. So why is today different from yesterday? The greatest difference is the fact that the technology has evolved significantly over the years. Having learned lessons from the development of Generation III+ technologies and from the failure of previous small reactors, today's SMR vendors clearly believe they have solved the riddle of small reactor economics. They are presenting novel design approaches that could lead to significant improvements in nuclear safety. For example, design concepts that I have seen thus far further advance the use of passive safety systems, applying gravity, natural circulation, and very large inventories of cooling water to reduce reliance on human intervention during an emergency. SMR designs also apply novel technologies such as integral pressure vessels that contain all major system components and use fewer and smaller pipes and pumps, thereby reducing the potential for a serious loss-of- coolant accident. Very importantly, these new SMRs are much smaller than the systems designed in the 1990s; this choice was made to assure that they could be factory-built and shipped largely intact by rail for deployment. The ability to "manufacture" a reactor rather than "constructing" it on-site could prove to be a major advantage in terms of cost, schedule reliability, and even quality control. But will innovations like these allow this new breed of SMRs to be successful? Maybe. Many years of work remain for SMR vendors to refine their designs and allow for the development of realistic and reliable cost estimates. This is much the same state of affairs that existed in the 2002 time frame when DOE launched the Nuclear Power 2010 program to spur the development and certification of Generation III+ designs such as the AP-1000. At that time, the level of design completeness was insufficient to enable vendors to provide utilities with reliable cost and schedule estimates.

#### Plan sends the key signal to jumpstart cooperation with Russia—they’ll say yes.

Rojansky, deputy director Russia and Eurasia Program at Carnegie, ‘10

[Matthew, “As New START Debate Rages, Quiet Nuclear Progress With Russia”, U.S. News and World Report, 12-9-2010,

http://www.usnews.com/opinion/articles/2010/12/09/as-new-start-debate-rages-quiet-nuclear-progress-with-russia]

Beyond benefiting relations, cooperation on peaceful nuclear energy makes financial sense. The United States and Russia have invested substantially in civilian nuclear research and development, and both share basic interests in capitalizing on the global "nuclear energy renaissance" by developing proliferation-resistant reactor technologies, increasing environmental safety, and making nuclear energy more economically competitive. And when it comes to civil nuclear power, Russia brings a lot to the table. For instance, the United States does not operate so-called "fast breeder" reactors and reprocessing facilities that don't produce nuclear waste that can be used for weapons, but Russia does. And, while the United States hasn't built a single new n uclear power plant since 1973, Russia opened its first fast breeder reactor that very year and plans to bring 26 new nuclear facilities online before 2030. And the Kremlin has already allocated some $3.6 billion for research on fast breeders and other projects under a program dedicated to the next generation of nuclear technology. With U.S. support, Russia has developed a sophisticated infrastructure to securely store spent nuclear fuel—and Moscow even offered to store and reprocess spent fuel from the United States, while no American state has been willing to do the same. Russian companies already supply roughly half of the uranium consumed in U.S. and European power plants and will need to supply more in the future as the United States is only able to produce a fifth—at most—of its nuclear fuel stock domestically. Fortunately, Russia's nuclear industry is interested in expanding its uranium enrichment and reprocessing activity in the U.S. market and potentially cooperating with American firms, including GE and Westinghouse, on bids for contracts in other countries. Closer U.S.-Russia cooperation on nuclear power means better nuclear security. As a major player in civil nuclear markets worldwide, Russia has a unique window into potential risks and opportunities to insist on measures that protect sensitive sites and technologies. Russia, with U.S. support, also has the chance to compete more effectively with China's nuclear industry, which is less scrupulous in its nonproliferation commitments. The importance of partnering with Russia was made clear during Secretary Clinton's recent trip to Central Asia. Belarus, the former Soviet republic, agreed to give up its stock of highly enriched uranium by 2012 in return for U.S. help in developing a new nuclear power reactor. But Russia has had its eye on this potentially lucrative project, and has the right experience to work effectively with Belarus's Soviet-era infrastructure. Washington should cooperate—instead of compete—with Moscow to build an environmentally safe, proliferation-proof reactor in Belarus. A quarter century after the Chernobyl disaster, this would be a powerful symbol that both sides can move beyond the Cold War legacy.

#### Effective relations solve nuclear war

Lukyanov ’11

(Fyodor, editor-in-chief of Russia in Global Politics magazine, “Nuclear destruction remains the basis of relations”, The Telegraph, 1-5-2011, http://www.telegraph.co.uk/sponsored/russianow/opinion/8241050/Nuclear-destruction-remains-the-basis-of-Russia-US-relations.html)

When President Dmitry Medvedev warned in his latest state-of-the-nation address that a new arms race could begin in the next decade, the hall erupted in applause. No wonder. For many of the Russian senators in the audience, that term calls to mind their younger years, something pleasant in and of itself. Added to which many people on both sides of the Atlantic, it seems, sorely miss those “good old days” when everything was clear: two worlds, two systems, and explicit rules of the game.¶ One finds oneself thinking of the advantages of a systemic confrontation, given the political and legal free-for-all into which the planet has been sinking ever since.¶ But reminiscences aside, what did the president mean? And we should consider that Prime Minister Vladimir Putin also said in his recent interview with Larry King that an arms race would lead not only to the failure of the anti-missile defence shield but also to the non-ratification of Start II. The latter is doubtful: that agreement is not of such calibre. But as for the anti-missile defences, Moscow’s logic is understandable.¶ The question remains: can Russia and the US break the vicious circle of mutual nuclear containment, or will this type of relationship, frankly absurd today, be preserved in future?¶ Whatever Moscow and Washington do, the material and technological basis of their relations remains not simply restraint, but Mutually Assured Destruction. Another use for the vast arsenals they amassed up to the late Eighties simply does not exist. No international problem requires such a quantity of nuclear charges and missiles. The political logic of that period has long since lost its force; the whole world has changed. But you can’t argue with weapons: the logic of arsenals still dictates, no matter how often Russia and the United States reiterate that they no longer see each other as adversaries.¶ A quick liquidation of stockpiles will not be achieved. First of all, strategic nuclear forces are mainly political weapons and a matter of status. No one will simply give these up. This is especially true of Russia, which no longer has any other features of a superpower. And, judging by discussions underway in Washington, idealists there are being squeezed on all sides, too.¶ Second, one needs at the very least a qualitatively different level of trust between Russia and the United States; the first shoots that appeared during the “reset” may very soon be trampled.¶ And finally, the time when these two giants set the tone in the nuclear sphere has long since past. Proliferation goes on, quietly. China’s nuclear arsenal, though only a fraction of Russia’s and America’s, is becoming an increasingly important factor in that country’s growing influence. Neither Washington nor Moscow can allow the other to be in the same “league” with Beijing because then the counterweights to its influence would be even less.¶ Nevertheless, the needlessness of assured destruction is obvious, and this situation must be somehow overcome. The only way is a gradual rapprochement in the strategic sphere which will make the nuclear containment of Russia and the United States an anachronism. And for this, joint work on anti-missile defences would be ideal. If this is undertaken in earnest, sooner or later it will become apparent that missiles aimed at each other are patently absurd given that the “adversaries” are building a joint shield. This is a long, hard road, the success of which, though not guaranteed, is none the less possible. Especially when one realises the real threats facing both countries in the 21st century.¶ On the other hand, it’s obvious what will happen if, in the sphere of anti-missile defence, nothing comes together and they each go their own way. In that case, the old type of relations will inevitably recur since that same nuclear rubicon will be preserved. An American missile defence system would be built against any other country possessing missile potential, including, of course, Russia – even if Russia were not the main object. Moscow would then automatically begin searching for ways of overcoming that anti-missile shield.¶ No one will abolish mutual nuclear deterrence as the basis of balance so long as the two nuclear superpowers are not engaged in a common cause. All of this goes beyond the bounds of rational argument, but the burden of arsenals aimed at one another will continue to return us to the confrontation of 30 years ago, even if in a farcical form.¶ One must not forget that all this is a game of nerves. These gigantic arsenals are inapplicable; the anti-missile system is virtual since most likely it will never be created. The paradox is that the political effect of the idea of an anti-missile shield is more than real since it touches the heart of the problem of strategic stability.¶ To imagine an arms race of the classic kind that existed in the latter half of the 20th century is impossible. The entire developed world is too concerned with budget deficits and national debt: in reality these problems represent a far greater threat to stability than do any classic threats. True, in that situation nuclear weapons regain the significance they seemed to be losing. Meanwhile, Nato’s just-published strategic conception clearly states that nuclear weapons, primarily American, are that alliance’s supreme guarantee of security. So say goodbye to a non-nuclear world. And in the United States, where only recently there was talk of investing in hi-tech conventional weapons of a new generation, cost estimates now show that preserving the nuclear component would be cheaper.¶ Be that as it may, anti-missile defence represents a fork in the road: one way leads to a new system of relations between Russia and the United States, with both sides ceasing to view the other as a strategic threat; the other leads back to a model of the Cold War – albeit a wittingly senseless one.

