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#### Interpretation – Financial incentives reduce producer costs – that’s distinct from creating more a favorable market

Benson 7 – J.D, University of Iowa (Christine C., Winter, “STUDENT NOTE: Putting Your Money Where Your Mouth Is: The Varied Success of Biofuel Incentive Policies in the United States and the European Union”, 16 Transnat'l L. & Contemp. Probs. 633, Lexis Law)

There are two main ways a government can promote an industry requiring support to survive and prosper. A government may use financial incentives to reduce costs to the industry at one or several points in the chain of production. n139 A government may also use regulatory mandates to impose a minimum usage requirement for certain products produced by the industry. n140

Both the United States and the EU have implemented mandates in regard to biofuels. n141 Mandates are structured goals that a government lays out for an industry to accomplish, and a government usually provides a date by which those goals should be met. n142 Mandates allow a government to define and promote a structured policy, and financial incentives provide the [\*650] means of assistance for implementing that policy. n143 Therefore, mandates are usually accompanied by some type of financial incentive. n144

Financial incentives take many forms. Loans, grants, production payments, tax credits or deductions, and tax exemptions all provide some type of financial assistance. n145 Loans and grants generally promote the development of an industry's infrastructure, research, and development. n146 Tax incentives are generally more focused on promoting long-term production of a product. n147 This Note focuses only on tax incentives, not loan and grant programs, for biofuels in the United States and the EU.

#### Violation – FIT’s are not a financial incentive – only indirectly create a better market

Joanna Lewis and Ryan Wiser – Gtown STIA Prof / LAWRENCE BERKELEY NATIONAL LABORATORY – November 2005, Fostering a Renewable Energy Technology Industry: An International Comparison of Wind Industry Policy Support Mechanisms, http://eetd.lbl.gov/ea/emp/reports/59116.pdf

