# Round 4 vs. Iowa LL (Aff)

## 1AC

### Inherency

#### Observation One: Inherency

#### Nuclear renaissance now – US subsidizing the industry

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)

#### This renaissance is global – Fukushima doesn’t matter and reactors being built now.

Marketwire 12

[5/3/12, – Part of the Paragon Report on uranium ore stock future

http://finance.yahoo.com/news/nuclear-renaissance-back-track-122000381.html]

NEW YORK, NY--(Marketwire -05/03/12)- Last year the Fukushima disaster in Japan started a downward spiral for companies in the Uranium Industry. Approximately one year later the industry looks to be finally recovering as the Global X Uranium ETF (URA) is up nearly 12 percent year-to-date. "Fukushima put a speed bump on the road to the nuclear renaissance," Ganpat Mani, president of Converdyn, said at a nuclear industry summit. "It's not going to delay the programs around the world." The Paragon Report examines investing opportunities in the Uranium Industry and provides equity research on Cameco Corporation (CCJ - News) and Uranium One, Inc. (UUU.TO - News). Approximately 650 million people in China and India currently are living without electricity. With the high costs of fossil fuel the most viable options for these countries would be nuclear power. Indonesia, Egypt, and Chile are among some of the nations that have plans to build their first nuclear power station, the list of countries operating atomic plants currently stands at 30. According to numbers released by the World Nuclear Association there are 61 reactors that are presently under construction, and plans to build another 162. "In two years, there will be very strong demand on the market, as new reactors start operating, and as new contracts with the existing fleet kick in," Areva SA's Chief Commercial Officer Ruben Lazo said in a previous interview.

#### But, the US is not reversing course on reprocessing.

Saillan 10 (Charles, attorney with the New Mexico Environment Department, Harvard Environmental Law Review, 2010, “DISPOSAL OF SPENT NUCLEAR FUEL IN THE UNITED STATES AND EUROPE: A PERSISTENT ENVIRONMENTAL PROBLEM”, Vol. 34, RSR)

The U.S. government’s position on reprocessing changed in 1974 when India exploded a nuclear weapon in the state of Rajasthan. 150 The weapon’s plutonium was isolated with reprocessing equipment imported for “peaceful purposes.” 151 Rightly concerned about the dangers of nuclear proliferation, President Ford announced that the United States would no longer view reprocessing as a necessary step in the nuclear fuel cycle. He called on other nations to place a three-year moratorium on the export of reprocessing technology. 152 In 1977, President Carter indefinitely deferred domestic efforts at reprocessing and continued the export embargo. 153 Although President Reagan reversed the ban on domestic reprocessing in 1981, 154 the nuclear industry has not taken the opportunity to invest in the technology. In 2006, the George W. Bush Administration proposed a Global Nuclear Energy Partner ship (“GNEP”) for expanded worldwide nuclear power production. 155 As a key component of the GNEP proposal, the United States would provide other nations with a reliable supply of nuclear fuel, and it would take back the spent fuel for reprocessing at a commercial facility in the United States, thus avoiding the spread of reprocessing technology. 156 However, the Obama Administration substantially curtailed GNEP in 2009, and is “no longer pursuing domestic commercial reprocessing.” 157

### Observation 2

#### Observation Two: Waste

#### In the short term US nuclear waste is stored on-site.

Galbraith 11 (Kate, Staff Writer, “A New Urgency to the Problem of Storing Nuclear Waste”, New York Times, 11-27-11, http://www.nytimes.com/2011/11/28/business/energy-environment/a-new-urgency-to-the-problem-of-storing-nuclear-waste.html, RSR)

Other countries are also looking at waste in new ways in the post-Fukushima world. Right now, worldwide, most spent fuel waste is stored on the site of the facility that produced it, in spent-fuel pools and, after it eventually cools, dry casks. Experts say dispersed storage is expensive and that central storage would be more secure. Few countries , apart from Sweden and Finland, have moved forward on centralized disposal sites, deep in the earth, designed to hold the waste permanently. France is evaluating a permanent disposal site for spent fuel , near the remote northeastern village of Bure.

#### On-site storage is dangerous – storage pools are vulnerable to accidents.

Alvarez 12 (Robert, Senior Scholar at IPS, where he is currently focused on nuclear disarmament, environmental, and energy policies, “Improving Spent-Fuel Storage at Nuclear Reactors”, Winter, ISSUES IN SCIENCE AND TECHNOLOGY, RSR)

Until the NAS completes its study, if it agrees to do so, the bulk of current attention is focused on the NRC’s analysis of the Fukushima disaster. As in Japan, U.S. spent-fuel pools are not required to have defense-in-depth nuclear safety features. They are not covered by the types of heavy containment structures that cover reactor vessels. Reactor operators are not required have backup power supplies to circulate water in the pools and keep them cool in the event of onsite power failures. Reactor control rooms rarely have instrumentation keeping track of the pools’ water levels and chemistry. (In one incident at a U.S. reactor, water levels dropped to a potentially dangerous level after operators simply failed to look into the pool area.) Some reactors may not have the necessary capabilities to restore water to pools when needed. Quite simply, spent-fuel pools at nuclear reactors are not required to have the same level of nuclear safety protection as required for reactors, because the assumption was that they would be used only for short-term storage before the rods were removed for reprocessing or permanent storage. In its interim report, the NRC task force recognized these shortcomings and recommended that the NRC order reactor operators to: • “. . . provide sufficient safety-related instrumentation, able to withstand design-basis natural phenomena, to monitor key spent fuel pool parameters (i.e., water level, temperature, and area radiation levels) from the control room.” • “. . . revise their technical specifications to address requirements to have one train of onsite emergency electrical power operable for spent fuel pool makeup and spent fuel pool instrumentation when there is irradiated fuel in the spent fuel pool, regardless of the operational mode of the reactor.” • “. . . have an installed seismically qualified means to spray water into the spent fuel pools, including an easily accessible connection to supply the water (e.g., using a portable pump or pumper truck) at grade outside the building.” Improving pool safety is certainly important. For decades, nuclear safety research has consistently pointed out that severe accidents could occur at spent-fuel pools that would result in catastrophic consequences. A severe pool fire could render about 188 square miles around the nuclear reactor uninhabitable, cause as many as 28,000 cancer fatalities, and cause $59 billion in damage, according to a 1997 report for the NRC by Brookhaven National Laboratory. If the fuel were exposed to air and steam, the zirconium cladding around the fuel would react exothermically, catching fire at about 800 degrees Celsius. Particularly worrisome are the large amounts of cesium-137 in spent-fuel pools, because nearly all of this dangerous isotope would be released into the environment in a fire, according to the NRC. Although it is too early to know the full extent of long-term land contamination from the accident at the Dai-Ichi station, fragmentary evidence has been reported of high cesium-137 levels as far away as metropolitan Tokyo. The NRC also has reported that spent-fuel fragments were found a mile away from the reactor site. The damage from a large release of fission products, particularly cesium-137, was demonstrated at Chernobyl. More than 100,000 residents from 187 settlements were permanently evacuated because of contamination by cesium-137. The total area of this radiation-control zone is huge: more than 6,000 square miles, equal to roughly two-thirds the area of New Jersey. During the following decade, the population of this area declined by almost half because of migration to areas of lower contamination.

#### The densely packed fuel is enough to trigger a full scaled meltdown – Fukushima proves.

Kinitisch 11 (Eli, Reporter at Science Magazine, “Waste Panel Expected To Back Interim Storage”, Science Magazine, Vol. 333, 7-8-11, RSR)

In any case, experts agree, some new plan for waste storage is essential. Waste currently stored in pools and casks at U.S. sites does not pose “unmanageable … safety or security risks,” says a subcommittee report. But every ton that stays at reactor sites makes those risks slightly greater. Fuel in U.S. spent fuel pools is packed four times as densely as it was 25 years ago, raising concerns about the risk of explosions or meltdown if the pools were to empty in an accident. The tsunami that devastated the Fukushima nuclear plant in Japan in March may have resulted in a loss of water in one of its ponds (Science, 1 April, p. 24). A draft commission report says the issue of the safety of keeping fuel densely packed in pools should be “reexamined,” although “it is still too early to draw deﬁ nitive conclusions” from the Fukushima accident. It calls for an expert panel at the National Academies to tackle the subject.

#### These catastrophic meltdowns cause extinction – reactors contain 100x the radiation of nuclear bombs.

Lendman 11 (Stephen, Research Associate of the Centre for Research on Globalization,

03/ 13, “Nuclear Meltdown in Japan,”, The People’s Voice <http://www.thepeoplesvoice.org/TPV3/Voices.php/2011/03/13/nuclear-meltdown-in-japan>, accessed 8-2-12, RSR)

Reuters said the 1995 Kobe quake caused $100 billion in damage, up to then the most costly ever natural disaster. This time, from quake and tsunami damage alone, that figure will be dwarfed. Moreover, **under a worst case** core **meltdown, all bets are off as the entire region and beyond will be threatened with permanent contamination**, making the most affected areas unsafe to live in. On March 12, Stratfor Global Intelligence issued a "Red Alert: Nuclear Meltdown at Quake-Damaged Japanese Plant," saying: Fukushima Daiichi "nuclear power plant in Okuma, Japan, appears to have caused a reactor meltdown." Stratfor downplayed its seriousness, adding that such an event "does not necessarily mean a nuclear disaster," that already may have happened - the ultimate nightmare short of nuclear winter. According to Stratfor, "(A)s long as the reactor core, which is specifically designed to contain high levels of heat, pressure and radiation, remains intact, the melted fuel can be dealt with. If the (core's) breached but the containment facility built around (it) remains intact, the melted fuel can be....entombed within specialized concrete" as at Chernobyl in 1986. In fact, that disaster killed nearly one million people worldwide from nuclear radiation exposure. In their book titled, "Chernobyl: Consequences of the Catastrophe for People and the Environment," Alexey Yablokov, Vassily Nesterenko and Alexey Nesterenko said: "For the past 23 years, it has been clear that there is a danger greater than nuclear weapons concealed within nuclear power. **Emissions from** this **one reactor** exceeded a hundred**-fold the radioactive contamination of** the bombs dropped on **Hiroshima and Nagasaki.**" "**No** citizen of any **country** can be assured that he or she **can be protected from radioactive contamination. One nuclear reactor can pollute half the globe.** Chernobyl fallout covers the entire Northern Hemisphere." Stratfor explained that if Fukushima's floor cracked, "it is highly likely that the melting fuel will burn through (its) containment system and enter the ground. This has never happened before," at least not reported. If now occurring, "containment goes from being merely dangerous, time consuming and expensive to nearly impossible," making the quake, aftershocks, and tsunamis seem mild by comparison. Potentially, millions of lives will be jeopardized. Japanese officials said Fukushima's reactor container wasn't breached. Stratfor and others said it was, making the potential calamity far worse than reported. Japan's Nuclear and Industrial Safety Agency (NISA) said the explosion at Fukushima's Saiichi No. 1 facility could only have been caused by a core meltdown. In fact, 3 or more reactors are affected or at risk. Events are fluid and developing, but remain very serious. The possibility of an extreme catastrophe can't be discounted. Moreover, independent nuclear safety analyst John Large told Al Jazeera that by venting radioactive steam from the inner reactor to the outer dome, a reaction may have occurred, causing the explosion. "When I look at the size of the explosion," he said, "it is my opinion that there could be a very large leak (because) fuel continues to generate heat." Already, Fukushima way exceeds Three Mile Island that experienced a partial core meltdown in Unit 2. Finally it was brought under control, but coverup and denial concealed full details until much later. According to anti-nuclear activist Harvey Wasserman, Japan's quake fallout may cause nuclear disaster, saying: "This is a very serious situation. **If the cooling system fails** (apparently it has at two or more plants), the super-heated **radioactive fuel rods will melt**, and (if so) you could conceivably have an explosion," that, in fact, occurred. As a result, **massive radiation releases may follow**, impacting the entire region. "**It could be**, literally, **an apocalyptic event.**

#### On-site waste storage is the EASIEST target for a terrorist attack – it’s the most vulnerable.

Rogers 6 (Ken, Professor and Chair of the Political Science Department at Coastal Carolina University, “Radioactive Waste Storage/Disposal Policy: A Paradigm for Homeland Security and Energy Security”, Midsouth Political Science Review, 2006, Vol. 8, RSR)

The inability of U.S. policymakers to come to grips with the problem of what to do with the continued generation of radioactive waste has both homeland security and energy security implications. Clearly, the events of 9/11 have focused attention on the potential for a terrorist attack on nuclear facilities. While much of this concern has been directed towards an attack on the reactors themselves, the radioactive waste stored on-site – especially the waste stored outdoors above ground in dry casks – is more problematic since it is far more vulnerable to any terrorist assault. Thus, the major terrorist threat to nuclear power facilities is not to the reactors, but the radioactive waste that they generate.