### CCS DA

#### Natural gas prices low and will stay low – plenty of shale.

Philips ‘13 (Matthew, Bloomberg Businessweek, “Why Natural Gas Will Stay Cheap in 2013,” 2013, http://www.businessweek.com/articles/2013-01-10/why-natural-gas-will-stay-cheap-in-2013)

Six weeks ago, natural gas bulls were riding high. By Thanksgiving, prices had more than doubled since hitting a decade low of $1.90 per million BTUs in April. Heading into what was supposed to be a cold winter for the U.S.—at least compared with last year—the consensus view was that natural gas prices would be higher in 2013, since about half of all U.S. households heat their homes with natural gas. By the end of December, the median forecast of 22 analysts surveyed by Bloomberg was that natural gas would average $3.75 for 2013. A few weeks of warm weather later, and a lot of those forecasts look way too optimistic. Prices have fallen more than 20 percent since peaking at $3.90 per million BTUs in late November. With the National Weather Service predicting above-normal temperatures over the next 10 days for the eastern third of the U.S., that downward pressure is likely to continue. “We’re going to see a lot of guys coming in and changing their forecasts,” says Laurent Key, an energy analyst at Societe Generale (SCGLY) in New York. Key expects prices to bottom out around an average of $3.16 in the second quarter before climbing. “If we end up repeating 2012, those expectations need to come down by about a buck,” says Scott Hanold, an energy analyst at RBC Capital Markets (RY) in Minneapolis. Goldman Sachs (GS) just lowered its 2013 price target by 50 cents, from $4.25 per million BTUs, to $3.75, still above the current price of $3.12. Natural gas is notoriously volatile, so prices could surge if the weather turns cold and people crank up their heat, but it’s hard to see that demand making up for what’s already been lost. Even if there is a February freeze across the country, that cold snap probably wouldn’t be sufficient to compensate for a mild December, Goldman analyst Johan Spetz wrote in a Jan. 7 research note. Bloomberg News reported Wednesday that Mike Fitzpatrick, editor of the Energy OverView newsletter, thinks natural gas prices could drop as low as $2.20 if the weather stays mild. The more likely scenario seems to be something akin to what happened last year, when prices fell through the spring and didn’t rise appreciably until people started turning on their air conditioners in May. Part of what helped lift natural gas prices off their lows last April was increased demand from utilities switching from coal to natural gas to generate electricity. But that effect might be more muted in 2013. After getting crushed by cheap natural gas over the last few years, coal appears set to recapture some of that market share in 2013. “Coal has become more competitive against natural gas,” says Lucas Pipes, an analyst at Brean Murray, Carret & Co. Coal prices have gotten so cheap that if natural gas rises to just $3.40 this year, Pipes estimates that would cause 50 million tons of coal demand to come on the market as utilities fire up their coal plants. The Department of Energy is forecasting that coal will account for 39 percent of all electricity generated in 2013, up from 37.6 percent last year. Meanwhile, natural gas’s continued run of increasing its share of the electricity market may be over. The DOE predicts that natural gas will lose ground this year and next, falling from 30.3 percent of all electricity generated in 2012, to 27.9 percent in 2013, and 27.5 percent in 2014. On top of that, natural gas production is set to rise by 0.5 percent this year, according to the DOE. After spending the previous 15 months reducing the number of rigs drilling for natural gas, U.S. producers finally started adding to that total in November, spurred perhaps by the prospect of sustained $4 prices. While production has slowed in some places, the Marcellus Shale in western Pennsylvania is still attracting new investment. “Marcellus is an animal. There are still 1,000 wells that haven’t been put online yet,” says Hanold. “That’s going to push production even higher.” Marcellus is also more immune to lower prices. The geology is so good, and the royalty rates so low, that producers can drill profitably even at $2 natural gas prices, he says. In the end, the fundamental issue that’s kept natural gas prices so low for the last few years—too much supply, inadequate demand—appears here to stay for the foreseeable future**.** ”Natural gas prices will be dead for at least two more years,” says Fadel Gheit, a senior oil and gas analyst at Oppenheimer (OPY). By dead he means well below $4. “The industry shot itself in the foot by overdrilling,” he says. “Now anybody and their brother can get gas out of the ground and into the system.”