Policy measures to support wind industry development can be grouped into two

categories: direct and indirect measures. Direct measures refer to policies that specifically target¶ local wind manufacturing industry development, while indirect measures are policies that support¶ wind power utilization in general and therefore indirectly create an environment suitable for a¶ local wind manufacturing industry (by creating sizable, stable markets for wind power). The¶ discussion that follows covers both of these types of measures, and is a summary of the more¶ detailed country case studies provided in Lewis and Wiser (2005).¶ 4.1. Direct Support Mechanisms¶ Policies that directly support local wind turbine or components manufacturers can be¶ crucial in countries where barriers to entry are high and competition with international leaders is¶ difficult. A variety of policy options exist to directly support local wind power technology¶ manufacturing, and several policy options have proven effective, as demonstrated in a number of¶ countries (Table 4). These various policy mechanisms do not all target the same goal; some¶ provide blanket support for both international and domestic companies to manufacture locally,¶ while others provide differential support to domestically-owned wind turbine or components¶ manufacturers. Most countries have employed a mix of the following policy tools.¶ Local Content Requirements¶ The most direct way to promote the development of a local wind manufacturing industry¶ is by requiring the use of locally manufactured technology in domestic wind turbine projects. A¶ common form of this policy mandates a certain percentage of local content for wind turbine¶ systems installed in some or all projects within a country. Such policies force wind companies¶ interested in selling to a domestic market to look for ways to shift their manufacturing base to that¶ country or to outsource components used in their turbines to domestic companies. Unless the¶ mandate is specifically targeted to domestically owned companies, it will have the blanket effect¶ of encouraging local manufacturing regardless of company nationality.¶ Local content requirements are currently being used in the wind markets of Spain, Canada,¶ Brazil and China. Spanish government agencies have long mandated the incorporation of local¶ content in wind turbines installed on Spanish soil; the creation of Gamesa in 1995 can be traced in¶ part to these policies. Even today, local content requirements are still being demanded by several¶ of Spain’s autonomous regional governments that “see local wealth in the wind”—in Navarra¶ alone, it is estimated that its 700 MW of wind power has created 4000 jobs (WPM, October¶ 2004:45). Other regions, including Castile and Leon, Galicia and Valencia, insist on local¶ assembly and manufacture of turbines and components before granting development concessions¶ (WPM, October 2004:6). The Spanish government has clearly played a pro-active role in kickstarting¶ a domestic wind industry, and the success of Gamesa and other manufacturers is very¶ likely related to these policies.¶ At least one provincial government in Canada—Quebec—is pursuing aggressive local¶ content requirements in conjunction with wind farms developed in its region. In May 2003,¶ Hydro-Quebec issued a call for tenders for 1000 MW of wind for delivery between 2006 and¶ 2012 which included a local content requirement; this 1000 MW call was twice the size initially¶ planned by the utility, but it was doubled by the Quebec government with the hope of contributing¶ to the economic revival of the Gaspe Peninsula (WPM, May 2003:35; WPM, April 2004:41). The¶ government also insisted that Quebec’s wind power development support the creation of a true¶ provincial industry that included local manufacturing and job creation by requiring that 40% of¶ the total cost of the first 200 MW be spent in the region—a proportion that rises to 50% for the¶ next 100 MW and 60% for the remaining 700 MW (WPM, May 2003:35; April 2004:41). In¶ addition, the government stipulated that the turbine nacelles be assembled in the region, and that¶ project developers include in their project bidding documents a statement from a turbine¶ manufacturer guaranteeing that it will set up assembly facilities in the region (WPM, May¶ 2003:35). GE was selected to provide the turbines for a total of 990 MW of proposed projects¶ upon its agreement to meet a 60% local content requirement, and is currently establishing three¶ manufacturing facilities in Canada (WPM, June 2005:36). In October 2005, another call for¶ tenders was released, this time for 2000 MW to be installed between 2009-2013. This call¶ requires that 30% of the cost of the equipment must be spent in the Gaspe region and 60% of the¶ entire project costs must be spent within Quebec Province (Hydro-Quebec, 2005).¶ The Brazilian government has also pursued policies governing wind farm development¶ that include stringent local content requirements, primarily through the recent Proinfa legislation¶ (the Incentive Program for Alternative Electric Generation Sources) that offers fixed-price¶ electricity purchase contracts to selected wind projects. Starting in January 2005, the Proinfa¶ legislation requires 60% of the total cost of wind plant goods and services to be sourced in Brazil;¶ only companies that can prove their ability to meet these targets can take part in the project¶ selection process. In addition, from 2007 onwards, this percentage increases to 90% (Cavaliero¶ and DaSilva, 2005).¶ China has also been using local content requirements in a variety of policy forms. China’s¶ 1997 “Ride the Wind Program” established two Sino-foreign joint venture enterprises to¶ domestically manufacture wind turbines; the turbines manufactured by these enterprises under¶ technology transfer arrangements started with a 20 percent local content requirement and a goal of¶ an increase to 80 percent as learning on the Chinese side progressed (Lew, 2000). China’s recent¶ large government wind tenders, referred to as wind concessions, have a local content requirement¶ that has been increased to 70% from an initial 50% requirement when the concession program¶ began in 2003. Local content is also required to obtain approval of most other wind projects in the¶ country, with the requirement recently increased from 40% to 70%.¶ Local content requirements require a large market size in order to lure foreign firms to¶ undertake the significant investments required in local manufacturing. If the market is not¶ sufficiently sizable or stable, or if the local content requirements are too stringent, then the¶ advantages of attracting local manufacturing may be offset by the higher cost of wind equipment¶ that results. Some concerns of this nature have already been raised in Brazil, where only one¶ wind turbine manufacturer appears currently able to meet the local content requirements. The¶ potential negative impact of local content requirements on turbine costs has also been raised in¶ Canada and China. These experiences suggest that local content requirements can work, but¶ should generally be applied in a gradual, staged fashion and only in markets with sufficient¶ market potential.¶ Financial and Tax Incentives¶ Preference for local content and local manufacturing can also be encouraged without being¶ mandated through the use of both financial and tax incentives. Financial incentives may include¶ awarding developers that select turbines made locally with low-interest loans for project¶ financing, or providing financial subsidies to wind power generated with locally-made turbines.¶ Tax incentives can be used to encourage local companies to get involved in the wind industry¶ through, for example, tax credits or deductions for investments in wind power technology¶ manufacturing or research and development. Alternatively, a reduction in sales, value-added-tax¶ (VAT), or income tax for buyers or sellers of domestic wind turbine technology (or production)¶ can increase the competitiveness of domestic manufacturers. In addition, a tax deduction could be¶ permitted for labor costs within the local wind industry. Tax or financial incentives can also be¶ applied to certain company types, such as joint ventures between foreign and local companies, in¶ order to promote international cooperation and technology transfer in the wind industry, and to¶ specifically encourage some local ownership of wind turbine manufacturing facilities.¶ Germany’s 100MW/250MW program provided a 10-year federal generation subsidy for¶ projects that helped to raise the technical standard of German wind technology, and over twothirds¶ of the total project funding for this subsidy went to projects using German-built turbines¶ (Johnson and Jacobsson, 2003). Regional support for German industrial efforts with a bias¶ towards local wind manufacturers have been reported as well (Connor, 2004). A further German¶ policy that may have preferentially supported German turbine technology was the large-scale¶ provision of “soft” loans (loans that are available significantly below market rates) for German¶ wind energy projects.¶ Canada has implemented a tax credit on wages paid out to local labor forces in an attempt¶ to encourage large wind turbine manufacturers to shift jobs to Canada. To provide a further¶ incentive for local manufacturing, a Quebec provincial government program also offers a 40% tax¶ credit on labor costs to wind industries located in the region, and a tax exemption for the entire¶ manufacturing sector through 2010 (WPM, June 2003:40). Spain’s production tax credit on windpowered¶ electricity (supplemented by incentives offered in at least one province) is granted only¶ to turbines that meet local content requirements (WPM, February 2001:20). In India, the excise¶ duty is exempted for parts used in the manufacture of electric generators (Rajsekhar et al., 1999).¶ Australia (at the national and provincial levels), China, and a number of US states have also¶ employed a variety of different tax incentives to encourage localization of wind manufacturing.¶ China provides a reduced VAT on joint venture wind companies to encourage technology¶ transfer (NREL, 2004). China has also used financial incentives to promote domestic wind¶ industry development since its 1997 “Ride the Wind Program,” which allocated new technology¶ funds to two government-facilitated joint venture enterprises to domestically manufacture wind¶ turbines. The Danish Government’s Wind Turbine Guarantee also offered long-term financing of¶ large projects using Danish-made turbines and guaranteed the loans for those projects,¶ significantly reducing the risk involved in selecting Danish turbines for a wind plant.¶ Favorable Customs Duties¶ Another way to create incentives for local manufacturing is through the manipulation of¶ customs duties to favor the import of turbine components over the import of entire turbines. This¶ creates a favorable market for firms (regardless of ownership structure) trying to manufacture or¶ assemble wind turbines domestically by allowing them to pay a lower customs duty to import¶ components than companies that are importing full, foreign-manufactured turbines. Customs¶ duties that support local turbine manufacturing by favoring the import of components over full¶ turbines have been used in Denmark, Germany, Australia, India, and China (Rajsekhar et al.,¶ 1999; Liu et al., 2002). This type of policy may be challenged in the future, however, as it could¶ be seen to create a trade barrier and therefore be illegal for WTO member countries to use against¶ other member countries.¶ Export Credit Assistance¶ Governments can support the expansion of domestic wind power industries operating in¶ overseas markets through export credit assistance, thereby providing differential support to¶ locally-owned manufacturers. Though such assistance may also come under WTO’s fire, export¶ assistance can be in the form of low-interest loans or “tied-aid” given from the country where the¶ turbine manufacturer is based to countries purchasing technology from that country. Export credit¶ assistance or development aid loans tied to the use of domestic wind power technology have been¶ used by many countries, but most extensively by Germany and Denmark, encouraging the¶ dissemination of Danish and German technology, particularly in the developing world. For¶ example, the Danish International Development Agency (DANIDA) has offered direct grants and¶ project development loans to qualified importing countries for use of Danish turbines.¶ Quality Certification¶ A fundamental way to promote the quality and credibility of an emerging wind power¶ company’s turbines is through participation in a certification and testing program that meets¶ international standards. There are currently several international standards for wind turbines in¶ use, the most common being the Danish approval system and ISO 9000 certification. Standards¶ help to build consumer confidence in an otherwise unfamiliar product, help with differentiation¶ between superior and inferior products and, if internationally recognizable, are often vital to¶ success in a global market. Denmark was the first country to promote aggressive quality¶ certification and standardization programs in wind turbine technology and is still a world leader in¶ this field; quality certification and standardization programs have since been used in Denmark,¶ Germany, Japan, India, the USA, and elsewhere, and are under development in China. They were¶ particularly valuable to Denmark in the early era of industry development when they essentially¶ mandated the use of Danish-manufactured turbines, since stringent regulations on turbines that¶ could be installed in Denmark made it very difficult for outside manufacturers to enter the market.¶ Research and Development (R&D)¶ Many studies have shown that sustained public research support for wind turbines can be¶ crucial to the success of a domestic wind industry, and such efforts can and typically do¶ differentially support locally owned companies. R&D has often been found to be most effective¶ when there is some degree of coordination between private wind companies and public¶ institutions like national laboratories and universities (Sawin, 2001; Kamp, 2002). For wind¶ turbine technology, demonstration and commercialization programs in particular can play a¶ crucial role in testing the performance and reliability of new domestic wind technology before¶ those turbines go into commercial production.¶ R&D funding has been allocated to wind turbine technology development by every¶ country mentioned in this paper, with the success of R&D programs for wind technology¶ seemingly more related to how the funding was directed than the total quantity of funding.¶ Although the US has put more money into wind power R&D than any other country, for example,¶ an early emphasis on multi-megawatt turbines and funding directed into the aerospace industry¶ are thought (in retrospect) to have rendered US funding less effective in the early years of¶ industry development than the Danish program (the same has been said about early German and¶ Dutch R&D programs). Denmark’s R&D budget, although smaller in magnitude than some other¶ countries, is thought to have been allocated more effectively among smaller wind companies¶ developing varied sizes and designs of turbines in the initial years of industry development¶ (Sawin, 2001; Kamp, 2002).¶ 4.2. Indirect Support Mechanisms¶ Earlier we demonstrated that success in a domestic market may be an essential foundation¶ for success in the international marketplace, and that fundamental to growing a domestic wind¶ manufacturing industry is a stable and sizable domestic market for wind power. Achieving a¶ sizable, stable local market requires aggressive implementation of wind power support policies.¶ The policies discussed below aim to create a demand for wind power at the domestic level.¶ Feed-in Tariffs¶ Feed-in tariffs, or fixed prices for wind power set to encourage development (Lauber,¶ 2004; Rowlands, 2005; Sijm, 2002; Cerveny and Resch, 1998), have historically offered the most¶ successful foundation for domestic wind manufacturing, as they can most directly provide a stable¶ and profitable market in which to develop wind projects. The level of tariff and its design¶ characteristics vary among countries. If well designed, including a long term reach and sufficient¶ profit margin, feed-in tariffs have been shown to be extremely valuable in creating a signal of¶ future market stability to wind farm investors and firms looking to invest in long-term wind¶ technology innovation (Sawin, 2001; Hvelplund, 2001). As discussed earlier, Germany, Denmark¶ and Spain have been the most successful countries at creating sizable, stable markets for wind¶ power; all three of these countries also have a history of stable and profitable feed-in tariff¶ policies to promote wind power development. The early US wind industry was also supported by¶ a feed-in tariff in the state of California, though this policy was not stable for a lengthy period. ¶ Among the twelve countries emphasized in this paper, the Netherlands, Japan, Brazil, and some¶ of the Indian and Chinese provinces have also experimented with feed-in tariffs, with varying¶ levels of success.7

#### Vote Neg:

#### Predictable Limits – We added a qualifier to the word “incentive” precisely because it was too broad – Including non-financial incentives explodes the topic by several new ways of doing every aff. Prefer our interpretation because it creates a clear, predictable line between incentives that change production costs per unit and mandates that increase overall demand.

#### Ground – Testing the “financial” in financial incentive is core neg CP and solvency ground – using a non-financial mechanism guts DA links too because the way voters and markets react to subsidies and tax breaks is substantially different than to a minor change in what the government decides to buy.