#### On site storage vulnerable to terrorist theft – fewer security measures due to assumed radioactive safeguards.

Bunn 9 (Matthew, Associate Professor at Harvard University's John F. Kennedy School of Government, “Reducing the greatest risks of nuclear theft & terrorism”, Daedalus, American Academy of Arts and Sciences, Fall, RSR)

A building with nuclear material that terrorists could readily make into a nuclear bomb needs more security than a building with lower-quality material that would be very difficult for adversaries to use to make a bomb. But this sensible “graded safeguards” approach, used in national regulations and international recommendations around the world, must avoid slipping into what might be called “cliffed safeguards,” in which security falls off catastrophically if nuclear material is beyond some arbitrary threshold that has little relation to real risk. For example, under current Nuclear Regulatory Commission (nrc) rules in the United States, nuclear material that would normally require security measures costing millions of dollars a year requires none of that if it is radioactive enough to cause a radiation dose of one Sievert per hour at one meter– a level considered radioactive enough to make the material “self-protecting.” But studies at the national laboratories have shown that at this level of radiation, thieves who carried the material out to a waiting truck with their bare hands would not even receive a big enough dose of radiation to make them feel sick. In a world of suicidal terrorists, these rules–and similar, though less extreme, international rules– urgently need to be revised. More broadly, in-depth assessments of how different chemical, physical, isotopic, and radiological properties of a material affect the odds that adversaries would succeed in making a bomb from it should be used to determine how much security can be relaxed for particular types of material while keeping overall risks low. In making these assessments, it is important to remember that heu at enrichment levels far below the 90 percent U-235 level considered “weapons grade” can still readily be used in a bomb, at the cost of using somewhat more material. So past policies that have focused cooperative security upgrades only on sites whose heu is at least 80 percent U-235 should certainly be revised. Similarly, while weapons designers prefer weapons-grade plutonium, produced specifically to contain 90 percent or more Pu-239, the “reactor grade” plutonium produced in the spent fuel from typical power reactors can also be used to make fearsome explosives, despite the extra neutrons, heat, and radiation generated by the less desirable plutonium isotopes it contains. Indeed, repeated government studies have concluded that any state or group capable of making a bomb from weapons-grade plutonium would also be able to make a bomb from reactor-grade plutonium. 6

#### 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.

#### In the long term, waste will be stored at Yucca – only option.

Tollefson 11 (Jeff, former Knight fellow in science journalism at MIT, “Battle of Yucca Mountain rages on”, Nature, Vol. 473, No. 266, 5-19-11, RSR)

The commission intends to issue a draft report in July and a final one next January. With its recommendations in hand, the administration is expected to propose legislation that would establish a new process for identifying nuclear waste storage sites. Yet such a process could well take decades, the GAO report concludes, and the government’s reversal at Yucca Mountain could serve to galvanize public opposition at other candidate sites. Since the debate began, “no states have expressed an interest in hosting a permanent repository for this spent nuclear fuel ... including the states with sites currently storing the waste”, the report adds. The commission’s scheme for an interim storage facility may prove no more appealing, given fears that ‘interim’ means permanent as long as the present impasse continues. Such fears have in the past halted interim storage proposals in states such as Wyoming. And even if one community decides that it is willing to play host to the waste, that doesn’t mean others won’t challenge nuclear-waste transportation routes. Nevertheless, the nation will need to find a permanent repository at some point, and Yucca Mountain, it seems, is down but not out. “Yucca Mountain has nine lives,” says Ed Davis, a nuclear consultant who heads the Pegasus Group in Washington DC. “And nobody knows how many lives have been used up.”

#### Yucca explosion is likely - earthquakes, volcanoes, and ground water

Warrick 98 (Joby, Staff, At Nevada Nuclear Waste Site, The Issue Is One of Liquidity; Studies Citing Risk of Water Seepage Imperil Yucca Mountain Project, The Washington Post, December 15, p. A3)

More recent studies raised different kinds of concerns. A report in March by the California Institute of Technology found new evidence of geological instability in the region, including relatively rapid shifting of the Earth's crust near the mountain. The movement raises the probability of future earthquakes or volcanic eruptions.¶ And last week, a Russian geologist claimed that hot water from deep underground had flooded the mountain at least once in the geologically recent past. Yuri V. Dublyansky, of the Siberian branch of the Russian Academy of Sciences, said flooding could happen again, with potentially calamitous results.¶ "We can be reasonably sure that Yucca Mountain was at some point in the past saturated with water. The crucial question is when," said Dublyansky, who obtained rock samples from inside the mountain while working for Nevada state officials who hope to defeat the project. "Any decision on whether Yucca Mountain should be a repository for nuclear waste should be preceded by a resolution of that question."¶ The evidence of past flooding comes from crystals of calcite and other minerals that were formed when the mountain was already old, said Dublyansky, now a research fellow for the Maryland-based Institute for Energy and Environmental Research. Microscopic bubbles inside the rocks, known as "fluid inclusions," prove that the crystals were formed in the presence of hot water -- which could only have come from underground thermal springs, Dublyansky said.¶ At his request, the findings were reviewed by independent scientists from Austria, Great Britain and Nevada -- all of whom backed his basic conclusions. But U.S. government scientists ridiculed Dublyansky's research as unscholarly. "We are disturbed," said Joe Whelan of the U.S. Geological Survey in a written critique, "by Dr. Dublyansky's shrewd and nonscientific arguments that seem to be crafted for readers unfamiliar with the specific Yucca Mountain geologic relations."¶ Szymanski, the former Energy Department geologist, also had argued that a thermal upwelling had occurred at Yucca Mountain and sees the new evidence as vindication. He thinks a combination of water and the red-hot temperatures of the nuclear waste casks could spark an explosion that could spew lethal doses of radiation into the atmosphere.¶ "This is direct evidence," Szymanski said. "And if anybody doubts the results, they can go back and measure them again. They're very easy to verify."

#### Yucca explosion results in extinction – top geologists agree.

Broad 90 (William, NYT Staff, The New York Times, November 18)

One scientist, however, has quietly but persistently warned that this vision of a safe repository is little more than a delusion.¶ Jerry S. Szymanski (pronounced sha-MAN-ski) is a geologist who works on the Yucca Mountain project for the United States Department of Energy, which is in charge of evaluating the site and would run the repository. For years, he has argued that ground water under the mountain could eventually well up, flood the facility and prompt a calamity of vast proportions. The geological action is easy to visualize. Crustal stresses in the area slowly open fractures and faults under and within the mountain. Water seeps into them. An earthquake occurs, compressing the fractures and forcing the ground water upward into the dump. As the inrushing water comes into contact with the hot canisters of nuclear waste, the water is vaporized, threatening to cause explosions, ruptures and the release of radioactivity.¶ Szymanski has worked for the D.O.E. since 1983. He takes pains to distance himself from foes of nuclear power. "This report is not the act of a disgruntled employee or an antinuclear freak," he wrote in the preface of a study he made on Yucca Mountain. "Rather, it is the act of a deeply concerned scientist, a public servant and a pro-nuclear activist."¶ He chain-smokes Winstons and drinks Scotch, neither of which seems to impair his ability to take brisk hikes up the mountain with his dog Max, a fierce-looking but friendly creature that is half Labrador, half pit bull. Szymanski's eyes flash when he speaks of those who oppose his view of the evidence. "It's banality of thought," he growls, "absence of depth." That same kind of banality, he says, was responsible for the Holocaust, around which his earliest memories revolve, and for a brutal crackdown in his native Poland, which prompted him to flee that country two decades ago with his wife and 6-month-old son. Today, he says, banality is prompting the Federal Government to court disaster.¶ Squinting in the bright Nevada sunlight, a cigarette firmly in his mouth, Szymanski walks into Trench No. 8, a deep scar on the side of Yucca Mountain dug at the behest of the Energy Department. It runs across a fault. He bends down to examine a one-yard-wide vein of rock whose creamy color stands in contrast to the dark, surrounding earth tones. His fingers play over its surface. The vein was deposited, he says, by mineral-laden water that welled up and turned this desolate site into an oasis.¶ "This is above the repository level," he says with studied understatement. The implication is clear and troubling -- where water once flowed, it might flow again.¶ The repository would hold up to 70,000 metric tons of waste. A large release would have an environmental impact that, by some estimates, would exceed that of a nuclear war. For perspective, the explosion of the Chernobyl reactor in the Soviet Union shot into the atmosphere just a few dozen pounds of highly radioactive nuclear waste, one of the most dangerous components of which was cesium 137 (it would also be a significant part of the waste at Yucca Mountain). Various studies say the consequences of Chernobyl will eventually be somewhere between 17,000 and 475,000 deaths from cancer, as well as an alarming number of serious ailments.¶ For half a decade, Szymanski's was a lone voice. His grim appraisal was opposed by almost everyone else on the Yucca Mountain project, who let their displeasure be known in subtle and not-so-subtle ways. But recently, growing ranks of geologists have backed his view. The dispute is by no means resolved.¶ If Szymanski is right and his warnings are heeded, it could mark the end of the Yucca Mountain project. The retreat would be a stunning setback for the Government and the nuclear-power industry, which is poised for a revival. If he is right and his warnings go unheeded, some experts say it might be the beginning of the ultimate end.¶ "You flood that thing and you could blow the top off the mountain," says Charles B. Archambeau, a geophysicist at the University of Colorado who has reviewed Szymanski's work and found it persuasive. "At the very least, the radioactive material would go into the ground water and spread to Death Valley, where there are hot springs all over the place, constantly bringing water up from great depths. It would be picked up by the birds, the animals, the plant life. It would start creeping out of Death Valley. You couldn't stop it. That's the nightmare. It could slowly spread to the whole biosphere. If you want to envision the end of the world, that's it."

#### Reprocessing would remove the waste problem – the waste we currently store can be reused

Bastin 8 (Clinton, Former Chemical Engineer at the Atomic Energy Commission, 21st Century Science and Technology, “We Need to Reprocess Spent Nuclear Fuel, And Can Do It Safely, At Reasonable Cost”, 2008, [http://www.21stcenturysciencetech.com/Articles%202008/ Summer\_2008/Reprocessing.pdf](http://www.21stcenturysciencetech.com/Articles%202008/Summer_2008/Reprocessing.pdf), RSR)

The concept of used nuclear fuel as “nuclear waste” is a fiction created by the opponents of nuclear energy. Used nuclear fuel isn’t waste at all, but a renewable resource that can be reprocessed into new nuclear fuel and valuable isotopes. When we entered the nuclear age, the great promise of nuclear energy wasitsrenewability, making it an inexpensive and efficient way to produce electricity. It was assumed that the nations making use of nuclear energy would reprocess their spent fuel, completing the nuclear fuel cycle by recycling the nuclear fuel after it was burned in a reactor, to extract the 95 to 99 percent of unused uranium in it that can be turned into new fuel. This means that if the United States buries its 70,000 metric tons of spent nuclear fuel, we would be wasting 66,000 metric tons of uranium-28, which could be used to make new fuel. In addition, we would be wasting about 1,200 metric tons of fissile uranium-25 and plutonium-29, which can also be burned as fuel. Because of the high energy density in the nucleus, this relatively small amount of U.S. spent fuel (it would fit in one small house) is equivalent in energy to about 20 percent of the U.S. oil reserves. About 96 percent of the spent fuel the United States is now storing can be turned into new fuel. The 4 percent of the socalled waste that remains—2,500 metric tons—consists of highly radioactive materials, but these are also usable. There are about 80 tons each of cesium-17 and strontium-90 that could be separated out for use in medical applications, such as sterilization of medical supplies. Using isotope separation techniques, and fast-neutron bombardment for transmutation (technologies that the United States pioneered but now refuses to develop), we could separate out all sorts of isotopes, like americium, which is used in smoke detectors, or isotopes used in medical testing and treatment. Right now, the United Statesmust import 90 percent of its medical isotopes, used in 40,000 medical procedures daily. The diagram shows a closed nuclear fuel cycle. At present, the United States has no reprocessing, and stores spent fuel in pools or dry storage at nuclear plants. Existing nuclear reactors use only about 1 percent of the total energy value in uranium resources; fast reactors with fuel recycle would use essentially 100 percent, burning up all of the uranium and actinides, the long-lived fission products. In a properly managed and safeguarded system, the plutonium produced in fast reactors would remain in its spent fuel until needed for recycle.Thus, there need be no excess buildup of accessible plutonium. The plutonium could also be fabricated directly into new reactor fuel assemblies to be burned in nuclear plants.