#### Coal is officially dead – new investment won’t resurrect projects because the economics no longer make sense.

Pope 12 (Carl Pope, 4-9-2012, Former chairman and executive director, Sierra Club, National Energy Journal, “KING COAL: HOIST ON HIS OWN PETARD,” <http://energy.nationaljournal.com/2012/04/whats-really-causing-coals-dec.php#2193151>)

Washington is in a tizzy about “who killed coal?” in the wake of EPA’s new air pollution standard for carbon pollution. That standard, which requires that new power plants be at least as clean as a new natural gas plant, has blocked a miniscule number of coal plants that were still proceeding – but observers are pointing out that almost all of the new coal plants being proposed five years ago had already been cancelled, because of underlying economic uncertainty, deployment of wind, and cheap gas. That doesn’t stop coal industry advocates from blaming EPA. Just before EPA issued the rule, coal industry allies in Congress wrote a letter referencing claims that EPA’s clean-air rulemaking in the last two years had already cost 1.4 million jobs. The American Clean Coal Council complained that EPA’s rules had already shut down 140 coal plants. But the back-story is not being told. It turns out that while Joshua Freed is correct in saying that “Blaming regulation for the decline of coal is like blaming cars for the demise of horse-drawn carriages”, coal actually laid the foundation for its own demise thirty years ago. In 1977, Congress proposed to require all power plants – regardless of when they were built or what they burned – to meet basic pollution control standards. Coal and its utility allies – led by the Southern Company – argued that they were about to shut down their fleet of old coal clunkers anyway, and that pollution controls would be a silly expense for assets that were about to be retired. Congress believed them, and even gave the Southern company a loophole that allowed it to “grandfather” and exempt from pollution controls coal power plants that came on line as late as a twelve years after the law was passed. And then, from 1977 until 2000, utility companies simply refused to upgrade their plants, allowing the entire fleet to continue, vampire like, as a seemingly immortal threat to the public health. Running for President, even George W. Bush implausibly promised to end the “grandfathering” scandal, only to back off once in the White House at the behest of Vice-President Cheney. Instead, coal companies and utilities promised a brand-new fleet of “clean” coal plants – if you didn’t count carbon pollution. A total of 180 was placed in the permit and finance queue – until, on close examination, it became clear that these new facilities would be neither clean or cheap – and one by one, they almost all were cancelled or abandoned. The few that opened almost broke the financial backs of the utilities that built them – forcing 25-50% rate increases on customers. And when the new plants didn’t materialize, and wind and natural gas got cheap, the utilities who, after all, are businessmen, not coal miners, simply dumped the dirty black rock. When EPA finally blew the whistle on pollutants like mercury, coal ash and particulates that legally should have been cleaned up in the decades from 1977 to 2008, the bill for upgrading old coal no longer made sense – even as the bill for deploying new coal had already gone through the roof. Coal it turned out was not only not clean – as Al Gore’s Reality campaign had already pointed out – worse, it was no longer cheap. And that has made all the difference. But it was a self-inflicted wound – because if the coal industry and its utility allies had really invested in cleaning up their plants from 1977-2000, when the economics still appeared to make sense, then even the arrival of cheap wind and gas wouldn’t have been able to knock them off their perch.

#### Nuclear power doesn’t tradeoff with nat gas, but prices are volatile so impact is triggered anyway.

Nitikin, et al., ‘12

[Mary (Coordinator and Specialist in Nonproliferation at CRS); Anthony Andrews (Specialist in Energy and Defense Policy at the CRS; and Mark Holt (Specialist in Energy Policy at CRS), “Managing the Nuclear Fuel Cycle: Policy Implications of Expanding Global Access to Nuclear Power”, Congressional Research Service, 10-19-12, RSR]

Volatile prices for oil and natural gas are a fundamental factor in national energy policymaking. Average world prices for a barrel of oil rose from below $10 at the beginning of 1999 to above $130 in mid-2008. They then declined to around $50 in early 2009 and rose to around $100 through mid-2012. 5 U.S. natural gas prices have been similarly volatile, although falling sharply in 2012 with increased production from shale formations. 6 To reduce their vulnerability to oil and gas price swings, national governments are searching for alternative energy sources, often including nuclear power. However, only 21% of the world’s electricity generation is fueled by natural gas and 5% by oil, 7 so nuclear power’s ability to directly substitute for oil and gas is limited, at least in the near term.

#### Coal dust destroys the rail lines

Coal Train Facts 12 Coal Train Facts is a registered 501 (c)(3) nonprofit in Washington state“Key Facts” http://www.coaltrainfacts.org/key-facts

Coal dust:

Coal cars are typically uncovered; each car loses between 500 pounds and one ton of coal dust en route. Coal dust is a proven nuisance for rail lines; fugitive dusts degrades the ballast of the rail lines, and can be a cause of derailments. While adverse effects of coal dust from mining and combustion on human health are well-documented, the effects of coal dust blowing and/or leaching from coal cars on human health and on local water safety are as yet unknown.

#### Competitiveness not key.

Ferguson, Tisch Professor of History at Harvard, ‘3

[Niall, Ziegler Professor at Harvard Business School, Professor of Financial History at NYU, Senior Research Fellow of Jesus College, Oxford University, Senior Fellow of the Hoover Institution, Stanford University, Foreign Policy #134, 1-2/2003, pp. 18-22, Carnegie Endowment for International Peace, “Power,” JSTOR, RSR]

But GDP doesn't stand for great diplomatic power. If institutions aren't in place to translate the economy grows faster than public interest in foreign affairs-then product is nothing more than potential power. The United States over-took Great Britain in terms of GDP in the 1870s. But it was not until World War I that the United States finally overtook the British Empire as a global power. In any case, national growth rates in the next 20 years are unlikely to match those of the last three decades. Depressed Japan's will almost cer-tainly be lower, while growth in the United States might conceivably be higher, if there is any truth to the claim that investments in information tech-nology during the 1990s permanently boosted U.S. productivity. And China will have trouble sus-taining average annual growth rates of more than 5 percent in the coming decades. Already the Asian behemoth is suffering serious social growing pains as market forces rend asunder what was once a command economy. Before 1914, Russia had the fastest growing economy in Europe. But the ensu-ing social polarization and war caused Russia's collapse in 1917.

### Immigration DA

#### **PC isn’t real —butterfly effect – only winners win.**

Hirsh 2/9 (Michael, chief correspondent for National Journal, previously served as the senior editor and national economics correspondent for Newsweek, 2/9/2013, “There’s No Such Thing as Political Capital,” <http://www.nationaljournal.com/magazine/there-s-no-such-thing-as-political-capital-20130207>, NP)