### Politics

#### Comprehensive immigration reform is a top priority --- Obama will make an aggressive push to get it passed

Volsky, 12/30 (Igor, 12/30/2012, “Obama To Introduce Immigration Reform Bill In 2013,” <http://thinkprogress.org/justice/2012/12/30/1379841/obama-to-introduce-immigration-reform-bill-in-2013/>)

President Obama reiterated his call for comprehensive immigration reform during an interview on Meet The Press, claiming that the effort will be a top goal in his second term. “Fixing our broken immigration is a top priority. I will introduce legislation in the first year to get that done,” Obama said. Administration officials have hinted that Obama will “begin an all-out drive for comprehensive immigration reform, including seeking a path to citizenship” for 11 million undocumented immigrants, after Congress addresses the fiscal cliff. The Obama administration’s “social media blitz” will start in January and is expected “to tap the same organizations and unions that helped get a record number of Latino voters to reelect the president.” Cabinet secretaries and lawmakers from both parties are already holding initial meetings to iron out the details of the proposal and Obama will to push for a broad bill.

#### Obama’s capital and bipartisan cooperation are key to effective reform

DMN, 1/2 (Dallas Morning News, “Editorial: Actions must match Obama’s immigration pledge,” 1/2/2013, <http://www.dallasnews.com/opinion/editorials/20130102-editorial-actions-must-match-obamas-immigration-pledge.ece>)

President Barack Obama said all the right things Sunday about immigration reform. The president told NBC’s Meet the Press that he is serious about getting Congress to overhaul the laws governing immigrants. He even declared that he will introduce an immigration bill this year. This newspaper welcomes that announcement. Texans particularly understand the unique challenges that an outdated immigration system presents. Even though the flow of illegal immigrants into the U.S. has subsided in the last few years, the many holes in the system leave families, schools, businesses and law enforcement struggling. And those are just some of the constituents challenged by flawed immigration laws. The president’s words to NBC’s David Gregory are only that — words. What will really matter is whether he puts his muscle into the task this year. We suggest that Obama start by looking at the example of former President George W. Bush. Back in 2006 and 2007, the Republican and his administration constantly worked Capitol Hill to pass a comprehensive plan. They failed, largely because Senate Republicans balked. But the opposition didn’t stop the Bush White House from fully engaging Congress, including recalcitrant Republicans. Obama may have a similar problem with his own party. The dirty little secret in the 2006 and 2007 immigration battles was that some Democrats were content to let Senate Republicans kill the effort. Labor-friendly Democrats didn’t want a bill, either. And they may not want one this year. That reluctance is a major reason the president needs to invest in this fight. He must figure out how to bring enough Democrats along, while also reaching out to Republicans. In short, the nation doesn’t need a repeat of the process through which the 2010 health care legislation was passed. Very few Republicans bought into the president’s plan, leaving the Affordable Care Act open to partisan sniping throughout last year’s election. If the nation is going to create a saner immigration system, both parties need to support substantial parts of an answer. The new system must include a guest worker program for future immigrants and a way for illegal immigrants already living here to legalize their status over time. Some House Republicans will object to one or both of those reforms, so Speaker John Boehner must be persuasive about the need for a wholesale change. But the leadership that matters most will come from the White House. The president has staked out the right position. Now he needs to present a bill and fight this year for a comprehensive solution. Nothing but action will count.

#### FITs are politically controversial --- any reference to tariff or subsidy triggers a political backlash

Keppley, 12 --- M.A. Candidate, International Relations and Environmental Policy at Boston University (Summer 2012, Jesse M., The Josef Korbel Journal of Advanced International Studies, “A Comparative Analysis of California and German Renewable Energy Policy: ACTORS AND OUTCOMES,” http://www.du.edu/korbel/jais/journal/volume4/volume4\_keppley.pdf)

While environmental groups clearly had a large influence in promoting renewable energy policy in California, examining that role does not tell the whole story of why current policies were chosen over others. One telling reason for this is seen by examining the role of business and political interests in expanding the RPS through Senate Bill X1-2 (SBX1-2). When California adopted an RPS in 2002, both Democrats and Republicans were attempting to upstage one another when it came to promoting renewable energy generation and GHG mitigation (Farrell and Hanemann 2009, 97-98). But an RPS policy was not a given outcome. Many European countries, for example, were experimenting with Feed-in-Tariffs (FITs) as a way to promote new renewable capacity. One of the major reasons an RPS was attractive to policymakers, however, was that it was seen as a more market based approach; FITs on the other hand were viewed as incompatible with deregulated retail electricity markets (Rickerson, Sawin, and Grace 2007, 77). Rather than specify a price (as a FIT does) and allow the market to determine the correct quantity, a RPS determines a quantity and allows market competition to settle on a price. This makes the true economic costs of the policy more opaque, while at the same time avoids reference to a tariff or subsidy, both of which tend to be politically dangerous words in the United States.

RPS is also politically malleable, allowing for the exceptions and loopholes that are so often necessary to pass legislation in the US. In the case of California, because of the business and political interests involved in drafting SBX1-2, the bill walks a legal “tightrope,” containing formulae in the legislation that require limits be placed on the cost of renewables while providing waivers and exemptions for utilities unable to reach its targets (Nahai 2011). Dwayne Breger, who oversaw the implementation of Massachusetts’ RPS notes that California’s Public Utilities Commission (PUC) was tasked not only with overseeing 33% of the state’s electricity from renewable sources, but also that prices were built into the law to protect ratepayers, while quotas were implemented to ensure most of the green jobs created by the legislation would remain in the state (Breger 2012). The result is that California’s updated RPS has a graduated loading requirement that mandates how much of a utility’s portfolio must come from generation within the state. The end result requires 75% of renewable generation be produced within the state by 2017. On the face of it, SBX1-2 appears to be an ambitious push for clean energy. The above requirements reveal the political concessions necessary to appease consumer groups, business interests, a domestic constituency concerned with keeping jobs in state, and the utilities themselves.

#### CIR solves terrorism

Stock 5

(Margaret, American Immigration Lawyers Association, Associate Prof. Dept. of Law, US Military Academy, West Point, “The Need for Comprehensive Immigration Reform: Strengthening Our

National Security”, Statement before Senate Judiciary Committee, http://kyl.senate.gov/legis\_center/subdocs/051705\_stock.pdf)

Before I focus on the issues of comprehensive immigration reform and its relationship to national security, however, I want to reiterate two points I made during an earlier appearance before the Immigration, Border Security, and Citizenship Subcommittee: We best enhance our security by enhancing our intelligence capacity. National security is most effectively enhanced by improving the mechanisms for identifying actual terrorists, not by implementing harsher immigration laws or blindly treating all foreigners as potential terrorists. Policies and practices that fail to properly distinguish between terrorists and legitimate foreign travelers are ineffective security tools that waste limited resources, damage the U.S. economy, alienate those groups whose cooperation the U.S. government needs to prevent terrorism, and foster a false sense of security by promoting the illusion that we are reducing the threat of terrorism. Reforming our immigration laws will help us to identify those who seek to enter our country or are already residing here. We need to make our borders our last line of defense. The physical borders of the United States should be our last line of defense because terrorism does not spring up at our borders. In fact, we need to re-conceptualize how we think about our “borders,” because in our modern world they really start at our consulates abroad.

#### The US will retaliate – triggers full scale nuclear conflict

Speice, ’06

[Patrick F. Speice, Jr., JD Candidate at The College of William and Mary, “NEGLIGENCE AND NUCLEAR NONPROLIFERATION: ELIMINATING THE CURRENT LIABILITY BARRIER TO BILATERAL U.S.-RUSSIAN NONPROLIFERATION ASSISTANCE PROGRAMS,” William & Mary Law Review, February 2006, 47 Wm and Mary L. Rev. 1427]

Accordingly, there is a significant and ever-present risk that terrorists could acquire a nuclear device or fissile material from Russia as a result of the confluence of Russian economic decline and the end of stringent Soviet-era nuclear security measures. 39 Terrorist groups could acquire a nuclear weapon by a number of methods, including "steal[ing] one intact from the stockpile of a country possessing such weapons, or ... [being] sold or given one by [\*1438] such a country, or [buying or stealing] one from another subnational group that had obtained it in one of these ways." 40 Equally threatening, however, is the risk that terrorists will steal or purchase fissile material and construct a nuclear device on their own. Very little material is necessary to construct a highly destructive nuclear weapon. 41 Although nuclear devices are extraordinarily complex, the technical barriers to constructing a workable weapon are not significant. 42 Moreover, the sheer number of methods that could be used to deliver a nuclear device into the United States makes it incredibly likely that terrorists could successfully employ a nuclear weapon once it was built. 43 Accordingly, supply-side controls that are aimed at preventing terrorists from acquiring nuclear material in the first place are the most effective means of countering the risk of nuclear terrorism. 44 Moreover, the end of the Cold War eliminated the rationale for maintaining a large military-industrial complex in Russia, and the nuclear cities were closed. 45 This resulted in at least 35,000 nuclear scientists becoming unemployed in an economy that was collapsing. 46 Although the economy has stabilized somewhat, there [\*1439] are still at least 20,000 former scientists who are unemployed or underpaid and who are too young to retire, 47 raising the chilling prospect that these scientists will be tempted to sell their nuclear knowledge, or steal nuclear material to sell, to states or terrorist organizations with nuclear ambitions. 48 The potential consequences of the unchecked spread of nuclear knowledge and material to terrorist groups that seek to cause mass destruction in the United States are truly horrifying. A terrorist attack with a nuclear weapon would be devastating in terms of immediate human and economic losses. 49 Moreover, there would be immense political pressure in the United States to discover the perpetrators and retaliate with nuclear weapons, massively increasing the number of casualties and potentially triggering a full-scale nuclear conflict. 50