#### Reprocessing solves the blow up of Yucca Mountain.

Broad 95 (William, NYT staff, Scientists fear atomic explosion of buried waste, The New York Times, March 5, p. 1)

Dr. Bowman says the explosion thesis is alive and well. On Friday he finished an 11-page draft paper thick with graphs and equations that lays it out in new detail.¶ The team criticisms, he said in an interview, repeatedly fall flat. For instance, dispersal could happen relatively quickly, especially if water percolated through the dump. Even if slow, plutonium 239 decays into uranium 235, which harbors the same explosive risks but requires millions of years to decay into less dangerous elements.¶ So too with the other criticisms, he says. Water could aid the slowing of neutrons and make sure the reaction went forward rather than automatically slowing down. And a pile could explode, he insists, while conceding that the blast from a single one might have a force of a few hundred tons of high explosive rather than the thousand or more originally envisioned.¶ On the other hand, his new paper says plutonium in amounts as small as one kilogram, or 2.2 pounds, could be dangerous.¶ "We got some helpful criticism and that, combined with additional work, has made our thesis even stronger," he said.¶ The most basic solution, Dr. Bowman said, would be removing all fissionable material from nuclear waste in a process known as reprocessing or by transmuting it in his proposed accelerator. Other possible steps would include making steel canisters smaller and spreading them out over larger areas in underground galleries -- expensive steps in a project already expected to cost $15 billion or more.¶ A different precaution, Dr. Bowman said, would be to abandon the Yucca site, where the volcanic ground is relatively soluble. Instead, the deep repository might be dug in granite, where migration of materials would be slower and more difficult.

### Observation 3

#### Observation Three: Peak uranium

#### Peak uranium is coming by 2016.

Keen 12 (Kip, Uranium supply crunch by 2016 - nuclear expert says, Mineweb, 24 January 2012, http://www.mineweb.co.za/mineweb/view/mineweb/en/page72103?oid=143915&sn=Detail&pid=102055, da 8-27-12)

A nuclear expert gave uranium supply three more years - at most - before it seriously falls behind demand from the nuclear power industry.¶ "2016: We have to have supply in the market or the lights will gradually go out in the nuclear system," said Thomas Drolet, the president of Drolet & Associates Energy Services, during a presentation at Cambridge House's Vancouver Resource Investment conference on Monday.¶ A uranium supply crunch is widely anticipated to hit the nuclear industry starting next year as Cold War era sources of uranium dry up. To illustrate the severity of the shortage that the nuclear industry faces, Drolet highlighted 2010 uranium production from mining - 118 million pounds - versus consumption: 190 million pounds.¶ "You can do the delta difference yourself," Drolet said, referring to how much of a supply gap miners will have to make up for in coming years. ¶ That uranium is "going to have to come from somewhere," he said.¶ The Fukushima nuclear disaster in Japan, Drolet argued, only delayed the onset of the coming pinch on uranium supply. But even in his "downside" analysis the uranium deficit still comes by 2015.

#### And, domestic shortages of uranium are creating a supply problem for tritium production.

Holt and Nikitin 12 (Mark Holt (specialist in energy policy) and Mary Beth (specialist in nuclear nonproliferation), “Potential sources of nuclear fuel for tritium production”, CRS, 5-15-2012, <http://markey.house.gov/sites/markey.house.gov/files/documents/2012_0515_CRS_TritiumFuelOptions.pdf>)

Watts Bar 1 is refueled every 18 months, when about a third of its fuel is replaced. A load of replacement fuel contains about 30 metric tons of low-enriched uranium (LEU). If the Sequoyah plant were also used for tritium production, fuel requirements would double or triple. The National Nuclear Security Administration (NNSA), the DOE agency that runs the tritium program, is currently evaluating options for providing fuel for the tritium-production reactors. According to NNSAPs 2011 Stockpile Stewardship report, There is a potential strategic shortage in LEU. Therefore, the DOE/NNSA is pursuing identification of a source of 940 metric tons of unrestricted LEU or 1,800 metric tons for two reactors, for the life of the Tennessee Valley Authority (2048) agreement. The Stockpile Stewardship report classifies the fuel supply issue as green, indicating that existing and/or future capacity [is] estimated to be sufficient under current assumptions. 1 Therefore, although NNSA has flagged nuclear fuel supply as a potential problem, it appears optimistic that a solution can be found.

#### That’s key to the nuclear deterrent.

Gaffney 10 (Frank, founder and president of the Center for Security Policy, “There Goes the Nuclear Deterrent”, Breitbart, 10-14-2010, <http://www.breitbart.com/Big-Peace/2010/10/14/There-Goes-the-Nuclear-Deterrent>)

The House Armed Services Committee warned in 1993 that the deterrent was being subjected to “erosion by design” – and thanks to these sorts of deliberate actions – those chickens are coming home to roost today, with a vengeance. ¶ Now, we learn that the stockpile is literally running out of gas. ¶ A key ingredient used to boost the explosive power of thermonuclear devices is a gas called tritium. Unlike other radioactive materials used in such weapons (notably, plutonium and uranium), the usefulness of tritium degrades fairly quickly – its “half-life” is only about 12 years. As a result, the tritium reservoirs in our bombs and missile warheads must be regularly refueled in order for those weapons to remain operable.

#### Nuclear deterrence necessary to deter rogue states, CBW attacks, power challengers, and allied proliferation - impact is extinction.

Schneider 9 (Mark, Senior Analyst with the National Institute for Public Policy, May/April 2009 “The Future of the US Nuclear Deterrent” Comparative Strategy, p345-360)

According to the Pentagon’s Quadrennial Defense Review, the United States must maintain a “robust nuclear deterrent, which remains a keystone of U.S. national power.”98 The reason should be self evident—without a nuclear deterrent the United States could be destroyed as an industrial civilization and our conventional forces could be defeated by a state with grossly inferior conventional capability but powerful WMD. We cannot afford to ignore existing and growing threats to the very existence of the United States as a national entity. Missile defenses and conventional strike capabilities, while critically important elements of deterrence and national power, simply can’t substitute for nuclear deterrence. In light of the emerging “strategic partnership” between Russia and China and their emphasis on nuclear weapons it would be foolish indeed to size U.S. strategic nuclear forces as if the only threat we face is that of rogue states and discard the requirement that the U.S. nuclear deterrent be “second to none.” Ignoring the PRC nuclear threat because of Chinese “no first use” propaganda is just as irresponsible. Absent a nuclear deterrent to their WMD use, rogue states could defeat our forces by the combination of few nuclear EMP weapons and large chemical and biological attacks. The situation would be much worse if they build a more extensive nuclear strike capability as has been reported. Freezing U.S. nuclear forces at the technical level of the Reagan administration will assure that, within two decades, Russia, China, India, and probably others will be technically superior and U.S. deterrence ability against CBW attack will be reduced. United States nuclear forces must be modernized and tailored to enhance deterrence and damage limitation against the rogue WMD threat. WMD capabilities have given otherwise inconsequential states the ability to kill millions of people. The right combination of missile defense and conventional and nuclear strike capabilities provide the best deterrent and damage limiting capability against the rogue state threat. We must not ignore the requirement to provide extended deterrence to our allies. British and French nuclear forces are not large enough, and these nations are not perceived as tough enough, to provide a deterrent for NATO Europe against Russia. In the Far East, there is literally no nuclear deterrent capability against China other than that provided by the United States. Failure to provide a credible deterrent will result in a wave of nuclear proliferation with serious national security implications. When dealing with the rogue states, the issue is not the size of the U.S. nuclear deterrent but the credibility of its use in response to chemical or biological weapons use and its ability to conduct low collateral damage nuclear attacks against WMD capabilities and delivery systems including very hard underground facilities for purposes of damage limitation. We must also have the capability to respond promptly. The United States nuclear guarantee is a major deterrent to proliferation. If we do not honor that guarantee, or devalue it, many more nations will obtain nuclear weapons. If arms control really becomes a substitute for nuclear deterrence and defense, it may very well precipitate the most destructive war in history. Effective verification is essentially impossible, and verification is not a substitute for compliance. Today, arms control has become part of the problem rather than a solution to the problem. The abolition of the in-kind deterrent to CBW use—which deterred CBW use in World War II—is making the world more unsafe almost on a daily basis. The START and Intermediate-Range Nuclear Forces (INF) Treaties prevent or inhibit the development of conventional strike capabilities with enhanced ability to counter WMD. The demise of the ABM Treaty, while very useful, does not completely address the problem of legacy arms control and its constraints upon U.S. conventional capabilities.

#### Shorter flight times and lack of second strike capacity make miscalculation more likely.

Cimbala 8 (Stephen, Political Science Professor at the University of Pennsylvania, March, “Anticipatory Attacks: Nuclear Crisis Stability in Future Asia” Comparative Strategy, Vol 27 No 2, p 113-132, InformaWorld)

The spread of nuclear weapons in Asia presents a complicated mosaic of possibilities in this regard. States with nuclear forces of variable force structure, operational experience, and command-control systems will be thrown into a matrix of complex political, social, and cultural crosscurrents contributory to the possibility of war. In addition to the existing nuclear powers in Asia, others may seek nuclear weapons if they feel threatened by regional rivals or hostile alliances. Containment of nuclear proliferation in Asia is a desirable political objective for all of the obvious reasons. Nevertheless, the present century is unlikely to see the nuclear hesitancy or risk aversion that marked the Cold War, in part, because the military and political discipline imposed by the Cold War superpowers no longer exists, but also because states in Asia have new aspirations for regional or global respect.12 The spread of ballistic missiles and other nuclear-capable delivery systems in Asia , or in the Middle East with reach into Asia, is especially dangerous because plausible adversaries live close together and are already engaged in ongoing disputes about territory or other issues.13 The Cold War Americans and Soviets required missiles and airborne delivery systems of intercontinental range to strike at one another's vitals. But short-range ballistic missiles or fighter-bombers suffice for India and Pakistan to launch attacks at one another with potentially “strategic” effects. China shares borders with Russia, North Korea, India, and Pakistan; Russia, with China and North Korea; India, with Pakistan and China; Pakistan, with India and China; and so on. The short flight times of ballistic missiles between the cities or military forces of contiguous states means that very little time will be available for warning and attack assessment by the defender. Conventionally armed missiles could easily be mistaken for a tactical nuclear first use. Fighter-bombers appearing over the horizon could just as easily be carrying nuclear weapons as conventional ordnance. In addition to the challenges posed by shorter flight times and uncertain weapons loads, potential victims of nuclear attack in Asia may also have first strike-vulnerable forces and command-control systems that increase decision pressures for rapid, and possibly mistaken, retaliation. This potpourri of possibilities challenges conventional wisdom about nuclear deterrence and proliferation on the part of policymakers and academic theorists. For policymakers in the United States and NATO, spreading nuclear and other weapons of mass destruction in Asia could profoundly shift the geopolitics of mass destruction from a European center of gravity (in the twentieth century) to an Asian and/or Middle Eastern center of gravity (in the present century).14 This would profoundly shake up prognostications to the effect that wars of mass destruction are now passe, on account of the emergence of the “Revolution in Military Affairs” and its encouragement of information-based warfare.15 Together with this, there has emerged the argument that large-scale wars between states or coalitions of states, as opposed to varieties of unconventional warfare and failed states, are exceptional and potentially obsolete.16 The spread of WMD and ballistic missiles in Asia could overturn these expectations for the obsolescence or marginalization of major interstate warfare. For theorists, the argument that the spread of nuclear weapons might be fully compatible with international stability, and perhaps even supportive of international security, may be less sustainable than hitherto.17 Theorists optimistic about the ability of the international order to accommodate the proliferation of nuclear weapons and delivery systems in the present century have made several plausible arguments based on international systems and deterrence theory. First, nuclear weapons may make states more risk averse as opposed to risk acceptant, with regard to brandishing military power in support of foreign policy objectives. Second, if states' nuclear forces are second-strike survivable, they contribute to reduced fears of surprise attack. Third, the motives of states with respect to the existing international order are crucial. Revisionists will seek to use nuclear weapons to overturn the existing balance of power; status quo-oriented states will use nuclear forces to support the existing distribution of power, and therefore, slow and peaceful change, as opposed to sudden and radical power transitions. These arguments, for a less alarmist view of nuclear proliferation, take comfort from the history of nuclear policy in the “first nuclear age,” roughly corresponding to the Cold War.18 Pessimists who predicted that some thirty or more states might have nuclear weapons by the end of the century were proved wrong. However, the Cold War is a dubious precedent for the control of nuclear weapons spread outside of Europe. The military and security agenda of the Cold War was dominated by the United States and the Soviet Union, especially with regard to nuclear weapons. Ideas about mutual deterrence based on second-strike capability and the deterrence “rationality” according to American or allied Western concepts might be inaccurate guides to the avoidance of war outside of Europe.19

#### Uranium scarcity causes Russia and China to compete for Kazakh uranium – hurts relations.

Muzalevsky 11 (Roman, International Affairs Expert, Global Struggle for Kazakh Uranium Resources, 15 April 2011, The Jamestown Foundation, http://www.jamestown.org/single/?no\_cache=1&tx\_ttnews%5Bswords%5D=8fd5893941d69d0be3f378576261ae3e&tx\_ttnews%5Bany\_of\_the\_words%5D=uranium&tx\_ttnews%5Btt\_news%5D=37802&tx\_ttnews%5BbackPid%5D=7&cHash=eff36581a33138a4b57613d1f285d205, da 9-13-12)