On Tuesday, in his State of the Union address, President Obama will do what every president does this time of year. For about 60 minutes, he will lay out a sprawling and ambitious wish list highlighted by gun control and immigration reform, climate change and debt reduction. In response, the pundits will do what they always do this time of year: They will talk about how unrealistic most of the proposals are, discussions often informed by sagacious reckonings of how much “political capital” Obama possesses to push his program through.¶ Most of this talk will have no bearing on what actually happens over the next four years.¶ Consider this: Three months ago, just before the November election, if someone had talked seriously about Obama having enough political capital to oversee passage of both immigration reform and gun-control legislation at the beginning of his second term—even after winning the election by 4 percentage points and 5 million votes (the actual final tally)—this person would have been called crazy and stripped of his pundit’s license. (It doesn’t exist, but it ought to.) In his first term, in a starkly polarized country, the president had been so frustrated by GOP resistance that he finally issued a limited executive order last August permitting immigrants who entered the country illegally as children to work without fear of deportation for at least two years. Obama didn’t dare to even bring up gun control, a Democratic “third rail” that has cost the party elections and that actually might have been even less popular on the right than the president’s health care law. And yet, for reasons that have very little to do with Obama’s personal prestige or popularity—variously put in terms of a “mandate” or “political capital”—chances are fair that both will now happen.¶ What changed? In the case of gun control, of course, it wasn’t the election. It was the horror of the 20 first-graders who were slaughtered in Newtown, Conn., in mid-December. The sickening reality of little girls and boys riddled with bullets from a high-capacity assault weapon seemed to precipitate a sudden tipping point in the national conscience. One thing changed after another. Wayne LaPierre of the National Rifle Association marginalized himself with poorly chosen comments soon after the massacre. The pro-gun lobby, once a phalanx of opposition, began to fissure into reasonables and crazies. Former Rep. Gabrielle Giffords, D-Ariz., who was shot in the head two years ago and is still struggling to speak and walk, started a PAC with her husband to appeal to the moderate middle of gun owners. Then she gave riveting and poignant testimony to the Senate, challenging lawmakers: “Be bold.”¶ As a result, momentum has appeared to build around some kind of a plan to curtail sales of the most dangerous weapons and ammunition and the way people are permitted to buy them. It’s impossible to say now whether such a bill will pass and, if it does, whether it will make anything more than cosmetic changes to gun laws. But one thing is clear: The political tectonics have shifted dramatically in very little time. Whole new possibilities exist now that didn’t a few weeks ago.¶ Meanwhile, the Republican members of the Senate’s so-called Gang of Eight are pushing hard for a new spirit of compromise on immigration reform, a sharp change after an election year in which the GOP standard-bearer declared he would make life so miserable for the 11 million illegal immigrants in the U.S. that they would “self-deport.” But this turnaround has very little to do with Obama’s personal influence—his political mandate, as it were. It has almost entirely to do with just two numbers: 71 and 27. That’s 71 percent for Obama, 27 percent for Mitt Romney, the breakdown of the Hispanic vote in the 2012 presidential election. Obama drove home his advantage by giving a speech on immigration reform on Jan. 29 at a Hispanic-dominated high school in Nevada, a swing state he won by a surprising 8 percentage points in November. But the movement on immigration has mainly come out of the Republican Party’s recent introspection, and the realization by its more thoughtful members, such as Sen. Marco Rubio of Florida and Gov. Bobby Jindal of Louisiana, that without such a shift the party may be facing demographic death in a country where the 2010 census showed, for the first time, that white births have fallen into the minority. It’s got nothing to do with Obama’s political capital or, indeed, Obama at all.¶ The point is not that “political capital” is a meaningless term. Often it is a synonym for “mandate” or “momentum” in the aftermath of a decisive election—and just about every politician ever elected has tried to claim more of a mandate than he actually has. Certainly, Obama can say that because he was elected and Romney wasn’t, he has a better claim on the country’s mood and direction. Many pundits still defend political capital as a useful metaphor at least. “It’s an unquantifiable but meaningful concept,” says Norman Ornstein of the American Enterprise Institute. “You can’t really look at a president and say he’s got 37 ounces of political capital. But the fact is, it’s a concept that matters, if you have popularity and some momentum on your side.”¶ The real problem is that the idea of political capital—or mandates, or momentum—is so poorly defined that presidents and pundits often get it wrong. “Presidents usually over-estimate it,” says George Edwards, a presidential scholar at Texas A&M University. “The best kind of political capital—some sense of an electoral mandate to do something—is very rare. It almost never happens. In 1964, maybe. And to some degree in 1980.” For that reason, political capital is a concept that misleads far more than it enlightens. It is distortionary. It conveys the idea that we know more than we really do about the ever-elusive concept of political power, and it discounts the way unforeseen events can suddenly change everything. Instead, it suggests, erroneously, that a political figure has a concrete amount of political capital to invest, just as someone might have real investment capital—that a particular leader can bank his gains, and the size of his account determines what he can do at any given moment in history.¶ Naturally, any president has practical and electoral limits. Does he have a majority in both chambers of Congress and a cohesive coalition behind him? Obama has neither at present. And unless a surge in the economy—at the moment, still stuck—or some other great victory gives him more momentum, it is inevitable that the closer Obama gets to the 2014 election, the less he will be able to get done. Going into the midterms, Republicans will increasingly avoid any concessions that make him (and the Democrats) stronger.¶ But the abrupt emergence of the immigration and gun-control issues illustrates how suddenly shifts in mood can occur and how political interests can align in new ways just as suddenly. Indeed, the pseudo-concept of political capital masks a larger truth about Washington that is kindergarten simple: You just don’t know what you can do until you try. Or as Ornstein himself once wrote years ago, “Winning wins.” In theory, and in practice, depending on Obama’s handling of any particular issue, even in a polarized time, he could still deliver on a lot of his second-term goals, depending on his skill and the breaks. Unforeseen catalysts can appear, like Newtown. Epiphanies can dawn, such as when many Republican Party leaders suddenly woke up in panic to the huge disparity in the Hispanic vote.¶ Some political scientists who study the elusive calculus of how to pass legislation and run successful presidencies say that political capital is, at best, an empty concept, and that almost nothing in the academic literature successfully quantifies or even defines it. “It can refer to a very abstract thing, like a president’s popularity, but there’s no mechanism there. That makes it kind of useless,” says Richard Bensel, a government professor at Cornell University. Even Ornstein concedes that the calculus is far more complex than the term suggests. Winning on one issue often changes the calculation for the next issue; there is never any known amount of capital. “The idea here is, if an issue comes up where the conventional wisdom is that president is not going to get what he wants, and he gets it, then each time that happens, it changes the calculus of the other actors” Ornstein says. “If they think he’s going to win, they may change positions to get on the winning side. It’s a bandwagon effect.”

#### Plan popular and Graham shields the link.

Russell 2-5 (Pam Radtke, Budget Cutters Eye Nuclear Reprocessing Plant, Roll Call, 5 February 2013, http://www.rollcall.com/news/budget\_cutters\_eye\_nuclear\_reprocessing\_plant-222173-1.html?pg=1, da 2-14-13)

The scrutiny is raising concern among the project’s supporters, especially with across-the-board spending cuts set to kick in next month unless Congress acts to postpone them or enact an alternative austerity plan.¶ “We must stay the course and create a pathway to safely and responsibly dispose of weapons grade plutonium,” Rep. Joe Wilson, R-S.C., wrote in a letter he has been circulating among his colleagues that would urge the White House to preserve the project. “If we fail to uphold our end of this agreement, dire consequences could be felt by our close allies across the globe, as Russia may choose not to honor its end of the agreement.”¶ The MOX facility has survived earlier challenges. Former Rep. David L. Hobson, R-Ohio, said his efforts to kill funding for the project when he served as Energy and Water Appropriations Subcommittee chairman were thwarted by the political clout of South Carolina lawmakers — including fiscal conservatives such as Wilson, Sen. Lindsey Graham and former Sen. Jim DeMint.¶ Hobson described the project as a jobs program for South Carolina. In addition to the 2,600 employees now working on it, the completed facility will require permanent workers to operate it for up to two decades. The plant is part of the larger Savannah River Site in South Carolina, an Energy Department-managed site that employs 12,000.¶ Hobson said one of the biggest regrets of his tenure was agreeing to back off efforts to end the project when he was told they could hurt Republican Gov. Mark Sanford’s re-election chances in 2006.¶ “I got rolled,” Hobson said.¶ Laura Peterson of Taxpayers for Common Sense, which has called for an end to the project, said conservative Republicans who otherwise might be expected to complain about cost overruns are deterred by the support it enjoys from Graham. And Hobson said DeMint — a leading champion of small government and spending cuts who now heads The Heritage Foundation — never suggested killing the MOX program.¶ “This is worse than earmarks,” Hobson said. “This is appalling.”¶ Neither Graham’s nor DeMint’s staffs responded to requests to comment on the project, but Wilson and other supporters say it is vital to fulfilling the 2000 arms deal with Russia. Failing to move ahead with the program, Wilson warned, could lead the Russians not to honor its end of the agreement.