### K

#### Consumption practices ensure extinction – cause overshoot and collapse of the environment, only re-organizing society can solve

Smith 11

(Gar, Editor Emeritus of Earth Island Journal, “NUCLEAR¶ ROULETTE¶ THE CASE AGAINST A¶ “NUCLEAR RENAISSANCE” Pgs. 46)

Even if all of the world’s current energy output could be produced by renewables, this level of¶ energy consumption would still inflict terrible harm on Earth’s damaged ecosystems. In order to¶ survive, we need to relearn how to use less. It is critical that we adopt a Conservation Imperative.¶ Faced with the inevitable disappearance of the stockpiles of cheap energy we have used to move and¶ transform matter, we need to identify society’s fundamental needs and invest our limited energy resources¶ in those key areas. A Post-Oil/Post Coal/Post-Nuclear world can no longer sustain the one-time extravagances¶ of luxury goods, designed-to-be-disposable products, and brain-numbing entertainment devices.¶ The long-distance transport of raw materials, food and manufactured goods will need to decline in favor¶ of local production geared to match local resources and needs. Warfare—the most capital-, resource- and¶ pollution-intensive human activity—must also be diminished. Neither the costly inventory of nuclear¶ arms nor the Pentagon’s imperial network of 700-plus foreign bases is sustainable. There will doubtless¶ still be wars but, in the Post-oil World, they will be either be waged with solar-powered tanks or fought¶ on horseback.¶ Modern economies insist on powering ahead like competing steamboats in an upstream race. We have¶ become addicted to over-consumption on a planet that was not designed for limitless exploitation. As¶ the late environmental leader David Brower noted: “In the years since the Industrial Revolution, we¶ humans have been partying pretty hard. We’ve ransacked most of the Earth for resources….We are living¶ off the natural capital of the planet—the principal, and not the interest. The soil, the seas, the forests, the¶ rivers, and the protective atmospheric cover—all are being depleted. It was a grand binge, but the hangover¶ is now upon us, and it will soon be throbbing.” 224¶ On the eve of India’s independence, Mahatma Gandhi was asked whether his new nation could expect¶ to attain Britain’s level of industrial development. Noting that “it took Britain half the resources of this¶ planet to achieve its prosperity,” Gandhi famously estimated that raising the rest of the world to British¶ levels of consumption would require “two more planets.” The United Nations Development Program¶ recently reconsidered Gandhi’s equation as it applies towards “a world edging towards the brink of¶ dangerous climate change.”¶ Working from the assumed “sustainable” ceiling of climate-warming gases (14.5 Gt CO2 per year),¶ UNEP confirmed that “if emissions were frozen at the current level of 29 Gt CO2, we would need two¶ planets.” Unfortunately, UNEP noted, some countries are producing more CO2 than others. Fifteen¶ percent of the world’s richest residents are using 90 percent of the planet’s sustainable budget of shared¶ resources. According to UNEP’s calculations, just sustaining the current lifestyle of Canada and the U.S.¶ would require the resources of 16 planets—eight planets each. 225

#### **Renewables reproduce neoliberal social relations – they’re driven by a desire to maintain status quo consumption, and emanate from profit-motivated corporations**

Byrne & Toly 6

(Josh, director of the Center for Energy and Environmental Policy and distinguished professor of energy and climate policy at the University of Delaware, Noah, Associate Professor of Urban Studies and Politics & International Relations, Director of Urban Studies Program at Wheaton, “Energy as a Social Project: Recovering a Discourse”, pgs. 1-32 in Transforming Power: Energy, Environment, and Society in Conflict, eds. Josh Byrne, Noah Toly, and Leigh Glover)

Where the power to govern is not vested in experts, it is given over to market forces in both the conventional and sustainable energy programs. Just as the transitions envisioned in the two paradigms are alike in their technical preoccupations and governance ideologies, they are also alike in their political- economic commitments. Specifically, modernist energy transitions operate in, and evolve from, a capitalist political economy. Huber and Mills (2005) are convinced that conventional techno-fixes will expand productivity and increase prosperity to levels that will erase the current distortions of inequality. Expectably, conventional energy’s aspirations present little threat to the current energy political economy; indeed, the aim is to reinforce and deepen the current infrastructure in order to minimize costs and sustain economic growth. The existing alliance of government and business interests is judged to have produced social success and, with a few environmental correctives that amount to the modernization of ecosystem performance, the conventional energy project fervently anticipates an intact energy capitalism that willingly invests in its own perpetuation. While advocates of sustainable energy openly doubt the viability of the conventional program and emphasize its social and environmental failings, there is little indication that capitalist organization of the energy system is faulted or would be significantly changed with the ascendance of a renewablesbased regime. The modern cornucopia will be powered by the profits of a redirected market economy that diffuses technologies whose energy sources are available to all and are found everywhere. The sustainable energy project, according to its architects, aims to harness nature’s ‘services’ with technologies and distributed generation designs that can sustain the same impulses of growth and consumption that underpin the social project of conventional energy. Neither its corporate character, nor the class interests that propel capitalism’s advance, are seriously questioned. The only glaring difference with the conventional energy regime is the effort to modernize social relations with nature. In sum, conventional and sustainable energy strategies are mostly quiet about matters of concentration of wealth and privilege that are the legacy of energy capitalism, although both are vocal about support for changes consistent with middle class values and lifestyles. We are left to wonder why such steadfast reluctance exists to engaging problems of political economy. Does it stem from a lack of understanding? Is it reflective of a measure of satisfaction with the existing order? Or is there a fear that critical inquiry might jeopardize strategic victories or diminish the central role of ‘energy’ in the movement’s quest?

Our alternative is to reject the politics of technological production

Rather than focusing on production of technology, we should embrace our ability to shape and transform our subjectivity as consumers, embracing voluntary simplicity – this debate offers a crucial moment to produce alternative knowledge about everyday living practices

Alexander ‘11

(Samuel, University of Melbourne; Office for Environmental Programs/Simplicity Institute, “

Voluntary Simplicity as an Aesthetics of Existence”, Social Sciences Research Network, http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=1941087)