Kazakhstan is interested in profiting from its energy exports to diverse suppliers and strengthening its geopolitical position vis-à-vis its two large neighbors – Russia and China. A rapidly emerging China is a prospective partner for Kazakhstan, wary of Moscow’s economic interests and strategic imperatives to retain its great power status in the post-Soviet space.¶ Russia is the world’s third and fourth largest source and producer of uranium, respectively. However, it confronts major production difficulties due to geographic conditions, pushing it to seek uranium deals with countries such as Australia and Kazakhstan. Russia needs to produce about 20,000 tons of uranium annually to meet its nuclear power needs by 2025. In 2007, it produced 3,413 tons of uranium. After the launch of a joint Russian-Kazakh venture in Kazakhstan, Russia’s uranium production climbed to 3,527 tons. In 2006, the two countries agreed to launch three nuclear joint ventures worth $10 billion to develop, enrich, and build nuclear reactors, including with a view to construct nuclear power stations in Kazakhstan and other countries (www.newsru.com, June 26, 2008; www.thebulletin.org, April 28, 2008).¶ Kazakhstan relies on Russia, which enjoys 45 percent of the global uranium enrichment capacity, for uranium enrichment. However, Mukhtar Dzhakishev, the former executive of the Kazakh nuclear state company Kazatomprom, cautions against Kazakhstan’s overall cooperation with Russia (www.inosmi.ru, February 26, 2010).¶ Kazakhstan has tried to avoid this by collaborating with Japan and China. Technologically-strong Japan is expected to generate 41 percent of its electricity production from nuclear energy by 2017. It runs 55 nuclear power reactors, planning to construct 11 more in the future. This offers lucrative prospects for Kazakhstan as it wants to obtain a 40 percent share of Japan’s uranium market. Companies such as Marubeni, Tokyo Electric Power, Chubu Electric Power, and Tohoku Electric Power have already contracted with Kazatomprom to develop Kharasan-1 and Kharasan-2 uranium deposits in Kazakhstan, aiming to produce 160,000 tons of uranium by 2050. Kazatomprom and Japan’s Sumitomo Shoji and Kepko also develop the Zapadny Munkuduk uranium deposit in the country. Kazatomprom also has a 10 percent share of the Japanese-owned Westinghouse Electric, one of the world’s largest suppliers of nuclear power reactors. Astana and Tokyo are currently exploring the possibility of building a nuclear power station in Kazakhstan (EDM, August 2, 2010).¶ Kazakh-Chinese cooperation is especially notable. China, as a leading global nuclear power developer is already the largest buyer of Kazakh uranium (www.trend.az, November 11, 2010). In 2007, Kazatomprom and China Guangdong Nuclear Power Group agreed to produce nuclear fuel (www.thebulletin.org, April 28, 2008). In April 2009, China and Kazakhstan created the Semizbay-U enterprise at Irkol, planning to produce 750 tons of uranium annually (EDM, March 23). Deputy Head of State Energy Management of China, Tian Zhiming, commented on Beijing’s appetite for nuclear energy: “The PRC will become the world’s largest consumer of uranium by 2030, overtaking the US. It is a question of time.” In 2011, the two sides agreed on the supply of 55,000 tons of uranium over the next 10 years. “Nineteen nuclear complexes will be built in China and 25 more are being planned. This is a huge potential market. In the long term, Kazakhstan can supply up to 40 percent of nuclear fuel. This is tens of billions of dollars in profit,” stated Kazakh President Nursultan Nazarbayev (www.eurasia.org.ru, March 17). ¶ In this light, security risks associated with a struggle by major powers over access to Kazakh uranium resources are not inconceivable, making it imperative for Kazakhstan not to overplay its external balancing strategy as it seeks to consolidate its sovereignty and maintain an economic modernization drive. Kazakhstan must address domestic risks. Its ambitions to supply nuclear power and fuel at home and abroad already raise environmental, health, and proliferation concerns given the lack of a professional cadre and environmental and safety standards. Many people still suffer from more than 450 nuclear weapons tests conducted in the country during the Soviet era. Nuclear incidents in Japan after the recent tsunami and potential Russian-Kazakh plans to build a nuclear power plant in Aktau are already generating an anti-nuclear backlash in the country (EDM, March 23; www.thebulletin.org, April 28, 2008). Many fear that widespread corruption and the country’s location in an unstable region increases the risk that Kazakhstan might possibly become a major proliferator (www.newsland.ru, October 17, 2009; www.thebulletin.org, April 28, 2008).¶ ¶ Mitigating these risks is a major challenge for Kazakhstan and others as the world confronts the surge in nuclear energy demand and the struggle over the precious uranium resources.

#### That escalates to global nuclear war.

Blank 2k (Stephen J, Expert on the Soviet Bloc for the Strategic Studies Institute, “American Grand Strategy and the Transcaspian Region”, World Affairs. 9-22)

Thus many structural conditions for conventional war or protracted ethnic conflict where third parties intervene now exist in the Transcaucasus and Central Asia. The outbreak of violence by disaffected Islamic elements, the drug trade, the Chechen wars, and the unresolved ethnopolitical conflicts that dot the region, not to mention the undemocratic and unbalanced distribution of income across corrupt governments, provide plenty of tinder for future fires. Many Third World conflicts generated by local structural factors also have great potential for unintended escalation. Big powers often feel obliged to rescue their proxies and proteges. One or another big power may fail to grasp the stakes for the other side since interests here are not as clear as in Europe. Hence commitments involving the use of nuclear weapons or perhaps even conventional war to prevent defeat of a client are not well established or clear as in Europe. For instance, in 1993 Turkish noises about intervening on behalf of Azerbaijan induced Russian leaders to threaten a nuclear war in that case. Precisely because Turkey is a NATO ally but probably could not prevail in a long war against Russia, or if it could, would conceivably trigger a potential nuclear blow (not a small possibility given the erratic nature of Russia's declared nuclear strategies), the danger of major war is higher here than almost everywhere else in the CIS or the "arc of crisis" from the Balkans to China. As Richard Betts has observed, The greatest danger lies in areas where (1) the potential for serious instability is high; (2) both superpowers perceive vital interests; (3) neither recognizes that the other's perceived interest or commitment is as great as its own; (4) both have the capability to inject conventional forces; and (5) neither has willing proxies capable of settling the situation.(77)

#### And escalation’s guaranteed – it’s a geopolitical hub.

Saghal and Anand10 (Arun (former Army officer who created the Office of Net Assessment in the Indian Joint Staff, Senior Fellow at the Institute for Defense Studies and Analyses and ‘Distinguished Fellow’ School of Geo-Politics at the Manipal Academy of Higher Education) and Vinod (postgraduate in defence and strategic studies and is an alumnus of Defence Services Staff College and College of Defence Management), “Strategic Environment in Central Asia and India”, <http://www.silkroadstudies.org/new/docs/publications/1004Joshi-V-Strategic.pdf>)

The geo-strategic salience of Central Asia today has been underscored by two main factors. First, Central Asia has become important because of the discovery of hydrocarbon reserves and second, it has become a major transportation hub for gas and oil pipelines and multi-modal communication corridors connecting China, Russia, Europe, the Caucasus region, the Trans-Caspian region and the Indian Ocean. Furthermore, whether it was Czarist Russia or the Soviet Union or even the present Central Asian regimes, there has always been a strategic ambition in the north to seek access to the warm waters of the Indian Ocean. Thus Afghanistan, which links Central Asia and South Asia, is a strategic bridge of great geopolitical significance. Central Asia and South Asia are intimately connected not only geographically but also strategically. The Central Asian republics of Turkmenistan, Uzbekistan and Tajikistan have borders with Afghanistan, Iran lies to its west and Pakistan to the east and south. Therefore, the geostrategic significance of Afghanistan is enhanced even though it may not be an oil- or gas-rich country. With the control of Afghanistan comes the control of the land routes between the Indian subcontinent and resource-rich Central Asia, as well as of a potential corridor to Iran and the Middle East. Thus, stability and peace in Afghanistan, and for that matter Pakistan, are a geostrategic imperative. Central Asia has never been a monolithic area and is undergoing a turbulent transitional process with a diverse range of ethnicities and fragmented societies throughout the region. These societal divisions and lack of political maturity compound the social, economic and political challenges. Security and economic issues are the two most important components of the Central Asian states’ engagement with outside powers. Among the states themselves there are elements of both cooperation and competition. Historical legacies, their geo-strategic locations, and above all their perceived national interests profoundly influence the political choices of Central Asian nations. The weaknesses of the new nations in Central Asia pave the way for outside powers to interfere in their internal affairs.

#### Nuclear reprocessing could allow US reactors to run for 30 years without new uranium.

WNA 12 (Processing of Used Nuclear Fuel, World Nuclear Association, May 2012, http://www.world-nuclear.org/info/inf69.html, da 8-30-12)

Reprocessing used fuel to recover uranium (as reprocessed uranium, or RepU) and plutonium (Pu) avoids the wastage of a valuable resource. Most of it – about 96% – is uranium, of which less than 1% is the fissile U-235 (often 0.4-0.8%); and up to 1% is plutonium. Both can be recycled as fresh fuel, saving up to 30% of the natural uranium otherwise required. The materials potentially available for recycling (but locked up in stored used fuel) could conceivably run the US reactor fleet of about 100 GWe for almost 30 years with no new uranium input.¶ So far, almost 90,000 tonnes (of 290,000 t discharged) of used fuel from commercial power reactors has been reprocessed. Annual reprocessing capacity is now some 4000 tonnes per year for normal oxide fuels, but not all of it is operational.¶ Between now and 2030 some 400,000 tonnes of used fuel is expected to be generated worldwide, including 60,000 t in North America and 69,000 t in Europe.

#### US nuclear reprocessing lead to a spillover of the technology internationally.

Acton 9 (James, J. associate in the Nonproliferation Program at the Carnegie Endowment for International Peace, Survival, Vol. 51, No. 4, “Nuclear Power, Disarmament and Technological Restraint”, RSR)

Thus, not only does reprocessing clearly not help with facilitating take back, but if advanced nuclear states adopt it as a tool for waste management, it will be virtually impossible for them to argue against others doing likewise. Today, waste management is probably the most important driver for reprocessing. Indeed, the Bush administration’s interest in this technology was born out of a desire to stretch the capacity of Yucca Mountain as far as possible. If the United States and others reprocess they will hand a powerful argument to lobbies within a state – typically the nuclear R&D community – that support the development of reprocessing.

#### Nuclear reprocessing solves peak uranium internationally.

Berry and Tolley 10 (R. Stephen and George S., Professors at the University of Chicago, Nuclear Fuel Reprocessing: Future Prospects and Viability, University of Chicago, 29 November 2010, http://humanities.uchicago.edu/orgs/institute/bigproblems/Team7-1210.pdf, da 8-29-12)

Uranium prices have also been rising due to increased demand, a trend that may¶ have long-term repercussions. Identified uranium deposits can fuel existing nuclear plants¶ for about 80 years without reprocessing. Reprocessing can extend the life of current¶ uranium resources for an additional 15 to 20 years.¶ 91¶ Total conventional uranium¶ resources, including undiscovered deposits that are estimated using indirect geological¶ evidence and extrapolated values, can fuel existing plants for around 200 years.¶ 92¶ In the¶ short-term, however, prices have risen sharply because of an announced increase in nuclear¶ plants that will require fuel: China is intending to increase nuclear power as a source of¶ national energy by 7% in the next ten years, and countries such as Russia, Pakistan, and¶ South Korea are all building new reactors.¶ 93¶ Another benefit of reprocessing is the¶ additional plutonium and uranium recovered per kilogram of spent fuel reprocessed; this¶ amount replaces a portion of the raw material that goes into the fuel cycle. The amount of¶ recovered uranium is .94 kg/kgHM, and the amount of recovered plutonium is .01014¶ kg/kgHM.¶ 94

### Plan Text

#### Thus the plan: The United States Federal Government should provide a twenty-percent investment tax credit for the deployment of domestic nuclear fuel recycling.

### Solvency

#### Observation Four: Solvency

#### Tax incentives would solve for reprocessing – makes it commercially more desirable

Lagus 5 (Todd, 2005 WISE Intern, University of Minnesota, WISE, “Reprocessing of Spent Nuclear Fuel: A Policy Analysis” <http://www.wise-intern.org/journal/2005/lagus.pdf>, RSR)

The economic analysis shows that the reprocessing or even the once through nuclear cycle is not yet economically desirable to investors. However, changes in government policies, including environmental regulations already mentioned and economic policies, could improve the competitiveness of both technologies. The University of Chicago nuclear power study analyzes the effects of government involvement in the future of the once through cycle using several different forms of support: loan guarantees, accelerated depreciation, and investment tax credits. Loan guarantees in this case refer to the obligation of the government to repay part of the loan should a utility company not be able to repay. The 2005 Energy Bill, which passed in July 2005, would make advanced nuclear power plants eligible for federal loan guarantees and provide a tax credit for nuclear power production. This would lessen the risks associated with capital costs for investors, and according to the Chicago study, reduce the LCOE for a nuclear reactor by 4 mills/kWh to 6 mills/kWh. The next financial subject, accelerated depreciation, refers to the ability of an investor to utilize the investment tax deductions early on in the lifetime of the payment rather than receive the same deduction each year in a linear fashion. Accelerated depreciation helps investors absorb capital costs, which for nuclear power generation are large. The University of Chicago study calculates a reduction in the LCOE for a 7 year depreciation policy of 3 mills/kWh to 4 mills/kWh. Tax incentives for nuclear power production are the final policies that could make nuclear power and reprocessing more desirable. An investment tax credit of 10 percent would create an LCOE reduction between 6 mills/kWh and 8 mills/kWh, while a 20 percent credit could create cost reductions between 9 mills/kWh and 13 mills/kWh. 39 Production tax credits on a per kWh basis may also be used. Since reprocessing and the once through cycle are not appreciably different for the price, it is sufficient to assume 12 that similar effects for all three of these government policies would occur with policies applied to reprocessing. While it is no secret that monetary incentives would help the nuclear reprocessing investments, there is still the question of whether or not the government should provide economic support to the industry. As with any government funding, it is politically important not to be viewed by other energy generation industries, i.e. gas and coal, as favoring nuclear power over other sources. Given the recent concerns for global warming, tax incentives and loan guarantees for nuclear technologies seem like a realistic option especially in the absence of emission regulations. Accelerated depreciation also is an unobtrusive option that could help the industry by easing capital costs.