#### CIR won’t pass – amnesty and enforcement concerns, and Obama tanks the deal – released draft proves

Cohen 2-19 (Tom, Immigration debate: high-stakes political poker, CNN, http://www.cnn.com/2013/02/18/politics/immigration-politics/index.html, da 2-22-13)

Whether a political ploy or bona fide proposal, a leaked version of President Barack Obama's draft immigration plan raised Republican hackles while bringing some additional focus to the debate.¶ The draft plan reported over the weekend by USA Today and confirmed to CNN by an administration official included a possible path to coveted permanent residency in eight years for most of the nation's estimated 11 million undocumented immigrants.¶ It also called for steps to strengthen border security and the E-Verify system to check the immigration status of workers.¶ GOP critics pounced, with some objecting to any form of what they label "amnesty" for those in the country illegally. Others accused Obama and the White House of dirty tricks by going public with their draft as a bipartisan group of senators works on a possible agreement.¶ Conservative Sen. Jeff Sessions of Alabama complained on Monday that both the Obama draft and the talks involving the Senate's so-called Gang of Eight seek to "confer legal status and work authorization on Day One in exchange for promises of future enforcement on which this administration will never deliver."¶ "Perhaps this leak, and what it reveals, may mark the beginning of the collapse of this new scheme to force through a fatally flawed plan," Sessions said in a statement.¶ Others accused Obama of deliberately floating an unacceptable plan so that Republicans would reject it, bringing the party further disfavor from Hispanic Americans, the nation's fastest-growing demographic.¶ "Does the president want a result, or does he want another cudgel to beat up Republicans so that he can get political advantage in the next election?" veteran GOP Sen. John McCain of Arizona said Sunday on NBC's "Meet the Press."¶ To former Rep. Connie Mack, a Florida Republican, "a little bit of this is show from everyone, including the president's side."¶ Regardless of how it happened, the leak of Obama's plan "plays into the fears" of Republicans that the president prefers keeping the issue alive for political advantage, Mack told CNN on Monday.¶ His wife -- former Republican Rep. Mary Bono Mack of California -- agreed that the leak added to what she called an already deep trust deficit in Washington.¶ "The American people would be astonished if they knew how little trust existed between the two parties when we have to work together like this," Bono Mack said on CNN.

#### Bottom of the docket – won’t be voted upon until after immigration.

#### Senate Democrats block in SQUO – Obama has to reach out to them.

Kromm 2-21 (Chris, “Will Southern Democrats derail immigration reform?”, The Institute for Souther Studies,

<http://www.southernstudies.org/2013/02/will-southern-democrats-derail-immigration-reform.html>, RSR)

Ever since President Obama announced his intention to fight -- again -- for broad-ranging immigration reform in his Feb. 13 State of the Union address, media coverage has been dominated by his struggle to find common ground with the so-called Gang of Eight key U.S. Senators, including Florida Republican Sen. Marco Rubio.¶ But Obama's biggest obstacle to pushing through reform in the coming months may be a Gang of Seven Senate Democrats -- including four in the South -- who face difficult elections in 2014 and will be carefully calculating the political pros and cons of embracing Obama's immigration overhaul.¶ Shortly after Obama's speech, Larry Sabato's Center for Politics reported that "the seven most imperiled [U.S. Senate] seats in the whole country are all currently held by Democrats." The top battlegrounds include seats currently held by Sens. Kay Hagan in North Carolina, Mary Landrieu in Louisiana and Mark Pryor in Arkansas, as well as an open seat vacated by retiring Sen. Jay Rockefeller of West Virginia.¶

#### Senate democrats love nuclear power.

Bartash, ‘11

[Jeffry, “Democrats warm to nuclear, domestic drilling”, 4-15-11, Marketwatch

<http://articles.marketwatch.com/2011-04-15/economy/30789692_1_nuclear-power-nuclear-plants-nuclear-energy>, RSR]

WASHINGTON (MarketWatch) — At a hearing this week, Democratic Sen. Tom Carper of Delaware asked one of the nation’s top regulators how many Americans have been killed by nuclear power. ”There are no known fatalities in the U.S. from the use of nuclear energy,” replied Gregory Jaczko, chairman of the Nuclear Regulatory Commission. Carper then turned to Lisa Jackson, administrator of the Environmental Protection Agency. He asked her how many people have been killed or had their lives shortened by the use of pollution-emitting fossil fuels. Tens of thousands, she said. The senator sat back in his chair and nodded. “All sources of energy involve risks,” he said. Carper, a longtime supporter of nuclear power, is not the only Democrat who’s weighing every option available on how to fuel the massive U.S. economy. Many other members of his party are as well — no doubt egged on by soaring gas prices and public discontent. And while Democrats aren’t chanting “drill, baby, drill,” they appear to be concluding that nuclear power and more domestic drilling, once anathema, are vital to America’s energy future. At several hearings this week, nary a word was said about abolishing nuclear power despite the recent disaster in Japan. And Democrats say the are open to drilling for more natural gas in the continental U.S. despite growing concerns over an extraction practice called “fracking.”

#### Immigration reform won’t pass – GOP hates Obama and Rubio will scuttle the deal

Grunwald 2-20 [Michael, Yes, Rubio and Obama Mostly Agree on Immigration. No, That Doesn’t Mean Reform Is Inevitable, Time, Swampland, http://swampland.time.com/2013/02/20/yes-rubio-and-obama-mostly-agree-on-immigration-no-that-doesnt-mean-reform-is-inevitable/]

Yes, Rubio and Obama Mostly Agree on Immigration. No, That Doesn’t Mean Reform Is Inevitable. It’s true that Senator Marco Rubio’s stated principles for comprehensive immigration reform are quite similar to President Obama’s. It’s also true that when Rubio attacks the president over reform, as he did after a White House legislative draft leaked last weekend, he’s signaling to his fervently anti-Obama base that he’s still a solid Tea Party Republican. As I wrote in my Rubio profile, “some of this is Beltway theater; reform could become toxic to Republicans if it’s perceived as Obama-friendly.” This is why smart restrictionists like Mark Krikorian of the National Review as well as smart reformers like Benjy Sarlin of Talking Points Memo seem to agree that Rubio is just posturing, that what really matters are the similarities between his principles and the president’s, that the partisan theater is designed to reduce Republican resistance to bipartisan reform. Well, maybe. Obama did call Rubio in Jerusalem Tuesday night, and both sides expressed ritual optimism. But there are some real differences between Rubio and Obama on immigration. Sure, Rubio’s rhetoric could help make reform politically palatable to Republicans, and even help move reform substantively to the right. But it could also help lay the groundwork for Rubio to scuttle reform, accuse Obama of overreaching, and claim credit for trying to forge a bipartisan solution. Beltway theater can have real consequences, and the more Rubio threatens to walk away from any deal that doesn’t include everything he wants, the more pressure he will face to walk away when the deal, inevitably, doesn’t include everything he wants. Nobody but Rubio knows how far he is willing to bend to cut a deal few of his supporters want with a president most of his supporters despise.