The aim of this paper, however, is not to present a thorough analysis of Foucault’s notion of an aesthetics of existence. Several such analyses have appeared in recent times (after years of unfortunate scholarly neglect), and much of this emerging commentary is very probing and insightful.12 But this is not the time to focus on furthering that critical discussion or even providing a comprehensive literature review of it. Instead, after providing a brief exposition of Foucault’s ethics, this paper will undertake to actually apply the idea of an aesthetics of existence to a particular subject of ethical concern, namely, to our role as ‘consumers’ in the context of First World overconsumption. This is an area that raises ethical questions concerning how we ought to live for two main reasons: firstly, due to the impact Western--‐style consumers are having on the natural environment; and secondly, due to the continued existence of poverty amidst plenty. There is, however, another perspective to consider also. A large body of sociological and psychological literature now exists indicating that Western--‐style consumption practices are often failing to provide meaning and fulfillment, even to those who have ‘succeeded’ in attaining a high material standard of living.13 These three consumption--‐related issues – ecological degradation, poverty amidst plenty, and consumer malaise – provide ample grounds for thinking that consumption is a proper subject for ethical engagement, in the Foucauldian sense of ethics as ‘the self enfgaging the self.’ If it is the case that our individual identities have been shaped, insidiously perhaps, by a social system that celebrates and encourages consumption without apparent limit – and it would not be unfair to describe consumer societies in these terms14 – then it may be that ethical practice today calls for a rethinking of our assumptions and attitudes concerning consumption, which might involve a deliberate reshaping of the self by the self. This paper will explore the possibility of such an ethics of consumption in the following ways. First, by explaining how neoclassical economics, which is arguably the most influential paradigm of thought in the world today, conceptualizes consumption as something that benefits both ‘self’ and ‘other’ and, therefore, as something that should be maximized. To the extent that modern consumers have internalized this conception of consumption, an ethics of consumption might involve engaging the self for the purpose of changing the self and creating something new. The second way an ethics of consumption will be explored will be through an examination of the theory and practice of ‘voluntary simplicity,’ a term that refers to an oppositional living strategy or ‘way of life’ with which people, somewhat paradoxically, perhaps, seek an increased quality of life through a reduction and restraint of one’s level of consumption.15 The paradox, so-­‐ called, consists in the attempt to live ‘more with less.’ Since voluntarily living simply means heading in the opposite direction to where most people in consumer societies (and increasingly elsewhere) seem to want to go, one would expect living simply to require a fundamentally creative engagement with life and culture, especially in contemporary consumer societies that seem to be predicated on the assumption that ‘more consumption is always better.’ This need for a fundamentally creative engagement with life is what prompted the present attempt to elucidate the idea of ‘voluntary simplicity as aesthetics of existence,’ and it is this attempt to infuse Foucauldian ethics with an emerging post-­‐consumerist philosophy of life that constitutes the original contribution of this paper. It is hoped that this practical application of Foucault’s ethics might also prompt others to consider how ethical engagement might produce new ways of being that are freer, more fulfilling, and yet less resource-­‐intensive and damaging than the modes of being which are dominant in consumer societies today. Could it be, for example, that the ‘Death of Man,’ to use Foucault’s phrase, was actually the first (and a necessary) phase in the demise of what one might call ‘homo consumicus’? And what forms of life, what modes of being, would or could materialize with the voluntary emergence of ‘homo post-­‐consumicus’? These are the large questions that motivated this study and in the following pages a preliminary attempt is made to grapple with them. The aim, however, is not to legitimate ‘what is already known,’16 since that would not be a very Foucauldian endeavor; rather, the aim is to explore whether or to what extent it is possible to ‘free thought from what it silently thinks,’17 in the hope that this might open up space to ‘think differently,’18 to think otherwise.

### California CP

#### The government of the state of California should establish a renewable energy payment program that creates long-term purchase contracts for new qualifying facilities in the United States that use wind or solar power for energy production to ensure a reasonable rate of return.

#### The counterplan solves the case and isn’t preempted --- federal policies get watered down more

Keppley, 12 --- M.A. Candidate, International Relations and Environmental Policy at Boston University (Summer 2012, Jesse M., The Josef Korbel Journal of Advanced International Studies, “A Comparative Analysis of California and German Renewable Energy Policy: ACTORS AND OUTCOMES,” http://www.du.edu/korbel/jais/journal/volume4/volume4\_keppley.pdf)

Implications of the California Case

Because renewable energy policy at the federal level is limited, California has taken a strong role in this policy field. While this has led to tensions between the state and federal level, this bottom-up approach does have benefits. On the one hand, the subsidiarity principle, which suggests that regulatory action should be taken as close to the affected source as possible, suggests that leaving policymaking to the state is optimal. This allows California policymakers to account for the state’s unique geographical features, robust economic specializations, and long history of environmentalism. In theory, a more uniform federal “top-down” policy would either not do enough to spur increased renewable generation, in which case California would attempt to augment the policy itself anyway, or would do too much, putting undue burdens on states that do not have the environmental aspirations that Californians have. From a legal and theoretical perspective, if California citizens, and by extension policymakers, want to meet their electricity needs with any amount of renewable generation, there is nothing explicitly stopping them at the federal level.

Historically, this has worked to California’s advantage. In the wake of the energy crisis of the early 2000s, California policymakers have highlighted the importance of accelerating renewable energy development and promoting customer and utility owned generation (California Energy Action Plan 2003). The RPS and AB 32 were ways to not only promote environmental leadership, but were also ways to develop a domestic green tech industry. The onus thus falls on the state to implement the correct balance of costs and benefits to maximize the effectiveness of these goals. Also, while powerful organized interests like AIR and the state utilities shaped renewable energy policy in California, similar policies at the federal levels would risk even further concessions as addressing stakeholder concerns moved to the national scale where organized interests wield even more influence.

#### Federal government will empirically model

Keppley, 12 --- M.A. Candidate, International Relations and Environmental Policy at Boston University (Summer 2012, Jesse M., The Josef Korbel Journal of Advanced International Studies, “A Comparative Analysis of California and German Renewable Energy Policy: ACTORS AND OUTCOMES,” http://www.du.edu/korbel/jais/journal/volume4/volume4\_keppley.pdf)

Conclusion

Renewable energy policy is sure to continue evolving over the coming decades. Moving beyond policy differences to examine the way actors pursue policy goals within unique institutional structures provides a useful framework for comparative analysis. Both Germany and California have enacted aggressive policies in pursuit of their renewable energy goals. While it might seem, given the similar federal systems within which they operate, that these policies should have evolved in a similar manner, this is far from the case. A comparative approach demonstrates how in California policymakers were forced to incorporate interest group concerns to eventually arrive at acceptable policy outcomes. As AIR v. CARB demonstrates, this was not always a smooth process. The federal government also played a crucial role in limiting the options available to California, while at the same time allowing the state to experiment with aggressive policies. As climate change climbs up the political agenda, California’s unique leadership position within the U.S. federal system places it in a desirable position moving forward. California has a long history of driving change at the federal level (Rabe, 2009). Thus, if the history of U.S. environmental policymaking is any indication, the increased interest in renewable energy policies at the state level should eventually force more consolidated change at the federal level. Again if prior history is any indication, it would appear reasonable to expect future federal policies to build off of the model established by California.

#### California adoption of feed-in-tariffs will boost renewables --- its falling behind

Gipe, 10 --- renewable-energy industry analyst and author of “Wind Energy Basics” (4/21/2010, Paul, “Resting on Green Laurels,” <http://roomfordebate.blogs.nytimes.com/2010/04/21/californias-solar-scorecard/>)

The Golden State has long had a reputation as a leader in renewable energy development. California’s accomplishments in the 1980s have taken on legendary status among renewable energy advocates. Unfortunately, California has lived off that reputation every since. Yes, last year California installed more solar photovoltaics than any other state or province in North America. While certainly commendable, it serves only to illustrate how far the state, as well as the entire North American continent, continues to fall behind in the race to develop renewable energy and the jobs it entails. There are now some 700 megawatts of solar PV in the state. This is in contrast to Germany, with one fifth less land area than California, where there are 8,000 megawatts in operation­ — more than 10 times that in sunny California. Similarly, Spain has installed 3,000 MW of solar PV within a few short years. In many ways Spain is similar to California. Both have a Mediterranean climate. Both have about the same population. But Spain now generates 3 percent of its electricity with solar PV, four to five times more than that in California. The story is the same with wind energy. Germany operates 10 times more wind capacity than California, though the Golden State pioneered modern wind energy. Spain now generates more than 10 percent of its electricity with wind energy, California only 2 percent. Even tiny Denmark, population five million, operates nearly 30 percent more wind capacity than California does, producing more than 20 percent of its electricity supply. In almost every measure, California fails to live up to its claim as a leader in renewable energy. Despite the much heralded Renewable Portfolio Standard passed earlier in the 2000s, the percentage of electricity supplied by renewable energy in the state continues to fall. Renewable energy development is not even keeping pace with population growth. The situation has gotten so bad that the California Energy Commission has issued a series of successive reports warning that the state will not meet its renewable energy targets unless it takes drastic action. Similarly, the Los Angeles Business Council released a hard-hitting report in early April charging in effect that the “emperor has no clothes.” The Business Council concluded that if Los Angeles, and by extension California, want to meet their renewable energy targets, policies must be re-oriented. Both the energy commission and the Business Council argue that there’s no choice for the state but to move to a system of feed-in tariffs like that used in Germany, France, Spain and now even Britain. Ontario moved to a system of feed-in tariffs in late 2009. The Canadian province recently signed contracts for $9 billion in private investment and almost 20 percent of that was for projects owned by indigenous people, homeowners and community groups. What are feed-in tariffs? They are simply payment for the generation of electricity. They are not net-metering, or “running your meter backward.” A homeowner with a solar PV system on the roof is paid for every kilowatt hour the household generates. Sierra Club California, the state’s largest environmental group, argues that well-crafted feed-in tariffs are based on the cost of generation plus a reasonable profit, differentiated by technology and size, and entail long-term contracts of 20 to 25 years. Thus, solar PV is paid one price, wind energy another, and so on. Feed-in tariffs, testified Sierra Club California in a filing with the state’s Air Resources Board on how California can meet its targets, “have demonstrated that they successfully bring renewables on-line quickly, in volume, and at a lower-cost” than any other policy. Terry Tamminen, one-time adviser to Republican Gov. Arnold Schwarzenegger, says that feed-in tariffs in California would “turn homes, farms, and businesses into entrepreneurs who will accelerate our path to clean energy.” If government regulators, business groups, environmental activists, and leading figures in the Republican party are all in agreement that feed-in tariffs can help California live up to its reputation, maybe the state has reached a tipping point and is ready to take the decisive action needed to regain it’s long-lost renewable energy crown.