#### Government investment key – necessary to mitigate risks from government regulations.

Selyukh 10 (Alina, Staff Writer, “Nuclear waste issue could be solved, if...”, 8-17-10, Reuters,

<http://www.reuters.com/article/2010/08/17/us-nuclear-waste-recycling-idUSTRE67G0NM20100817>, RSR)

Since the U.S. agency declared spent fuel reprocessing too costly, U.S. research into new technologies has slowed. President George W. Bush offered federal backing for nuclear waste management alternatives, but over the years the policy has meandered and had few incentives to lure companies, said Steven Kraft, senior director of used-fuel management at the Nuclear Energy Institute, the industry's trade organization. Being able to burn through rather inexpensive uranium to produce energy, companies are wary of investing millions into recycling technology that may go against the national policy. Still, industry support for the ideas is strong, if not for the procedure itself then for allowing the market -- not the government -- to determine its cost-effectiveness and fate. Duke Energy, which operates seven nuclear plants, would support nuclear recycling if there was a cost-effective national policy, spokeswoman Rita Sipe said. GE Hitachi has proposed a new generation of fast reactors that, they say, could return to the grid up to 99 percent of energy contained in the uranium, compared to recovering 2 or 3 percent from a common light water reactor. But they want federal support for more research and, ultimately, commercialization of the technology, said chief consulting engineer Erik Loewen. That support, in essence, would have to come in a form of subsidies such as cost sharing or loan guarantees, said Jack Spencer, nuclear energy policy research fellow at the Heritage Foundation think tank. "What the industry needs... is something to mitigate government-imposed risks," he said of the regulatory regime.

#### Government investment necessary – provides appropriate risk mitigation and shortens the timeframe for completion.

IAEA 8 (International Atomic Energy Agency, “Spent Fuel Reprocessing Options”, August 2008, RSR)

With the expected high costs and significant risks involved in constructing new nuclear facilities, e.g., reprocessing facilities, the impact of various ownership options need to be considered. These options include government funding, regulated funding, private funding, and combinations of public and private funding. These different funding approaches may significantly impact the costs of fuel cycle services. Given the very long time frames associated with building reprocessing facilities, there exist risks other than technological or economic, which need to be dealt with. These include evolving government policy, public and political acceptance, and licensing risks. As a result, private investors are unlikely to provide capital unless the initial high risks factors are mitigated through appropriate risk sharing agreements (e.g., loan guarantees, equity protection plans, tax credits, etc.) with government entities.

## 2AC

### Warming

#### Biodiversity is the biggest internal link to extinction – newest studies prove.

Science Daily, ‘11

["Biodiversity Critical for Maintaining Multiple 'Ecosystem Services'" Cites McGill University, August 19, [www.sciencedaily.com/releases/2011/08/110819155422.htm](http://www.sciencedaily.com/releases/2011/08/110819155422.htm)]

By combining data from 17 of the largest and longest-running biodiversity experiments, scientists from universities across North America and Europe have found that previous studies have underestimated the importance of biodiversity for maintaining multiple ecosystem services across many years and places. "Most previous studies considered only the number of species needed to provide one service under one set of environmental conditions," says Prof. Michel Loreau from McGill University's biology department who supervised the study. "These studies found that many species appeared redundant. That is, it appeared that the extinction of many species would not affect the functioning of the ecosystem because other species could compensate for their loss." Now, by looking at grassland plant species, investigators have found that most of the studied species were important at least once for the maintenance of ecosystem services, because different sets of species were important during different years, at different places, for different services, and under different global change (e.g., climate or land-use change) scenarios. Furthermore, the species needed to provide one service during multiple years were not the same as those needed to provide multiple services during one year. "This means that biodiversity is even more important for maintaining ecosystem services than was previously thought," says Dr. Forest Isbell, the lead author and investigator of this study. "Our results indicate that many species are needed to maintain ecosystem services at multiple times and places in a changing world, and that species are less redundant than was previously thought." The scientists involved in the study also offer recommendations for using these results to prioritize conservation efforts and predict consequences of species extinctions. "It is nice to know which groups of species promoted ecosystem functioning under hundreds of sets of environmental conditions," says Isbell, "because this will allow us to determine whether some species often provide ecosystem services under environmental conditions that are currently common, or under conditions that will become increasingly common in the future." But Michel Loreau, of McGill, adds au cautionary note: "We should be careful when making predictions. The uncertainty over future environmental changes means that conserving as much biodiversity as possible could be a good precautionary approach."

### Peak Uranium

#### New mining projects can’t solve quickly enough.

Dittmar, researcher with the Institute of Particle Physics of ETH Zurich, 9 (Michael, The Future of Nuclear Energy: Facts and Fiction - Part I: Nuclear Fission Energy Today, The Oil Drum: Europe, 5 August 2009, http://europe.theoildrum.com/node/5631#more, da 8-27-12)

The nuclear power perspectives up to 2015 for different countries and the world are extracted from the Red Book 2007 [14]. The WNA numbers are taken from [12]. As quantiﬁed within the 2007 edition of the Red Book and the WNA 2009 data base, the expected increase in nuclear power plant capacity is expected to come from a few countries only. Some important aspects about these near future world-wide nuclear plans are:¶ ¶ Germany, currently the fifth largest nuclear power consumer, has indicated a definite plan for their nuclear phase-out. According to this plan, the German nuclear power capacity should be reduced from 20.3 GWe to about 11 GWe by 2015 [22].¶ Very ambitious plans to complete a large number of nuclear power plants by 2015 are currently proposed by China, where the current 7.6 GWe (2007) should increase to 25-35 GWe [12]. A similar increase is planned by India, where 3.8 GWe (2007) should increase to 9.5-13.1 GWe. This can be compared with the plans from Japan, Russia, and South Korea, where their entire capacity should increase by an additional 8-10 GWe.¶ The rich OECD countries are planning currently for a roughly constant nuclear capacity.¶ However, the high growth 2010 forecast from the IAEA/NEA Red Book 2007 is, according to the more recent March 2009 WNA numbers, already unachievable. In fact, even this WNA estimate, which assumes that during 2009 and 2010 seven (4.3 GWe) and eight (5.2 GWe) new nuclear power plants will be connected to the grid [12], seems to be totally unrealistic.¶ ¶ As we are interested in estimating the maximum possible contribution from nuclear power plants during the next decade, the above Red Book scenario can be used as a guideline to estimate the requirements of uranium equivalent for the coming years. In order to operate the current and future running nuclear reactors, the authors of the Red Book 2007 estimated that between 70,000-75,000 tons of uranium equivalent are required for the year 2010 and between 77,000-86,000 tons by 2015. Following the IAEA/NEA June 2008 press declaration [16], such a growth for uranium mining seems to be a serious challenge:¶ ¶ Given the long lead time typically required to bring new resources into production, uranium supply shortfalls could develop if production facilities are not implemented in a timely manner.

### Solvency

#### Plan solves worker shortage.

Kammen, professor of nuclear engineering at Berkeley, ‘3

[Daniel, Federal News Service, Prepared Testimony before the House Committee on Science, 6/12, lexis, DH]

The federal government plays the pivotal role in the encouragement of innovation in the energy sector. Not only are federal funds critical, but as my work and that of others has demonstrated6, private funds generally follow areas of public sector support. One particularly useful metric although certainly not the only measure --. of the relationship between funding and innovation is based on patents. Total public sector funding and the number of patents - across all disciplines in the United States have both increased steadily over at least the past three decades (Figure 5). The situation depicted here, with steadily increasing trends for funding and results (measured imperfectly, but consistently, by patents) is not as rosy when energy R&D alone is considered. In that case the same close correlation exists, but the funding pattern has been one of decreasing resources (Figure 6A). Figure 6A shows energy funding levels (symbol: o) and patents held by the national laboratories (symbol: ). The situation need not be as bleak as it seems. During the 1980s a number of changes in U.S. patent law permitted the national laboratories to engage in patent partnerships with the private sector. This increased both the interest in developing patents, and increased the interest by the private sector in pursuing patents on energy technologies. The squares (l) in figure 6 show that overall patents in the energy sector derived. Figure 6B reveals that patent levels in the nuclear field have declined, but not only that, publicprivate partnerships have taken placed (shaded bars), but have not increased as dramatically as in energy field overall (Figure 6A). There are a number of issues here, so a simple comparison of nuclear R&D to that on for example, fuel cells, is not appropriate. But it is a valid to explore ways to increase both the diversity of the R&D. This is a particularly important message for **federal** policy. Novel approaches are needed to encourage new and innovative modes of research, teaching, and industrial innovation in the nuclear energy field. To spur innovation in nuclear science a concerted effort would be needed to increase the types and levels of cooperation by universities and industries in areas that depart significantly from the current 'Generation III+' and equally, away from the 'Generation IV' designs. Similar conclusions were reached by M. Granger Morgan, head of the Engineering and Public Policy Program at Carnegie Mellon University, in his evaluation of the need for innovative in the organization and sociology of the U. S. nuclear power industrys. A second important issue that this Committee might consider is the degree of **federal** support for nuclear fission relative to other nations. Funding levels in the U.S. are significantly lower than in both Japan and France. Far from recommending higher public sector funding, what is arguably a more successful strategy would be to increase the private sector support for nuclear R&D and student training fellowships. Importantly, this is precisely the sort of expanded publicprivate partnership that has been relatively successful in the energy sector generally. It is incorrect, however, to think that this is a process that can be left to the private sector. There are key issues that inhibit private sector innovation. As one example, many nuclear operating companies have large coal assets, and thus are unlikely to push overly hard, in areas that threaten another core business. This emphasis on industry resources used to support and expanded nuclear program - under careful public sector management - has been echoed by a variety of nuclear engineering faculty members: I believe that if you. were to survey nuclear engineering department heads, most would select a national policy to support new nuclear construction, over a policy to increase direct financial support to nuclear engineering departments. A firm commitment by the federal government, to create incentives sufficient to ensure the construction of a modest number of new nuclear plants, with the incentives reduced for subsequent plants, would be the best thing that could possibly be done for nuclear engineering education and revitalization of the national workforce for nuclear science and technology. - Professor Per Peterson, Chair, Department of Nuclear Engineering, University of California, Berkeley

#### We can build them really quickly.

Blees et al 11

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

How Fast Can We Build Them?¶ During France’s nuclear building boom they built an average of six nuclear power plants per year, culminating in a situation that provides them with about 80% of their electrical needs while making electricity their fourth-largest export earner. Gross Domestic Product (GDP) can be used as a rough guide to what a given country can financially bear for such a project, keeping in mind that France proceeded without the sense of urgency that the world today should certainly be ready to muster. There are six countries with higher GDPs than France, all of whom already possess the technology to build fast reactors: USA, China, Japan, India (they’re building one now), Germany, and the United Kingdom. Add Canada and Russia (which already has a commercial fast reactor running and is planning more), then tally up the GDP of these eight countries. At the rate of 6 plants per year (~ 1GW each) at the equivalent of France’s GDP, these countries alone could afford to build about 117 power plants per year, even without any greater urgency than the French brought to bear on their road to energy independence.¶ Consider that there are about 400 nuclear power plants in the world today. At this entirely feasible rate of construction we could more than double the planet’s nuclear capacity in just four years. Remember, the French accomplished their transformation with non-modular, albeit standardized, Gen II designs. Modular construction, passive safety systems, and factory fabrication, divided among companies all over the planet, could realistically convert the planet’s electricity production to virtually all nuclear in a couple decades, with abundant surplus electricity for ancillary uses such as desalination and the production of liquid fuels such as ammonia.