### Tech K

#### Our interpretation is that debate should be a question of the aff plan versus a competitive policy option or the status quo.

#### This is key to ground and predictability – infinite number of possible kritik alternatives or things the negative could reject explodes the research burden. That’s a voting issue.

#### Policies matter – effective energy choices depend on technical political literacy

Hodson, professor of education in the Ontario Institute for Studies at the University of Toronto, ‘10

[Derek, “Science Education as a Call to Action,” Canadian Journal of Science, Mathematics and Technology Education, Vol. 10, Issue 3, p. 197-206]

\*\*note: SSI = socioscientific issues

The final (fourth) level of sophistication in this issues-based approach is concerned with students findings ways of putting their values and convictions into action, helping them to prepare for and engage in responsible action, and assisting them in developing the skills, attitudes, and values that will enable them to take control of their lives, cooperate with others to bring about change, and work toward a more just and sustainable world in which power, wealth, and resources are more equitably shared. Socially and environmentally responsible behavior will not necessarily follow from knowledge of key concepts and possession of the “right attitudes.” As Curtin (1991) reminded us, it is important to distinguish between caring about and caring for. It is almost always much easier to proclaim that one cares about an issue than to do something about it. Put simply, our values are worth nothing until we live them. Rhetoric and espoused values will not bring about social justice and will not save the planet. We must change our actions. A politicized ethic of care (caring for) entails active involvement in a local manifestation of a particular problem or issue, exploration of the complex sociopolitical contexts in which the problem/issue is located, and attempts to resolve conflicts of interest. FROM STSE RHETORIC TO SOCIOPOLITICAL ACTION Writing from the perspective of environmental education, Jensen (2002) categorized the knowledge that is likely to promote sociopolitical action and encourage pro-environmental behavior into four dimensions: (a) **scientific and technological knowledge** that informs the issue or problem; (b) knowledge about the underlying social, political, and economic issues, conditions, and structures and how they contribute to creating social and environmental problems; (c) knowledge about how to bring about changes in society through direct or indirect action; and (d) knowledge about the likely outcome or direction of possible actions and the desirability of those outcomes. Although formulated as a model for environmental education, it is reasonable to suppose that Jensen's arguments are applicable to all forms of SSI-oriented action. Little needs to be said about dimensions 1 and 2 in Jensen's framework beyond the discussion earlier in the article. With regard to dimension 3, students need knowledge of actions that are likely to have positive impact and knowledge of how to engage in them. It is essential that they gain robust knowledge of the social, legal, and political system(s) that prevail in the communities in which they live and develop a clear understanding of how decisions are made within local, regional, and national government and within industry, commerce, and the military. Without knowledge of where and with whom power of decision making is located and awareness of the **mechanisms by which decisions are reached**, intervention is not possible. Thus, the curriculum I propose requires a concurrent program designed to achieve a measure of political literacy, including knowledge of how to engage in collective action with individuals who have different competencies, backgrounds, and attitudes but share a common interest in a particular SSI. Dimension 3 also includes knowledge of likely sympathizers and potential allies and strategies for encouraging cooperative action and group interventions. What Jensen did not mention but would seem to be a part of dimension 3 knowledge is the nature of science-oriented knowledge that would enable students to appraise the statements, reports, and arguments of scientists, politicians, and journalists and to present their own supporting or opposing arguments in a coherent, robust, and convincing way (see Hodson [2009b] for a lengthy discussion of this aspect of science education). Jensen's fourth category includes awareness of how (and why) others have sought to bring about change and entails formulation of a vision of the kind of world in which we (and our families and communities) wish to live. It is important for students to explore and develop their ideas, dreams, and aspirations for themselves, their neighbors and families and for the wider communities at local, regional, national, and global levels—a clear overlap with futures studies/education. An essential step in cultivating the critical scientific and technological literacy on which sociopolitical action depends is the application of a social and political critique capable of challenging the notion of technological determinism. We can control technology and its environmental and social impact. More significantly, we can control the controllers and redirect technology in such a way that adverse environmental impact is substantially reduced (if not entirely eliminated) and issues of freedom, equality, and justice are kept in the forefront of discussion during the **establishment of policy**.

#### Permutation do both.

#### Plan necessary to understand reject the harms of the bad side of nuclear technology by recognizing and ending the violence on the fourth world.

Kato, Professor of Political Science at the University of Hawaii, 1993

(Masahide "Nuclear Globalism: Traversing Rockets, Satellites, and Nuclear War via the Strategic Gaze," Alternatives: Global, Local, Political. Pages 352-354, MAG)

Beyond this historical threshold, whose meaning is relevant only to the interimperial rivalry, the nuclear catastrophe is confined to the realm of fantasy, for instance, apocalyptic imagery. And yet how can one deny the crude fact that nuclear war has been taking place on this earth in the name of "nuclear testing" since the first nuclear explosion at Alamogordo in 1945? As of 1991, 1,924 nuclear explosions have occurred on earth.28 The major perpetrators of nuclear warfare are the United States (936 times), the former Soviet Union (715 times), France (192 times), the United Kingdom (44 times), and China (36 times).29 The primary targets of warfare ("test site" to use Nuke Speak terminology) have been invariably the sovereign nations of Fourth World and Indigenous Peoples. Thus history has already witnessed the nuclear wars against the Marshall Islands (66 times), French Polynesia (175 times), Australian Aborigines (9 times), Newe Sogobia (the Western Shoshone Nation) (814 times), the Christmas Islands (24 times), Hawaii (Kalama Island, also known as Johnston Island) (12 times), the Republic of Kazakhstan (467 times), and Uighur (Xinjian Province, China) (36 times).30 Moreover, although I focus primarily on "nuclear tests" in this article, if we are to expand the notion of nuclear warfare to include any kind of violence accrued from the nuclear fuel cycle (particularly uranium mining and disposition of nuclear wastes), we must enlist Japan and the European nations as perpetrators and add the Navaho, Havasupai and other Indigenous Nations to the list of targets.