### Grid

#### Grid is resilent – Katrina proves

James Andrew Lewis – senior fellow and director of the Technology and Public Policy Program @ CSIS - March 2010, The Electrical Grid as a Target for Cyber Attack, http://csis.org/files/publication/100322\_ElectricalGridAsATargetforCyberAttack.pdf

This conclusion is different from the strategic consequences on a cyber attack on the power grid. The United States routinely suffers blackouts. The nation does not collapse. In the short term, military power and economic strength are not noticeably affected - a good example for opponents to consider is Hurricane Katrina, which caused massive damage but did not degrade U.S. military power in or even long-term economic performance. Is there any cyber attack that could match the hurricane?

The United States is a very large collection of targets with many different pieces making up its electrical infrastructure. While a single attack could interrupt service, the large size and complexity of the American economy make it more resilient. Even without a Federal response plan, the ability of electrical companies to work quickly together to restore service is impressive and we should not underestimate the ingenuity of targets to recover much more rapidly than expected. This is a routine occurrence in aerial bombing: impressive damage is quickly rectified by a determined opponent.

#### Renewables fail to back up the grid

Sater 2011 - Research Fellow at Global Green USA’s Security and Sustainability Office in Washington, DC (August, Daniel, “Military Energy Security: Current Efforts and Future Solutions” http://globalgreen.org/docs/publication-185-1.pdf)

Microgrids are not without their drawbacks. Similar to the problems with the departing load charge utilities levy on installations that produce renewable energy, many utilities try to restrict the use of renewable energy generation as backup power during a power outage. The utilities’ reasoning is that, if there was any electricity in the grid during an outage, their workers would be at risk while repairing any damage. According to the GAO, four out of five installations it visited could not use their renewable energy during a power outage due to utility worker safety concerns. However, one of the bases was able to negotiate a contract to allow the installation’s solar array to provide power to the critical loads of the base during a power outage. 70 For an installation to fully benefit from the installation of a microgrid, the base must first negotiate with the utility to allow for renewable energy sources to remain in use during a power outage. The ability of a microgrid to island an installation from the civilian grid should nullify any danger to utility workers as they perform any maintenance work.

#### Nuclear power is safe now – post-Fukushima regulations

Holt, Specialist in Energy Policy, CRS, 2012

[6/20/12, Mark, Specialist in Energy Policy at the Congressional Research Service, “Nuclear Energy Policy,” RL33558, <http://www.fas.org/sgp/crs/misc/RL33558.pdf>]

The Fukushima accident has raised particular policy questions for the United States because, unlike Chernobyl, the Fukushima reactors are similar to common U.S. designs. Although the Fukushima accident resulted from a huge tsunami that incapacitated the power plant’s emergency diesel generators, the accident dramatically illustrated the potential consequences of any natural catastrophe or other situation that could cause an extended “station blackout” – the loss of alternating current (AC) power. Safety issues related to station blackout include standards for backup batteries, which now are required to provide power for 4-8 hours, and additional measures that may be required to assure backup power. The Institute of Nuclear Power Operations (INPO) released a detailed description of the Fukushima accident in November 2011.30 Safety concerns at U.S. reactors were also raised by hydrogen explosions at four of the Fukushima reactors—resulting from a high-temperature reaction between steam and nuclear fuel cladding—and the loss of cooling at the Japanese plant’s spent fuel storage pools. Other safety issues that have been raised in the wake of Fukushima include the vulnerability of U.S. nuclear plants to earthquakes, floods, and other natural disasters, the availability of iodine pills to prevent absorption of radioactive iodine released during nuclear accidents, and the adequacy of nuclear accident emergency planning. In response to such concerns, NRC on March 23, 2011, established a task force “made up of current senior managers and former NRC experts” to “conduct both short- and long-term analysis of the lessons that can be learned from the situation in Japan.”31 The Near-Term Task Force issued its report July 12, 2011, making recommendations ranging from specific safety improvements to broad changes in NRC’s overall regulatory approach.32 NRC staff subsequently identified several of those actions that “can and should be initiated without delay.”33 The NRC Commissioners largely agreed with the recommendations on October 18, 2011, and instructed the agency’s staff to “strive to complete and implement the lessons learned from the Fukushima accident within five years—by 2016.”34 Tier 1 regulatory actions, which are to get underway immediately, include: • Seismic and flood hazard reevaluations and walkdown vs. Nuclear plant operators will be required to evaluate the implications of updated seismic and flooding models, including all potential flooding sources. Plant operators will be required to identify and verify the adequacy of flood and seismic protection features at their sites. • Station blackout regulatory actions. NRC will issue an advance notice of proposed rulemaking (ANPR) with the goal of requiring that nuclear power plants be able to cope with the total loss of AC power (station blackout) for at least eight hours. The eight hour period is intended to give plant personnel enough time to restore AC power or, if that is not possible, to take actions to extend the plant’s ability to cope with the loss of AC power to at least 72 hours. The eight-hour coping time would rely only on permanently installed equipment, while the 72-hour coping time could rely on off-site, portable equipment. Enough equipment and personnel would be required to protect all affected reactors at a multi-unit plant. While new regulations are being prepared, NRC is to order plant operators to protect emergency equipment from damage from external events and ensure that enough equipment is available to protect all reactors at a plant site. • Reliable hardened vents for Mark I containments. NRC will order nuclear plants to install vents for the containments in Mark I reactors (the type at Fukushima). The vents would be designed to reduce containment pressure while preventing hydrogen in the containment from leaking into the reactor building, as occurred at Fukushima. • Spent fuel pool instrumentation. NRC will order nuclear plants to install safety instrumentation to monitor spent fuel pool conditions, such as water level, temperature, and radiation levels, from the plant control room. • Strengthening and integrating accident procedures and guidelines. NRC will order nuclear plants to modify emergency operating procedures to integrate severe accident management guidelines and extensive damage mitigation guidelines. The modifications would have to specify clear command-and-control strategies and establish training qualifications for emergency decisionmakers. • Emergency preparedness regulatory actions. Pending a rulemaking, NRC will order nuclear plants to ensure adequate emergency preparedness training for multi-reactor station blackouts and other emergencies. The NRC staff slightly modified its proposals for top priority actions and divided the remaining Task Force proposals into two lower tiers, which were determined to require further assessment and potentially long-term study. Included in the lower-tier actions were requirements for emergency water supply systems for spent fuel pools, secure power for emergency communications and data systems, confirmation of seismic and flooding hazards, and modifications to NRC’s regulatory process.35 On March 12, 2012, NRC issued its first nuclear plant safety requirements based on the lessons learned from Fukushima. NRC ordered U.S. nuclear plant operators to begin implementing safety enhancements related to the loss of power caused by natural disasters, reactor containment venting, and monitoring the water levels of reactor spent fuel pools. Nuclear plant operators were required to begin implementing the requirements immediately and come into full compliance no later than the end of 2016.36 NRC also issued an advance notice of proposed rulemaking for new regulatory actions on station blackout March 20, 2012.37 Legislation introduced after the Fukushima accident includes the Nuclear Power Plant Safety Act of 2011 (H.R. 1242), introduced by Representative Markey on March 29, 2011. It would require NRC to revise its regulations within 18 months to ensure that nuclear plants could handle major disruptive events, a loss of off-site power for 14 days, and the loss of diesel generators for 72 hours. Spent fuel would have to be moved from pool to dry-cask storage within a year after it had cooled sufficiently, and emergency planning would have to include multiple concurrent disasters. NRC could not issue new licenses or permits until the revised regulations were in place.