### States

#### Perm do both. Solves GOP backlash because thirty republican governors would all back reprocessing.

#### Information distortion means the CP links to politics

**Kiely, ‘12** [2/17/12, Eugene Kiely, Washington assignment editor USA today, “Did Obama ‘Approve’ Bridge Work for Chinese Firms?” http://www.factcheck.org/2012/02/did-obama-approve-bridge-work-for-chinese-firms/]

Who’s to blame, if that’s the right word, if the project ends up using manufactured steel from China? The National Steel Bridge Alliance [blames](http://americanmanufacturing.org/blog/shameful-use-taxpayer-dollars-alaska) the state railroad agency. The Alliance for American Manufacturing [says](http://americanmanufacturing.org/blog/alaskan-manufacturers-outraged-potential-%E2%80%9Cmade-china%E2%80%9D-railroad-bridge) the federal Buy American laws have been “weakened with loopholes and various exemptions that make it easier for bureaucrats to purchase foreign-made goods instead of those made in American factories with American workers.” So, how did Obama get blamed for the decisions by state agencies and for state projects that, in at least one case, didn’t even use federal funds? The answer is a textbook lesson in how information gets distorted when emails go viral. We looked at the nearly 100 emails we received on this subject and found that Obama wasn’t mentioned at all in the first few emails. Typical of the emails we received shortly after the ABC News report aired was this one from Oct. 11, 2011: “I just got an email regarding Diane Sawyer on ABC TV stating that U. S. Bridges and roads are being built by Chinese firms when the jobs should have gone to Americans. Could this possible be true?” The answer: Yes, it’s true. End of story, right? Wrong. Days later, emails started to appear in our inbox that claimed ABC News reported that Chinese firm were receiving stimulus funds to build U.S. bridges — even though the broadcast news story didn’t mention stimulus funds at all. (The report did include a clip of Obama delivering a speech on the need to rebuild America’s bridges and put Americans to work, but said nothing about the president’s $830 billion stimulus bill.) Still, we received emails such as this one on Nov. 4, 2011, that included this erroneous claim language: “Stimulus money meant to create U.S. jobs went to Chinese firms. Unbelievable….” It didn’t take long for Obama to be blamed. That same day — Nov. 4, 2011 — we received an email that made this leap to Obama: “SOME CHINESE COMPANIES WHO ARE BUILDING ‘OUR’ BRIDGES. (3000 JOBS LOST TO THE CHINESE FIRM)…..AND NOW OBAMA WANTS ‘MORE STIMULUS MONEY’…..THIS IS NUTS ! ! ! If this doesn’t make you furious nothing will….” This year, Obama’s name started to surface in the subject line of such critical emails — raising the attack on the president to yet another level and perhaps ensuring the email will be even more widely circulated. Since Jan. 17, we have gotten more than a dozen emails with the subject line, “ABC News on Obama/USA Infrastructure,” often preceded with the word “SHOCKING” in all caps. The emails increasingly contain harsh language about the president. Since Jan. 11, 23 emails carried this added bit of Obama-bashing: “I pray all the unemployed see this and cast their votes accordingly in 2012!” One of those emails — a more recent one from Feb. 8 — contained this additional line: “Tell me again how Obama’s looking out for blue collar guys. He cancels pipelines, and lets Chinese contractors build our bridges…” And so it goes, on and on. All from a news report that blamed state officials — not Obama — for spending taxpayer money on Chinese firms to build U.S. bridges.

#### States CP are V/I. 1.) No comparative literature compares the action of 50 states simultaneously vs. the federal government. Kills education because it removes substantive clash about energy production. 2.) Fiat abuse – uniformity eliminates the only aff against state action, which is enforcement. Kills competitive equity.

#### CP can’t solve – federal investment is necessary to remove the perceptual ban on reprocessing.

Adams, ‘8

[Rod, “What Do You Do About the Waste? Recycle and Reuse”, Clean Technica, 5-29-2008,

<http://cleantechnica.com/2008/05/29/what-do-you-do-about-the-waste-recycle-and-reuse/>, RSR]

The US used to have a plan to recycle our fuel as well, but a great deal of marketing and pressure by people that do not like the idea of using plutonium as a source of commercial heat resulted in President Ford issuing a presidential order to temporarily halt nuclear fuel recycling in 1976. President Carter, a man who claimed to be a nuclear engineer, made that ban permanent in the hopes that forcing US companies to avoid fuel recycling would cause others to abandon the very logical idea. That effort did not work as planned, but the people who had invested large amounts of time and money into building three recycling plants in the US only to have them shut down with the stroke of a pen decided “once bitten, twice shy.” Though President Reagan removed the ban, President Clinton essentially reinstated it and no commercial company has been willing to build a facility and risk having it turn into a white elephant after an election.

#### Doesn’t solve the aff – absent the plan, companies will never believe that the federal government will allow reprocessing, so they won’t invest. That’s Selyukh 10.

#### CP can’t solve - federal preemption of the counterplan exists now

Ostrow, associate professor of law at Hofstra Law School, ’11

(Ashira Pelman Ostrow, “Process Preemption in Federal Siting Regimes, Harvard Journal of Law, July 2011, <http://www.harvardjol.com/wp-content/uploads/2011/07/Ostrow_Article.pdf>)

For national security reasons, the federal government has long asserted exclusive authority to manage high-level radioactive waste. 130 The Atomic Energy Act of 1954 131 and the Energy Reorganization Act of 1974 132 granted the Nuclear Regulatory Commission (“NRC”) exclusive regulatory authority over high-level nuclear waste facilities. 133 The statutes left no room for state participation, other than in an advisory capacity for certain transportation issues. 134 Nonetheless, by the late 1970s, the states began to actively regulate, restrict, and even ban the shipment of highly toxic nuclear waste and the establishment of radioactive waste facilities within their borders. 135 To resolve the jurisdictional conflict, Congress enacted the Nuclear Waste Policy Act of 1982 (“NWPA”). 136 The Act was intended to “establish a schedule for the siting, construction, and operation of repositories” to protect the public and the environment “from the hazards posed by high-level radioactive waste.” 137 The NWPA required the Secretary of Energy to nominate five sites for a high-level radioactive waste repository and to recommend three of them to the President for further study by January 1, 1985. 138 The Act further required the Secretary of Energy to develop guidelines by which to evaluate potential repository sites. 139

#### Current renewable energy technologies are not sufficient

IEA ‘12 (International Energy Agency, "Energy Technology Perspectives 2012 Pathways to a Clean Energy System," http://www.iea.org/Textbase/npsum/ETP2012SUM.pdf)

Despite technology’s potential, progress in clean energy is too slow. Nine out of ten technologies that hold potential for energy and CO2 emissions savings are failing to meet the deployment objectives needed to achieve the necessary transition to a low-carbon future. Some of the technologies with the largest potential are showing the least progress. The ETP analysis of current progress in clean energy (Chapter 2) produces a bleak picture. Only a portfolio of more mature renewable energy technologies – including hydro, biomass, onshore wind and solar photovoltaic (PV) – are making suﬃcient progress. Other key technologies for energy and CO2 emission savings are lagging behind. Particularly worrisome is the slow uptake of energy eﬃciency technologies, the lack of progress in carbon capture and storage (CCS) and, to a lesser extent, of oﬀ shore wind and concentrated solar power (CSP). The scale-up of projects using these technologies over the next decade is critical. CCS could account for up to 20% of cumulative CO2 reductions in the 2DS by 2050. This requires rapid deployment of CCS and is a signiﬁcant challenge since there are no large-scale CCS demonstrations in electricity generation and few in industry. Committed government funds are inadequate and are not being allocated to projects at the rates required. In transport, government targets for electric vehicles are set at 20 million vehicles on the roads in 2020. These targets are encouraging, but are more than twice the current industry planned capacity so may be challenging to achieve, in particular given the relative short-term nature of current government support schemes.

#### Conditionality is a voting issue – being able to kick positions at will destroys argumentative responsibility, skews the 2AC, the focal point of all aff offense, because we have to spend more time answering things than they do kicking them, and justifies aff conditionality to be reciprocal. Counter interpretation is dispositionality. Allows us to stick them to positions. Solves all their offense.

#### US stance against reprocessing hurts relations with South Korea and results in South Korean nuclearization.

Yurman, Staff Writer, ‘12

[Dan, “Revisiting Reprocessing in South Korea”, ANS Nuclear Café, 8-2-12,

<http://ansnuclearcafe.org/2012/08/02/revisiting-reprocessing-in-south-korea/>, RSR]

Comes now the request by the South Korean government, first aired in October 2010, to revise the bilateral cooperation treaty with the U.S. It has been in place for more than 40 years and it is a cornerstone of U.S./South Korean diplomatic relations. Many specialists in the field of nonproliferation see a “hard and fast” policy against any expansion of uranium enrichment and spent fuel reprocessing as a key to stopping states like North Korea from pursuing these activities. That strategy hasn’t worked and, as a result, South Korea wants relief from the restriction in the now-decades-old treaty. Negotiations over changes to the treaty have been going on since last December, but appear to be stalemated around a key set of issues. It is a delicate dance, as diplomats like to say, because if the U.S. leans too heavily on South Korea, it could sour relations between the two countries and spawn nationalist sentiment that might lead to a nuclear weapons program. Since the 1950s, South Korea has depended on the U.S. nuclear arsenal as a shield against aggression from its neighbor to the north.

#### US-SoKo relations k2 regional stability and global security

Clinton 10 [Hillary Rodham Clinton, “America’s Engagement in the Asia-Pacific”, October 28, 2010, http://www.state.gov/secretary/rm/2010/10/150141.htm]

This year also marked a milestone with another ally: the 60th anniversary of the start of the Korean War, which Secretary Gates and I commemorated in Seoul this past summer. And in two weeks, our presidents will meet in Seoul when President Obama travels there for the G-20 summit. Our two countries have stood together in the face of threats and provocative acts from North Korea, including the tragic sinking of the Cheonan by a North Korean torpedo. We will continue to coordinate closely with both Seoul and Tokyo in our efforts to make clear to North Korea there is only one path that promises the full benefits of engagement with the outside world – a full, verifiable, and irreversible denuclearization.The alliance between South Korea and the United States is a lynchpin of stability and security in the region and now even far beyond. We are working together in Afghanistan, where a South Korean reconstruction team is at work in Parwan Province; in the Gulf of Aden, where Korean and U.S. forces are coordinating anti-piracy missions. And of course, beyond our military cooperation, our countries enjoy a vibrant economic relationship, which is why our two Presidents have called for resolving the outstanding issues related to the U.S.-Korea Free Trade Agreement by the time of the G-20 meeting in Seoul.

#### East Asian instability leads to World War III

Knight Ridder 2k

(Jonathon S. Landay, “Top administration officials warn stakes for U.S. are high in Asian conflicts”, 3-11, L/N)

Few if any experts think China and Taiwan, North Korea and South Korea, or India and Pakistan are spoiling to fight. But **even a minor miscalculation by any of them could destabilize Asia, jolt the global economy and even start a nuclear war**. India, Pakistan and China all have nuclear weapons, and North Korea may have a few, too. **Asia lacks the kinds of organizations, negotiations and diplomatic relationships that helped keep an uneasy peace for five decades in Cold War Europe. "Nowhere else on Earth are the stakes as high and relationships so fragile**," said Bates Gill, director of northeast Asian policy studies at the Brookings Institution, a Washington think tank. "**We see the convergence of great power interest overlaid with lingering confrontations with no institutionalized security mechanism in place. There are elements for potential disaster**."

### Prolif CP

#### Perm do both. Pass both the plan and the counterplan. The result of passing both is that an investment is done but the plan is passed unconditionally. Fixes net benefit.

#### Perm do the CP.

#### a. This is legitimate because they’re not textually competitive.

#### b. This limits out abusive counterplans like the dollar PIC and the period PIC which are completely unpredictable – infinite number of processes that could be changed, coopt the entirety of the 1AC, which forces us to argue against ourselves. This CP is only legitimate as a normal means CP for which they must read evidence.

#### c. Process PICs are artificially competitive because they overinflate the value of a contrived net benefit.

#### d. Process PICs are illegitimate because they add to the plan and are plan plus. They haven’t read any evidence which would indicate that specification of the process that would make the CP competitive is topical.