#### Plan solves waste and mining. That’s 1AC solvency evidence.

#### Reprocessing is not some technocratic solution to the problem of waste – it’s just common sense

Byrd, Executive Director of the National Association of Neighborhoods, ‘11

[Ricardo, Testimony to the Blue Ribbon Commission on America’s Nuclear Future, October 2011]

Good Afternoon. My name is Ricardo C. Byrd. I am the Executive Director of the National Association of Neighborhoods (NAN), an organization that started in 1975. I also serve as the Co-Chairperson of the AREVA North America Community Advisory Council. I am not a nuclear policy or scientific expert; but I am an expert in the application of grass roots common sense to environmental public policy questions. America’s nuclear future is crying out for the application of more common sense. We appreciate the opportunity to appear before you and to comment on the commission’s draft report. This draft report is a good start; however, it is not yet good enough. The report can and must be made better to respond to the need for a clear, time sensitive yet cost effective path for the disposal of the nation’s nuclear waste. The National Association of Neighborhoods is not new to today’s topic. You might wonder why my organization is interested in spent nuclear fuel; after all, we traditionally focus on grass roots empowerment issues, housing, crime, transportation, environmental justice and jobs. Allow me a moment to explain; almost every major electric utility is accessing our members; ratepayers, customers like you and me; a fee, a tax, for the disposal of nuclear waste. Most Americans have no idea that their monthly electric bill includes a fee dedicated to the disposal of spent nuclear fuel. This stealth electric utility tax comes out of our pockets; and with today’s challenging economy, most of us are struggling to count every penny. As early as 1996, the National Association of Neighborhoods inquired how the Nuclear Waste Fund was being spent. In 1997 and 1998, we organized, with the support of the Nuclear Energy Institute, delegations of grass roots, minority business and civil rights organizations, to visit Yucca Mountain, the nation’s planned nuclear waste repository. The National Association of Neighborhoods arranged for minority organizations to see the Indian Point Nuclear Plant in 2007; and in 2008 and 2010, my organization participated in two non-traditional stakeholders visits to France, sponsored by AREVA. In France, we were able to see how the French, with almost 80% of their electric power being generated using nuclear power, addressed their spent nuclear fuel issues. We are here today because the National Association of Neighborhoods is concerned with how the BRC Draft Report can be made better. We offer three recommendations: 1. Reduce the Size of the Problem According to the BRC Draft Report, “…At present, nearly all of the nation’s existing inventory of SNF [Spent Nuclear Fuel] is being stored at the reactor sites where it was generated—about three-quarters of it in shielded concrete pools and the remainder in dry casks above ground. The quantity of commercially-generated spent reactor fuel currently being stored in this manner totals close to 65,000 metric tons.” France is reducing the volume of its spent nuclear fuel by approximately 75% by reprocessing it. If the United States used reprocessing, we would have less than 17,000 tons to dispose of. 2. Turn Spent Nuclear Fuel into a Strategic Asset Reprocessing spent nuclear fuel into new fuel will create a strategic nuclear fuel reserve. This strategy of reprocessing has worked in Europe for over 20 years. Having a nuclear fuel reserve will guarantee supplies that can keep our reactors operating. § Marked 11:06 § 3. Push the Restart Button Now - Through the Use of “Off the Shelf” Technology The National Association of Neighborhoods agrees with the BRC recommendation that we need to move forward with consolidated interim storage capacity. However, we strongly disagree with BRC that there is a need to wait for “new technologies to materialize” before making a decision about reprocessing spent nuclear fuel. The French, the Chinese, the Japanese and the Russians are not waiting “for new technologies to materialize” nor should we. All of humanity has a dog in this fight for safe, reliable, and affordable sources of clean energy.

## 1AR

### Peak Uranium

#### Plan signal solves workforce shortage

Unistar, 10

(January, This UniStar Issue Brief is a publication of UniStar Nuclear Energy, a joint venture of Constellation Energy and EDF Group, “Rebuilding the Nuclear Energy Workforce,” http://www.unistarnuclear.com/IB/workforce.pdf)

The decades-long hiatus in construction of new nuclear energy facilities has contributed to this workforce decline, of course. As the marketplace became less interested in nuclear energy, fewer students entered the discipline, reducing enrollment and forcing the closure of university and skills-based programs. **Reversing this trend will** require building confidence **among individuals in the target demographic that the nuclear renaissance is** real and long term. Washington Must take a stand The nuclear energy industry can only go so far in making critical workforce investments **without a** clear signal **from the Federal government**. Spurred by both industry and political considerations, President Obama and Secretary of Energy Steven Chu have begun the task of promoting green and high-tech jobs in the U.S. In August 2008, while still the director of the Lawrence Berkeley National Laboratory, Dr. Chu and other National Laboratory Directors signed a statement calling for a federal commitment. “For example, the government should establish and fund a nuclear energy workforce development program at universities and colleges to meet the expected [workforce] need.” 11 As the American Nuclear Society stated, “America’s university-based [nuclear science and engineering] programs cannot continue to be leaders in the field without an active [NRC] university program.” Both the total number of nuclear engineering programs and the enrollment in those programs has fallen precipitously since the 1980s. 12 the tiMe is noW Increasing the use of nuclear energy—building new facilities and expanding or relicensing existing ones—will maintain or create tens of thousands of high-paying jobs for American workers. But two key ingredients for a true nuclear energy renaissance are missing. First, the federal government **must demonstrate a long term commitment to a resurgent nuclear energy industry. This means** expanding the NRC university program, funding and issuing loan guarantees, and other **concrete actions.** If we want people to stake their education and career choices on nuclear expansion, **they deserve a** clear signal **that the government supports the industry** with more than just words. Second, companies must commit to a continued investment in their own workforces, through research to understand the laborsupply environment, through training, and through partnerships with organized labor. Ultimately, the government and industry must act together to both provide career opportunities and also ensure that a trained workforce will be available to fill the demand.

#### Disease can’t cause extinction – it’s genetically impossible

Richard Posner, Senior Lecturer in Law at the University of Chicago, judge on the United States Court of Appeals for the Seventh Circuit, January 1, 2005**,** Skeptic, “Catastrophe: the dozen most significant catastrophic risks and what we can do about them,” <http://goliath.ecnext.com/coms2/gi_0199-4150331/Catastrophe-the-dozen-most-significant.html#abstract>

Yet the fact that Homo sapiens has managed to survive every disease to assail it in the 200,000 years or so of its existence is a source of genuine comfort, at least if the focus is on extinction events. There have been enormously destructive plagues, such as the Black Death, smallpox, and now AIDS, but none has come close to destroying the entire human race. There is a biological reason. Natural selection favors germs of limited lethality; they are fitter in an evolutionary sense because their genes are more likely to be spread if the germs do not kill their hosts too quickly. The AIDS virus is an example of a lethal virus, wholly natural, that by lying dormant yet infectious in its host for years maximizes its spread. Yet there is no danger that AIDS will destroy the entire human race. The likelihood of a natural pandemic that would cause the extinction of the human race is probably even less today than in the past (except in prehistoric times, when people lived in small, scattered bands, which would have limited the spread of disease), despite wider human contacts that make it more difficult to localize an infectious disease. The reason is improvements in medical science. But the comfort is a small one. Pandemics can still impose enormous losses and resist prevention and cure: the lesson of the AIDS pandemic. And there is always a lust time.