### Warming

#### Warming inevitable and there’s nothing you can do about it

Solomon et al, IPCC Climate Science Co-Chair, ‘09 (Susan- member of the US National Academy of Sciences, the European Academy of Sciences, and the Academy of Sciences of France, Nobel Peace Prize Winner, Chairwoman of the IPCC, February 10, “Irreversible climate change due to carbon dioxide emissions” PNAS, Vol 106, http://www.pnas.org/content/early/2009/01/28/0812721106.full.pdf)

Over the 20th century, the atmospheric concentrations of key greenhouse gases increased due to human activities. The stated objective (Article 2) of the United Nations Framework Convention on Climate Change (UNFCCC) is to achieve stabilization of greenhouse gas concentrations in the atmosphere at a low enough level to prevent ‘‘dangerous anthropogenic interference with the climate system.’’ Many studies have focused on projections of possible 21st century dangers (1–3). However, the principles (Article 3) of the UNFCCC specifically emphasize ‘‘threats of serious or irreversible damage,’’ underscoring the importance of the longer term. While some irreversible climate changes such as ice sheet collapse are possible but highly uncertain (1, 4), others can now be identified with greater confidence, and examples among the latter are presented in this paper. It is not generally appreciated that the atmospheric temperature increases caused by rising carbon dioxide concentrations are not expected to decrease significantly even if carbon emissions were to completely cease (5–7) (see Fig. 1). Future carbon dioxide emissions in the 21st century will hence lead to adverse climate changes on both short and long time scales that would be essentially irreversible (where irreversible is defined here as a time scale exceeding the end of the millennium in year 3000; note that we do not consider geo-engineering measures that might be able to remove gases already in the atmosphere or to introduce active cooling to counteract warming). For the same reason, the physical climate changes that are due to anthropogenic carbon dioxide already in the atmosphere today are expected to be largely irreversible. Such climate changes will lead to a range of damaging impacts in different regions and sectors, some of which occur promptly in association with warming, while others build up under sustained warming because of the time lags of the processes involved. Here we illustrate 2 such aspects of the irreversibly altered world that should be expected. These aspects are among reasons for concern but are not comprehensive; other possible climate impacts include Arctic sea ice retreat, increases in heavy rainfall and flooding, permafrost melt, loss of glaciers and snowpack with attendant changes in water supply, increased intensity of hurricanes, etc. A complete climate impacts review is presented elsewhere (8) and is beyond the scope of this paper. We focus on illustrative adverse and irreversible climate impacts for which 3 criteria are met: (i) observed changes are already occurring and there is evidence for anthropogenic contributions to these changes, (ii) the phenomenon is based upon physical principles thought to be well understood, and (iii) projections are available and are broadly robust across models. Advances in modeling have led not only to improvements in complex Atmosphere–Ocean General Circulation Models (AOGCMs) for projecting 21st century climate, but also to the implementation of Earth System Models of Intermediate Complexity (EMICs) for millennial time scales. These 2 types of models are used in this paper to show how different peak carbon dioxide concentrations that could be attained in the 21st century are expected to lead to substantial and irreversible decreases in dry-season rainfall in a number of already-dry subtropical areas and lower limits to eventual sea level rise of the order of meters, implying unavoidable inundation of many small islands and low-lying coastal areas. Results Longevity of an Atmospheric CO2 Perturbation. As has long been known, the removal of carbon dioxide from the atmosphere involves multiple processes including rapid exchange with the land biosphere and the surface layer of the ocean through air–sea exchange and much slower penetration to the ocean interior that is dependent upon the buffering effect of ocean chemistry along with vertical transport (9–12). On the time scale of a millennium addressed here, the CO2 equilibrates largely between the atmosphere and the ocean and, depending on associated increases in acidity and in ocean warming (i.e., an increase in the Revelle or ‘‘buffer’’ factor, see below), typically 20% of the added tonnes of CO2 remain in the atmosphere while 80% are mixed into the ocean. Carbon isotope studies provide important observational constraints on these processes and time constants. On multimil- lenium and longer time scales, geochemical and geological processes could restore atmospheric carbon dioxide to its pre- industrial values (10, 11), but are not included here. Fig. 1 illustrates how the concentrations of carbon dioxide would be expected to fall off through the coming millennium if manmade emissions were to cease immediately following an illustrative future rate of emission increase of 2% per year [comparable to observations over the past decade (ref. 13)] up to peak concentrations of 450, 550, 650, 750, 850, or 1,200 ppmv; similar results were obtained across a range of EMICs that were assessed in the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (5, 7). This is not intended to be a realistic scenario but rather to represent a test case whose purpose is to probe physical climate system changes. A more gradual reduction of carbon dioxide emission (as is more likely), or a faster or slower adopted rate of emissions in the growth period, would lead to long-term behavior qualitatively similar to that illustrated in Fig. 1 (see also Fig. S1). The example of a sudden cessation of emissions provides an upper bound to how much reversibility is possible, if, for example, unexpectedly damaging climate changes were to be observed. Carbon dioxide is the only greenhouse gas whose falloff displays multiple rather than single time constants (see Fig. S2). Current emissions of major non-CO2 greenhouse gases such as methane or nitrous oxide are significant for climate change in the next few decades or century, but these gases do not persist over time in the same way as carbon dioxide (14). Fig. 1 shows that a quasi-equilibrium amount of CO2 is expected to be retained in the atmosphere by the end of the millennium that is surprisingly large: typically 40% of the peak concentration enhancement over preindustrial values ( 280 ppmv). This can be easily understood on the basis of the observed instantaneous airborne fraction (AFpeak) of 50% of anthropogenic carbon emissions retained during their buildup in the atmosphere, together with well-established ocean chemistry and physics that require 20% of the emitted carbon to remain in the atmosphere on thousand-year timescales [quasi- equilibrium airborne fraction (AFequi), determined largely by the Revelle factor governing the long-term partitioning of carbon between the ocean and atmosphere/biosphere system] (9–11). Assuming given cumulative emissions, EMI, the peak concen- tration, CO2peak (increase over the preindustrial value CO20), and the resulting 1,000-year quasi-equilibrium concentration, CO2equi can be expressed as COpeak 2 = CO02 + AFpeak EMI [1] COequi 2 = CO02 + AFequi EMI [2] so that COequi2 – CO0 2 = AFequi/AFpeak (COpeak 2 – CO02) [3] Given an instantaneous airborne fraction (AFpeak) of 50% during the period of rising CO2, and a quasi-equilbrium airborne factor (AFequi) of 20%, it follows that the quasi-equilibrium enhancement of CO2 concentration above its preindustrial value is 40% of the peak enhancement. For example, if the CO2 concentration were to peak at 800 ppmv followed by zero emissions, the quasi-equilibrium CO2 concentration would still be far above the preindustrial value at 500 ppmv. Additional carbon cycle feedbacks could reduce the efficiency of the ocean and biosphere to remove the anthropogenic CO2 and thereby increase these CO2 values (15, 16). Further, a longer decay time and increased CO2 concentrations at year 1000 are expected for large total carbon emissions (17). Irreversible Climate Change: Atmospheric Warming. Global average temperatures increase while CO2 is increasing and then remain approximately constant (within 0.5 °C) until the end of the millennium despite zero further emissions in all of the test cases shown in Fig. 1. This important result is due to a near balance between the long-term decrease of radiative forcing due to CO2 concentration decay and reduced cooling through heat loss to the oceans. It arises because long-term carbon dioxide removal and ocean heat uptake are both dependent on the same physics of deep-ocean mixing. Sea level rise due to thermal expansion accompanies mixing of heat into the ocean long after carbon dioxide emissions have stopped. For larger carbon dioxide concentrations, warming and thermal sea level rise show greater increases and display transient changes that can be very rapid (i.e., the rapid changes in Fig. 1 Middle), mainly because of changes in ocean circulation (18). Paleoclimatic evidence suggests that additional contributions from melting of glaciers and ice sheets may be comparable to or greater than thermal expansion (discussed further below), but these are not included in Fig. 1. Fig. 2 explores how close the modeled temperature changes are to thermal equilibrium with respect to the changing carbon dioxide concentration over time, sometimes called the realized warming fraction (19) (shown for the different peak CO2 cases). Fig. 2 Left shows how the calculated warmings compare to those expected if temperatures were in equilibrium with the carbon dioxide concentrations vs. time, while Fig. 2 Right shows the ratio of these calculated time-dependent and equilibrium tempera- tures. During the period when carbon dioxide is increasing, the realized global warming fraction is 50–60% of the equilibrium