#### No prolif concerns – new tech does not separate the plutonium preventing it from theft or usability.

Lagus, 2005 WISE Intern, ‘5

[Todd, University of Minnesota, WISE, “Reprocessing of Spent Nuclear Fuel: A Policy Analysis”

<http://www.wise-intern.org/journal/2005/lagus.pdf>, RSR]

In the case of the newer UREX+ technology, the long-lived fission products create more steps in weapons deployment. The new technologies for reprocessing including transmutation would not involve separating pure plutonium, but rather a plutonium/ actinide mixture that would increase the toxicity of the material and protect it from theft and handling. The International Atomic Energy Agency’s (IAEA) standard for self protection requires 1 Sievert/hr (100 rems/hr) at one meter. Five Sieverts is a median lethal dose. 45 This technology again has been demonstrated in laboratories, but a great deal of research is still underway. The actinides also contaminate the plutonium such that it would not be usable as a weapon without sophisticated chemical separation technologies, which few countries, if any, possess. 46 Some argue that there are many other weapons options which are cheaper and easier to fabricate should an enemy decide to strike. 47

#### No widespread proliferation.

Hymans, USC Associate Professor of IR, ‘12

[Jacques, /16/12, North Korea's Lessons for (Not) Building an Atomic Bomb, www.foreignaffairs.com/articles/137408/jacques-e-c-hymans/north-koreas-lessons-for-not-building-an-atomic-bomb?page=show]

Washington's miscalculation is not just a product of the difficulties of seeing inside the Hermit Kingdom. It is also a result of the broader tendency to overestimate the pace of global proliferation. For decades, Very Serious People have predicted that strategic weapons are about to spread to every corner of the earth. **Such warnings have routinely proved wrong** - for instance, the intelligence assessments that led to the 2003 invasion of Iraq - but they continue to be issued. In reality, despite the diffusion of the relevant technology and the knowledge for building nuclear weapons, the world has been experiencing a great proliferation slowdown. Nuclear weapons programs around the world are taking much longer to get off the ground - and their failure rate is much higher - than they did during the first 25 years of the nuclear age. As I explain in my article "Botching the Bomb" in the upcoming issue of Foreign Affairs, the key reason for the great proliferation slowdown is the absence of strong cultures of scientific professionalism in most of the recent crop of would-be nuclear states, which in turn is a consequence of their poorly built political institutions. In such dysfunctional states, the quality of technical workmanship is low, there is little coordination across different technical teams, and technical mistakes lead not to productive learning but instead to finger-pointing and recrimination. **These problems are debilitating**, and **they cannot be fixed** simply by bringing in more imported parts through illicit supply networks. In short, as a struggling proliferator, North Korea has a lot of company.

#### Yucca mountain will be approved this year.

Greenville Online, ‘12

[“Yucca Mountain gets potential nudge”, 8-8-12,

<http://www.greenvilleonline.com/article/20120809/OPINION/308090006/Yucca-Mountain-gets-potential-nudge>, RSR]

A court order to move ahead with the evaluation would be a step forward — albeit a small one — for Yucca Mountain. The project has barely been on life support since President Barack Obama ordered the federal government to stop all work on the project. However, heading into 2013 when there could be new leadership in the White House and a Congress that’s more supportive of Yucca Mountain, it could give the project enough life to resurrect it. That’s what should happen. Yucca Mountain remains the only viable option on the table for disposing of the nation’s nuclear waste. The White House and Congress — led by Democratic Sen. Harry Reid of Nevada — have dragged their feet on the issue and all but killed it, but no other options have been suggested by opponents.

#### Storage of waste in Yucca causes extinction – top geologists agree.

Broad 90 (William, NYT Staff, The New York Times, November 18)

One scientist, however, has quietly but persistently warned that this vision of a safe repository is little more than a delusion.¶ Jerry S. Szymanski (pronounced sha-MAN-ski) is a geologist who works on the Yucca Mountain project for the United States Department of Energy, which is in charge of evaluating the site and would run the repository. For years, he has argued that ground water under the mountain could eventually well up, flood the facility and prompt a calamity of vast proportions. The geological action is easy to visualize. Crustal stresses in the area slowly open fractures and faults under and within the mountain. Water seeps into them. An earthquake occurs, compressing the fractures and forcing the ground water upward into the dump. As the inrushing water comes into contact with the hot canisters of nuclear waste, the water is vaporized, threatening to cause explosions, ruptures and the release of radioactivity.¶ Szymanski has worked for the D.O.E. since 1983. He takes pains to distance himself from foes of nuclear power. "This report is not the act of a disgruntled employee or an antinuclear freak," he wrote in the preface of a study he made on Yucca Mountain. "Rather, it is the act of a deeply concerned scientist, a public servant and a pro-nuclear activist."¶ He chain-smokes Winstons and drinks Scotch, neither of which seems to impair his ability to take brisk hikes up the mountain with his dog Max, a fierce-looking but friendly creature that is half Labrador, half pit bull. Szymanski's eyes flash when he speaks of those who oppose his view of the evidence. "It's banality of thought," he growls, "absence of depth." That same kind of banality, he says, was responsible for the Holocaust, around which his earliest memories revolve, and for a brutal crackdown in his native Poland, which prompted him to flee that country two decades ago with his wife and 6-month-old son. Today, he says, banality is prompting the Federal Government to court disaster.¶ Squinting in the bright Nevada sunlight, a cigarette firmly in his mouth, Szymanski walks into Trench No. 8, a deep scar on the side of Yucca Mountain dug at the behest of the Energy Department. It runs across a fault. He bends down to examine a one-yard-wide vein of rock whose creamy color stands in contrast to the dark, surrounding earth tones. His fingers play over its surface. The vein was deposited, he says, by mineral-laden water that welled up and turned this desolate site into an oasis.¶ "This is above the repository level," he says with studied understatement. The implication is clear and troubling -- where water once flowed, it might flow again.¶ The repository would hold up to 70,000 metric tons of waste. A large release would have an environmental impact that, by some estimates, would exceed that of a nuclear war. For perspective, the explosion of the Chernobyl reactor in the Soviet Union shot into the atmosphere just a few dozen pounds of highly radioactive nuclear waste, one of the most dangerous components of which was cesium 137 (it would also be a significant part of the waste at Yucca Mountain). Various studies say the consequences of Chernobyl will eventually be somewhere between 17,000 and 475,000 deaths from cancer, as well as an alarming number of serious ailments.¶ For half a decade, Szymanski's was a lone voice. His grim appraisal was opposed by almost everyone else on the Yucca Mountain project, who let their displeasure be known in subtle and not-so-subtle ways. But recently, growing ranks of geologists have backed his view. The dispute is by no means resolved.¶ If Szymanski is right and his warnings are heeded, it could mark the end of the Yucca Mountain project. The retreat would be a stunning setback for the Government and the nuclear-power industry, which is poised for a revival. If he is right and his warnings go unheeded, some experts say it might be the beginning of the ultimate end.¶ "You flood that thing and you could blow the top off the mountain," says Charles B. Archambeau, a geophysicist at the University of Colorado who has reviewed Szymanski's work and found it persuasive. "At the very least, the radioactive material would go into the ground water and spread to Death Valley, where there are hot springs all over the place, constantly bringing water up from great depths. It would be picked up by the birds, the animals, the plant life. It would start creeping out of Death Valley. You couldn't stop it. That's the nightmare. It could slowly spread to the whole biosphere. If you want to envision the end of the world, that's it."

#### Reprocessing solves the blow up of Yucca Mountain.

Broad 95 (William, NYT staff, Scientists fear atomic explosion of buried waste, The New York Times, March 5, p. 1)

Dr. Bowman says the explosion thesis is alive and well. On Friday he finished an 11-page draft paper thick with graphs and equations that lays it out in new detail.¶ The team criticisms, he said in an interview, repeatedly fall flat. For instance, dispersal could happen relatively quickly, especially if water percolated through the dump. Even if slow, plutonium 239 decays into uranium 235, which harbors the same explosive risks but requires millions of years to decay into less dangerous elements.¶ So too with the other criticisms, he says. Water could aid the slowing of neutrons and make sure the reaction went forward rather than automatically slowing down. And a pile could explode, he insists, while conceding that the blast from a single one might have a force of a few hundred tons of high explosive rather than the thousand or more originally envisioned.¶ On the other hand, his new paper says plutonium in amounts as small as one kilogram, or 2.2 pounds, could be dangerous.¶ "We got some helpful criticism and that, combined with additional work, has made our thesis even stronger," he said.¶ The most basic solution, Dr. Bowman said, would be removing all fissionable material from nuclear waste in a process known as reprocessing or by transmuting it in his proposed accelerator. Other possible steps would include making steel canisters smaller and spreading them out over larger areas in underground galleries -- expensive steps in a project already expected to cost $15 billion or more.¶ A different precaution, Dr. Bowman said, would be to abandon the Yucca site, where the volcanic ground is relatively soluble. Instead, the deep repository might be dug in granite, where migration of materials would be slower and more difficult.

#### No solvency: must show unconditional support for reprocessing. Ban has been lifted since 1981 yet no investment. That’s Saillan. Must provide an unconditional national policy in favor of it to get private industry on board. That’s Selyukh.

#### No solvency: Assessment is just the SQUO. We read the results of assessments which says that a 20% tax credit is enough to make it competitive, which is what your evidence would find. That’s Lagus and IAEA. The impact to this is that the CP does not pass the plan.

### Politics

#### Immigration reform won’t pass – fiscal issues thump and the timeframe is too long.

Foley and Stein, 1-2

[Elise and Sam, “Obama's Immigration Reform Push To Begin This Month”, 1-2-13, The Huffington Post

<http://www.huffingtonpost.com/2013/01/02/obama-immigration-reform_n_2398507.html>, RSR]

An Obama administration official said the president plans to push for immigration reform this January. The official, who spoke about legislative plans only on condition of anonymity, said that coming standoffs over deficit reduction are unlikely to drain momentum from other priorities. The White House plans to push forward quickly, not just on immigration reform but gun control laws as well. The timeframe is likely to be cheered by Democrats and immigration reform advocates alike, who have privately expressed fears that Obama's second term will be drowned out in seemingly unending showdowns between parties. The just-completed fiscal cliff deal is giving way to a two-month deadline to resolve delayed sequestration cuts, an expiring continuing resolution to fund the government and a debt ceiling that will soon be hit. With those bitter battles ahead, the possibility of passing other complicated legislation would seem diminished. "The negative effect of this fiscal cliff fiasco is that every time we become engaged in one of these fights, there's no oxygen for anything else," said a Senate Democratic aide, who asked for anonymity to speak candidly. "It's not like you can be multi-tasking -- with something like this, Congress just comes to a complete standstill." It remains unclear what type of immigration policies the White House plans to push in January, but turning them into law could be a long process. Aides expect it will take about two months to write a bipartisan bill, then another few months before it goes up for a vote, possibly in June. A bipartisan group of senators are already working on a deal, although they are still in the early stages. Rep. Zoe Lofgren (D-Calif.) will likely lead on the Democratic side in the House. While many Republicans have expressed interest in piecemeal reform, it's still unclear which of them plan to join the push.

#### Immigration reform won’t pass – Republicans block.

Habeeb and Levin, 1-1

[Lee and Mike, “The Immigrant Song”, 1-1-13, The National Review

http://www.nationalreview.com/articles/336676/immigrant-song-lee-habeeb, RSR]

Some members of the GOP understood this. President George W. Bush did. He tried to pass comprehensive immigration reform, only to be thwarted by Republicans in Congress. John McCain was a champion of comprehensive immigration reform during much of the last decade — until he wasn’t. McCain faced opposition from illegal-immigration hawk J. D. Hayworth during his 2010 Senate run; fearing a backlash from primary voters, he changed both his tone and his stance on the issue. And then it was Mitt Romney’s turn to prove his illegal-immigration bona fides. § Marked 21:02 § Asked during a GOP debate how he would address the issue, he told the nation he favored “self-deportation.” How did it come to this? How can the GOP fix its problems with Hispanics — and with immigrants in general, legal and illegal? Romney won only 27 percent of the Asian vote in 2012. Some will urge the GOP to get behind comprehensive immigration reform. Others will urge H-1B Visa reform. But policy positioning alone won’t make up for the GOP’s messaging ineptitude. Nor will attempts to reverse-engineer the Democrats’ success with more data mining and pandering to individual interest groups. If we learned anything from 2012, it’s that we have little to learn from 2012. Billions of dollars were spent for advice from experts and grassroots gurus, and 13 million fewer Americans voted in 2012 than in 2008.

#### No PC loss from pushing nuclear.

Hinckley, adjunct professor of international energy policy at Georgetown University, ‘12

[Elias, partner with the law firm of Kilpatrick Townsend & Stockton,

“Hard Choices Ahead for US Energy”, <http://www.ourenergypolicy.org/wp-content/uploads/2012/03/EHinckley-policy-article.pdf>]

What remains unclear is how policymakers will react. Some amount of policymaking support has been lost, as there has been simply too much discourse devoted to the potential hazards of nuclear power. However, the downside to continuing to champion the role of nuclear energy as part of a secure US energy future appears limited at this stage. There is little nationalized resistance and, as a result, no clear political cost to support nuclear policies, and possibly the benefit of the impression of proactivity on broad energy policy initiatives, and the results may be politicians continuing to champion nuclear power with no real expectation of new facilities being developed over the near or midterm

#### Logical policymaker can do both.

#### Plan popular in Congress – popular among senators like Graham.

Ling 2009 (“Is the solution to the U.S. nuclear waste problem in France?” By KATHERINE LING, ClimateWire, http://www.nytimes.com/cwire/2009/05/18/18climatewire-is-the-solution-to-the-us-nuclear-waste-prob-12208.html?pagewanted=all Published: May 18, 2009) RCM

South Carolina Sen. Lindsey Graham (R) earlier this month said he would like to bring such an "energy park" to the Savannah River Site -- where Areva is building the MOX facility -- and plans to speak to House leadership and President Obama on the matter. Reprocessing is moving elsewhere on the congressional front, including in draft legislation from Sen. Jeff Bingaman (D-N.M.), chairman of the Senate Energy and Natural Resources Committee, that would study the feasibility of a reprocessing facility as a part of comprehensive energy legislation. Sen. Lisa Murkowski (R-Alaska), the committee's ranking member, said she will propose an alternative nuclear provision to provide cost-sharing incentives for two reprocessing facilities and other new nuclear reactor incentives.