#### US renaissance now.

Worthington 12 (David Worthington, February 9, 2012, The U.S. nuclear renaissance has begun , Smart Planet, <http://www.smartplanet.com/blog/intelligent-energy/the-us-nuclear-renaissance-has-begun/13058>) JD

There are cooling towers on the horizon in the United States. The nuclear renaissance is slated to begin in rural Georgia with new reactors being built over the next five years, and work is already underway to leap another generation ahead. The Nuclear Regulatory Commission (NRC) today announced that it has granted licenses to a consortium of utilities to erect two [Westinghouse AP 1000](http://www.ap1000.westinghousenuclear.com/) reactors at Southern Company’s existing Vogtle site, clearing a path to end a decades long hiatus in new construction. Westinghouse’s design incorporates passive cooling, which extends the duration under which a reactor can operate safely without outside intervention in the event of a disaster. The AP 1000 is classified as Generation III+ reactor. Generation III+ reactors have more [redundant systems](http://www.smartplanet.com/blog/intelligent-energy/americas-nuclear-future/6946) than older reactor designs. Those include emergency cooling systems, a double containment system, and an ashtray like cooling area to capture molten fuel in the event of a meltdown. Existing U.S. nuclear reactors require active cooling such as electric water pumps. Japan’s Fukushima used active cooling, and its reactors melted down last spring when external power was unavailable. There are a total of 104 nuclear plants in the U.S today that are dependent upon active cooling. The meltdown risk associated with those legacy reactors and the high capital requirements of nuclear power are some of the reasons why no new reactor has been built in the U.S since the late 1970’s, when the 1979 Three Mile Island incident soured public sentiment. For now, anti-nuclear sentiment has been marginalized. The U.S. is energy hungry and nuclear power is receiving generous government subsidies. The Vogtle reactors would power up to 1 million homes at a cost of US$14 billion, CNN [reported.](http://money.cnn.com/2012/02/08/news/economy/nuclear_reactors/index.htm?hpt=hp_t3)

### Politics

#### Obama push is the kiss of death - GOP will oppose any deal Obama supports

Driscoll 2-20 [Julie, Writer for Smoking Hot Politics, Republican Hatred for Obama Flames Anew, LAProgressive.com, http://www.laprogressive.com/republican-hatred-for-obama/?utm\_source=feedburner&utm\_medium=feed&utm\_campaign=Feed%3A+CommentsForTheLaProgressive+(Comments+for+The+LA+Progressive)]

Newt Gingrich and I are in agreement on something (and no, it’s not philandering or attraction to bubble-headed bleached blondes): Republicans will squash the bi-partisan immigration reform bill because (1) they can, and (2) they hate President Obama.¶ Here are some things I know:¶ The confirmation – or, non-confirmation – of Chuck Hagel has Republicans purely gleeful, especially since they were able to make history by the first-ever filibuster of a Defense Secretary nomination. Once again, they have a platform to baselessly attack someone President Obama thinks highly of. The fact that their rumor-mongering has little basis in reality – and, as Huff Po’s Jason Linkins noted, Republicans, led by Lindsay Graham, are operating on the “Boy, it sure would be bad if Hagel did something terrible that I’ve no proof he’s done!” mode of attack – hasn’t stopped them yet. Sanity may yet prevail, but let’s not hold our collective breath.¶ Republicans will use the sequester to try to rid themselves once and for all of that pesky Obamacare (which Americans are now liking more and more). Lindsay Graham, laughably, wants us to believe that if we sacrifice Obamacare, the sequester won’t happen. He also wants us to believe that he actually cares about the deep social cuts that will result should the sequester occur. I laugh at both notions.¶ Republicans are, as we speak, working on an end-around to blame President Obama for the sequester, even though, as Jason Linkins wrote, the sequester is “something that Congress enthusiastically passed, and then fulsomely praised as a model of bipartisan cooperation that would change the culture of Congress.” Fox News’ Chris Wallace pointed out that Republicans will likely get the blame, should the sequester take place, because Republicans are “digging in their heels” to protect tax cuts. They will blame President Obama, and the American public will blame Republicans - rightfully so, because it’s their damn fault.¶ President Obama’s immigration reform policy is going to be roundly shot down by Republicans, and Hispanic warrior Rubio will be the ringleader. If I’m not mistaken, President Obama had the support of, what, 75% of Latino voters in 2012 – and as we speak, Republicans are losing the remaining 25%. It doesn’t matter that Republicans would normally agree with criminal background checks, expanding E-verify, and other elements of the President’s reform plan; it’s President Obama’s plan, and therefore the devil.¶ Bi-partisan gun control is going to be so watered down (or non-existent) because of the OOO of Republicans (Opposition, Obstruction and Obstinance) that we may as well shelve it until Dems can take back the House. It’s interesting that the people who would benefit most from gun control – minorities, Hispanics, and people in urban areas with high levels of gun violence – are the people Republicans should be courting shamelessly, considering that Republicans got almost none of that demographic’s vote in 2012. Only 18% of Latinos own guns; and Republicans are determined to piss off the other 82% by pushing back against sensible gun control legislation. As Marco Rubio – the thirsty Senator largely considered the Republican Party’s savior – said, he’s heartbroken about Sandy Hook, but “unconstitutionally undermining the Second Amendment rights of law-abiding Americans is not the way to do it.”¶ Republicans will continue to blame mental health issues, instead of guns, for gun violence. Even though the majority of mass killers obtained their guns legally, for some reason Republicans want to take guns out of the equation in the discussion of gun violence. Of course, their sudden, intense focus and alleged concern for the mentally ill is newly-created: After all, it wasn’t so long ago that these same Republicans were voting against measures to benefit the mentally ill. And, of course, the Affordable Care Act that Republicans are panting to repeal, provides increased benefits to the mentally ill.¶ This whole idea of raising the minimum wage to a whopping $9 an hour – which would still keep many people below the poverty level – will be OOO’d by the Republicans until the idea is driven out of Washington. Although there’s skimpy evidence (as documented here by the Center for Economic and Policy Research) that raising the minimum wage causes a drop in employment or foists other horrors on society, Republicans will continue to use this club against the President – under the guise of caring about the unemployed, but in actuality in defense of big business and their multi-billion dollar profits. Here’s a concept: How about trimming down some of those CEO salaries so the low-wage workers can get a boost out of poverty? What I know is that Republicans will never, ever go for this. They just don’t care. As Harry S. Truman noted, “The Republicans believe in the minimum wage — the more the minimum, the better.”¶ What I know about Republicans is that they’ll continue to be delusional, insane, cruel, selfish, petty, obstructionist and mean-spirited. They’ll continue to deny that insurance rates are rising now because of the greed of insurance companies - which hope to grandfather people in at higher rates before the Affordable Care Act takes full effect – and isn’t a result of the Affordable Care Act. They’ll continue to look at Ted Nugent as a patriot and not a violent extremist. They’ll continue to fight to preserve tax cuts for the richest Americans.¶ If President Obama even thinks of something, Republicans will look for ways to oppose it. This is nothing new; it’s been the standard since 2008. But during the first term, Republicans had as their sole goal denying the President a second; in this, the President’s second term, Republicans want to make sure they deny him a legacy.