#### Graham is a dealmaker

Politico 12 (http://www.politico.com/news/stories/1112/83458.html)

Still, there’s no mistaking the loss is anything short of a dramatic disappointment for Senate Minority Leader Mitch McConnell (R-Ky.) and Texas Sen. John Cornyn, the chairman of the National Republican Senatorial Committee who is poised to become the No. 2 Republican in the chamber.¶ After failing to return to the majority for the second straight cycle, both men will now have to navigate their own potentially tough reelection bids in 2014, as will a number of would-be GOP deal-makers, such as Lamar Alexander of Tennessee, Lindsey Graham of South Carolina and Saxby Chambliss of Georgia. The same tea party influence that has proven to be powerful in GOP primaries could haunt senators with no president in the White House strong enough to clear their respective fields. McConnell will have to balance the need for accomplishments with the desire to protect his conference from being jammed by Democrats.

### Renewables DA

#### No shift towards renewable – venture capitalists are not interested.

Jacobius, Staff Writer, 9-17

[Arleen, “Clean-tech investing littered with mines”, Pensions and Investments,

http://www.pionline.com/article/20120917/PRINTSUB/309179992/clean-tech-investing-littered-with-mines]

Clean technology managers are redoubling their efforts to attract capital, but investors will have to pick through a landscape of failed offerings to find the managers with winning strategies.¶ Six years ago, institutional investors began making large commitments to the sector. They bet that rising fuel costs and dwindling natural resources would create a huge investment opportunity in alternative energy.¶ The California Public Employees' Retirement System has made $1.1 billion in private equity commitments to the sector, including $480 million through its CalPERS Clean Energy and Technology Fund, $500 million in clean energy and technology funds and $200 million in its environmental technology program; the California State Teachers' Retirement System has about $667.5 million invested in clean tech; and the New York State Common Retirement Fund has more than $500 million committed to the sector.¶ So far, not all investments have worked out as planned, industry insiders said. Investors are still waiting for their clean-tech portfolios to produce expected returns. The reason is that many clean-tech investments are still sitting in managers' portfolios waiting for an exit.¶ Some venture capital managers will not be able to continue supporting these companies, sending executives at these firms off in search of other sources of capital, said Tracy Lefteroff, global managing partner of the venture capital practice at PricewaterhouseCoopers U.S. who is based in the firm's San Jose, Calif., office.¶ “I think there is a lot of interest in clean technology but not enough of profitable liquidity events to maintain a high level of investment or to attract new money,” Mr. Lefteroff said.

#### No investment or solvency for renewables now – not cost effective.

Floyd, 9-28

[The Gadsden Times, director of United Kingdom manufacturing, Goodyear Tire & Rubber Co., vice president of manufacturing and international operations, General Tire & Rubber Co., and director of manufacturing, Chrysler Corp, <http://www.gadsdentimes.com/article/20120928/NEWS/120929802>]

Energy contributions by solar and wind to the U.S. power grid are miniscule when compared to coal, oil and gas, hydro and nuclear. In addition, the renewable energies are not cost effective and it is doubtful they will be.¶ In a recent article in The Gadsden Times, a writer complained that one of the major issues for wind and solar was states lagging in incentives for solar and wind. ¶ Was the writer joking, or did he not understand that huge governmental subsidies for solar and wind power come from taxpayer dollars? ¶ The U.S. Department of Energy reported that federal subsidies for solar are $775 per megawatt hour and for wind $57 per megawatt hour. Conversely, subsidies for oil and gas are $0.64 cents per megawatt hour, hydro power was $0.82 cents, coal $0.64 cents and nuclear $3.14 per megawatt hour. The difference in the subsidy for wind and solar versus traditional energy sources is obscene.¶ In 2011 the wind turbine industry received $5 billion in subsidies, in spite of the fact it produced only 2.3 percent of the total energy used in the United States. ¶ The Wall Street Journal reported in its Aug. 18 opinion page that for every tax dollar that goes to coal, oil and natural gas, wind gets $88 and solar $1,212. Subsidy comparisons don’t consider that the oil, coal,and natural gas industries paid more than $10 billion in taxes in 2009. Wind and solar are net drains on the United States Treasury.¶ The Journal suggested that maybe it is time to eliminate all federal subsidy programs for the energy industry. This is a proposal that should be taken very seriously. Why subsidize industries that historically generate huge profits? ¶ An Indiana newspaper reported that the company E-on Climate & Renewables is in a race against time for construction of 125 wind turbines in the Tipton, Ind., area. E-on is concerned federal subsidies they now enjoy will expire at the end of 2012. That’s unlikely because subsidies for wind and solar have been around since 1992 and have been extended seven times.¶ E-on has stated that each wind turbine will generate enough electrical power for 350 homes. So it would follow that 125 turbines will generate enough power to supply 43,750 homes. This is more than enough electrical power for all of Tipton and Kokomo, Ind.¶ The problem is the cost of the power. If the two communities had to pay for the power without taxpayer help, it would bankrupt every family living in the two communities.¶ What about times when there is no wind to power the turbines? Would these communities have to supplement electrical needs with power from alternative sources?¶ As utilization goes down for traditional electrical suppliers, unit costs go up. This means that alternative power supplied by traditional sources would also increase in cost. Tipton and Kokomo would be caught in a “Catch 22.” Implementation of wind turbines is a loser for the American taxpayer until the supplies of coal, natural gas and oil are depleted. Even then new nuclear power plants could supply 90 percent or more of the United States demand. ¶ Wind farms are “feel-good projects” with enormous associated costs to the American taxpayer. For irrelevance, wind farms are only exceeded by the solar industry. Sometimes, it is not good to be No. 1. ¶ To answer the question are American taxpayers lagging in incentives for renewable energy sources? I don’t think so.¶ I understand startup costs and the time it takes to establish appropriate operating numbers. Wind and solar power are far removed from the realm of cost effectiveness. ¶ There is much doubt wind and solar will be more than a drop in the ocean in relation to contributing to power requirements for the United States.

#### Renewables fail – even massive government investment cannot overcome intermittency, Germany proves.

Gue, Energy Markets Analyst, ‘10

[Elliot, “Nuclear Power: A Better Investment than Alternative Energy,” Investing Daily, 10-11-10, http://www.investingdaily.com/13512/nuclear-power-a-better-investment-than-alternative-energy]

Renewable and alternative energies are the centerpiece of many governments’ energy policies. Germany has been a market leader in wind and solar. Generous feed-in tariffs effectively guarantee attractive returns for new alternative energy projects for 20 years. Despite relatively modest wind and solar resources, Germany is among the fastest-growing markets in the world for both technologies.¶ Although alternative energies hold some longer-term promise, blind and seemingly unwavering confidence in these solutions near-term benefits is misplaced.¶ By their very nature, wind and solar power are intermittent energy sources; when the wind isn’t blowing or the sun isn’t shining, natural gas-fired plants provide for much of the shadow capacity that keeps the electricity flowing. This pie graph breaks down Germany’s electricity mix from 1998 to 2008.¶ As you can see, thermal sources–primarily gas and coal–have lost share in Germany’s electricity grid over the past decade, though they still accounts for more than half of the nation’s net power generation. Natural gas consumption is up roughly 8 percent over this period, but coal use has flattened or declined.¶ Although Germany’s generous subsidies have increased its wind-power capacity significantly, this renewable energy accounts for just 6 percent of total generation. The country’s investments have produced a relatively small increase in electricity generated from wind power.¶ Wishful thinking aside, current wind- and solar-power technologies don’t offer a real alternative to fossil fuels.

#### Even if funding continues – lack of innovation kills renewables.

Stepp, Senior Policy Analyst @ Information Technology and Innovation Foundation, ‘12

[Matthew, “Boom and Bust: Renewable Energy's Future?”, <http://energy.nationaljournal.com/2012/05/boom-and-bust-renewable-energy.php>, DZ]

But even if much of this funding continues, the nascent clean tech industry is on a potential path of stagnation. In absence of long-term, significantly larger subsidies (which are politically unlikely), government support for clean energy R&D are central to developing and deploying competitive clean tech. In other words, clean tech growth nationwide (and globally) will be determined not by subsidies, but by innovation that can lead to technologies that are better and cheaper than fossil fuels.¶ Yet, our policy choices often don’t reflect this reality. According to ITIF’s Energy Innovation Tracker, the U.S. is investing roughly $6 billion in clean energy R&D in FY2012 – on average a third what leading experts think the U.S. should be investing. In fact, the bulk of the federal government’s historic investment in clean energy – nearly three quarters of the $150 billion – is going to the deployment of existing technologies that are not cost-competitive with fossil fuel sources of energy. While these deployment incentives expand domestic supply chains and are spurring incremental innovations, the policies are acting like blunt force tools propping up lower-risk technologies while playing little role in incenting innovation and technologies to put clean energy on a path to subsidy independence. By not orienting the significant federal investment in clean tech towards spurring innovation while grossly underfunding R&D, the U.S. is failing to jump start and accelerate the clean tech innovations needed to create a robust, long-term sustainable industry. Even if the expiring tax incentives are extended as is, the long-term stagnation of the industry will still occur due to a lack of innovation. If we want a global clean tech revolution driven by the marketplace, we need to bring the equivalent of “Moore’s law” (the prediction that computing power would double every 24 months while costs would fall by half) to clean energy. Nothing less will work.

#### Nuclear and renewables don’t compete—they’re complimentary

Scandurra and Romano ‘11

(Giuseppe and Antonio Angelo, Department of Statistical Mathematics and Economics at the University of Napoli, “The investments in renewable energy sources: do low carbon economies better invest in green technologies?”, Munich Personal RePEc Archive, 2011, http://mpra.ub.uni-muenchen.de/34216/2/MPRA\_paper\_34216.pdf)

If it can have some statistical significance, the estimates in the low carbon economies are generally higher, in absolute value, than in the high carbon sample, except the autoregressive parameters. In fact, the influence of investments in renewable energy source is stronger in the high carbon countries than to the other countries (low carbon). The former try to invest mostly in renewable sources in order to reduce their footprint and respect the international agreement that they ratified. Significant is the inverse relationship between renewable investments and share of nuclear consumption. Probably§ Marked 21:00 § , the continuous base load electricity ensured by nuclear power plants and the absence of greenhouse gas emission allow these countries to invest in additional renewable energy in a complementary way, in order to reach an optimal energy mix and to ensure the subsidies for investment in renewable energy.

## 1AR

#### No renewables investment.

Ball, Scholar in Residence at Stanford University's Steyer-Taylor Center for Energy Policy and Finance, ‘12

[Jeffrey, “Tough Love for Renewable Energy,” Foreign Affairs, May/June, http://www.foreignaffairs.com/articles/137519/jeffrey-ball/tough-love-for-renewable-energy?page=6]

Over the past decade, governments around the world threw money at renewable power. Private investors followed, hoping to cash in on what looked like an imminent epic shift in the way the world produced electricity. It all seemed intoxicating and revolutionary: a way to boost jobs, temper fossil-fuel prices, and curb global warming, while minting new fortunes in the process.¶ Much of that enthusiasm has now fizzled. Natural gas prices have plummeted in the United States, the result of technology that has unlocked vast supplies of a fuel that is cleaner than coal. The global recession has nudged global warming far down the political agenda and led cash-strapped countries to yank back renewable-energy subsidies. And some big government bets on renewable power have gone bad, most spectacularly the bet on Solyndra, the California solar-panel maker that received a $535 million loan guarantee from the U.S. Department of Energy before going bankrupt last fall.

#### Renewables fail and turn – no future and too slow to curb immediate threats.

Noon ‘12 (Marita “The Keystone XL Pipeline: A Line in the Sand for America’s Future” GlobalWarming.org. January 3, 2012)

Ask people about the future of energy, and you’ll probably hear mention of “solar,” “wind,” and “ethanol.” These developing energy technologies have been invested in, loaned to, subsidized, and mandated—yet they’ve repeatedly fallen short. If the vaunted renewables aren’t yet ready for prime time, what will we do if, for example, Iran makes good on its threat to close the Strait of Hormuz and blocks a significant supply of the world’s energy? Just the fear of a supply disruption bumped up the price of oil. The geopolitics provide a perfect backdrop for pushing the pipeline that will boost the economy through more jobs and price stability, provide energy security, and help balance the trade deficit. Opponents see building the Keystone XL pipeline as a flashpoint for the struggle between old and new energy paradigms—yet with the failure of so-called future energy, the pipeline is representative of our energy future. Untold billions of taxpayers’ dollars have been spent trying to force renewables into an unnatural economic timeline with the expectation that the laws of nature will bow to the laws of politicians. Yet, not one of them produces a significant percentage of our energy needs. If we lost 20% of our renewable energy, we’d never feel it. If we lost 20% of our oil supply—the amount that goes through the Strait of Hormuz, we could be back to the rationing and gas lines that are reminiscent of the Carter administration.