warming, close to values obtained in other models (5, 19). After emissions cease, the temperature change approaches equilib- rium with respect to the slowly decreasing carbon dioxide concentrations (cyan lines in Fig. 2 Right). The continuing warming through year 3000 is maintained at 40–60% of the equilibrium warming corresponding to the peak CO2 concentration (magenta lines in Fig. 2 Right). Related changes in fast-responding atmospheric climate variables such as precipitation, water vapor, heat waves, cloudiness, etc., are expected to occur largely simultaneously with the temperature changes. Irreversible Climate Change: Precipitation Changes. Warming is expected to be linked to changes in rainfall (20), which can adversely affect the supply of water for humans, agriculture, and ecosystems. Precipitation is highly variable but long-term rainfall decreases have been observed in some large regions including, e.g., the Mediterranean, southern Africa, and parts of south- western North America (21–25). Confident projection of future changes remains elusive over many parts of the globe and at small scales. However, well-known physics (the Clausius–Clapeyron law) implies that increased temperature causes increased atmospheric water vapor concentrations, and changes in water vapor transport and the hydrologic cycle can hence be expected (26–28). Further, advances in modeling show that a robust characteristic of anthropogenic climate change is poleward expansion of the Hadley cell and shifting of the pattern of precipitation minus evaporation (P–E) and the storm tracks (22, 26), and hence a pattern of drying over much of the already-dry subtropics in a warmer world ( 15°-40° latitude in each hemi- sphere) (5, 26). Attribution studies suggest that such a drying pattern is already occurring in a manner consistent with models including anthropogenic forcing (23), particularly in the south- western United States (22) and Mediterranean basin (24, 25). We use a suite of 22 available AOGCM projections based upon the evaluation in the IPCC 2007 report (5, 29) to characterize precipitation changes. Changes in precipitation are expected (5, 20, 30) to scale approximately linearly with increasing warming (see Fig. S3). The equilibrium relationship between precipitation and temperature may be slightly smaller (by 15%) than the transient values, due to changes in the land/ ocean thermal contrast (31). On the other hand, the observed 20th century changes follow a similar latitudinal pattern but presently exceed those calculated by AOGCMs (23). Models that include more complex representations of the land surface, soil, and vegetation interactively are likely to display additional feedbacks so that larger precipitation responses are possible. Here we evaluate the relationship between temperature and precipitation averaged for each month and over a decade at each grid point. One ensemble member is used for each model so that all AOGCMs are equally weighted in the multimodel ensemble; results are nearly identical if all available model ensemble members are used. Fig. 3 presents a map of the expected dry-season (3 driest consecutive months at each grid point) precipitation trends per degree of global warming. Fig. 3 shows that large uncertainties remain in the projections for many regions (white areas). How- ever, it also shows that there are some subtropical locations on every inhabited continent where dry seasons are expected to become drier in the decadal average by up to 10% per degree of warming. Some of these grid points occur in desert regions that are already very dry, but many occur in currently more temperate and semiarid locations. We find that model results are more robust over land across the available models over wider areas for drying of the dry season than for the annual mean or wet season (see Fig. S4). The Insets in Fig. 3 show the monthly mean projected precipitation changes averaged over several large regions as delineated on the map. Increased drying of respective dry seasons is projected by 90% of the models averaged over the indicated regions of southern Europe, northern Africa, southern Africa, and southwestern North America and by 80% of the models for eastern South America and western Australia (see Fig. S3). Although given particular years would show exceptions, the long-term irreversible warming and mean rainfall changes as suggested by Figs. 1 and 3 would have important consequences in many regions. While some relief can be expected in the wet season for some regions (Fig. S4), changes in dry-season precipitation in northern Africa, southern Europe, and western Australia are expected to be near 20% for 2 °C warming, and those of southwestern North America, eastern South America, and southern Africa would be 10% for 2 °C of global mean warming. For comparison, the American ‘‘dust bowl’’ was associated with averaged rainfall decreases of 10% over 10–20 years, similar to major droughts in Europe and western Australia in the 1940s and 1950s (22, 32). The spatial changes in precipitation as shown in Fig. 3 imply greater challenges in the distribution of food and water supplies than those with which the world has had difficulty coping in the past. Such changes occurring not just for a few decades but over centuries are expected to have a range of impacts that differ by region. These include, e.g., human water supplies (25), effects on dry-season wheat and maize agriculture in certain regions of rain-fed farming such as Africa (33, 34), increased fire frequency, ecosystem change, and desertification (24, 35–38). Fig. 4 Upper relates the expected irreversible changes in regional dry-season precipitation shown in Fig. 3 to best estimates of the corresponding peak and long-term CO2 concentrations. We use 3 °C as the best estimate of climate sensitivity across the suite of AOGCMs for a doubling of carbon dioxide from preindustrial values (5) along with the regional drying values depicted in Fig. 3 and assuming that 40% of the carbon dioxide peak concentration is retained after 1000 years. Fig. 4 shows that if carbon dioxide were to peak at levels of 450 ppmv, irreversible decreases of 8–10% in dry-season precipitation would be expected on average over each of the indicated large regions of southern Europe, western Australia, and northern Africa, while a carbon dioxide peak value near 600 ppmv would be expected to lead to sustained rainfall decreases of 13–16% in the dry seasons in these areas; smaller but statistically significant irreversible changes would also be expected for southwestern North America, eastern South America, and Southern Africa. Irreversible Climate Change: Sea Level Rise. Anthropogenic carbon dioxide will cause irrevocable sea level rise. There are 2 relatively well-understood processes that contribute to this and a third that may be much more important but is also very uncertain. Warm- ing causes the ocean to expand and sea levels to rise as shown in Fig. 1; this has been the dominant source of sea level rise in the past decade at least (39). Loss of land ice also makes important contributions to sea level rise as the world warms. Mountain glaciers in many locations are observed to be retreating due to warming, and this contribution to sea level rise is also relatively well understood. Warming may also lead to large losses of the Greenland and/or Antarctic ice sheets. Additional rapid ice losses from particular parts of the ice sheets of Greenland and Antarctica have recently been observed (40–42). One recent study uses current ice discharge data to suggest ice sheet contributions of up to 1–2 m to sea level rise by 2100 (42), but other studies suggest that changes in winds rather than warming may account for currently observed rapid ice sheet flow (43), rendering quantitative extrapolation into the future uncertain. In addition to rapid ice flow, slow ice sheet mass balance processes are another mechanism for potential large sea level rise. Paleoclimatic data demonstrate large contributions of ice sheet loss to sea level rise (1, 4) but provide limited constraints on the rate of such processes. Some recent studies suggest that ice sheet surface mass balance loss for peak CO2 concentrations of 400–800 ppmv may be even slower than the removal of manmade carbon dioxide following cessation of emis- sions, so that this loss could contribute less than a meter to irreversible sea level rise even after many thousands of years (44, 45). It is evident that the contribution from the ice sheets could be large in the future, but the dependence upon carbon dioxide levels is extremely uncertain not only over the coming century but also in the millennial time scale. An assessed range of models suggests that the eventual contribution to sea level rise from thermal expansion of the ocean is expected to be 0.2–0.6 m per degree of global warming (5). Fig. 4 uses this range together with a best estimate for climate sensitivity of 3 °C (5) to estimate lower limits to eventual sea level rise due to thermal expansion alone. Fig. 4 shows that even with zero emissions after reaching a peak concentration, irreversible global average sea level rise of at least 0.4–1.0 m is expected if 21st century CO2 concentrations exceed 600 ppmv and as much as 1.9 m for a peak CO2 concentration exceeding 1,000 ppmv. Loss of glaciers and small ice caps is relatively well understood and is expected to be largely complete under sustained warming of, for example, 4 °C within 500 years (46). For lower values of warming, partial remnants of glaciers might be retained, but this has not been examined in detail for realistic representations of glacier shrinkage and is not quantified here. Complete losses of glaciers and small ice caps have the potential to raise future sea level by 0.2–0.7 m (46, 47) in addition to thermal expansion. Further contributions due to partial loss of the great ice sheets of Antarctica and/or Greenland could add several meters or more to these values but for what warming levels and on what time scales are still poorly characterized. Sea level rise can be expected to affect many coastal regions (48). While sea walls and other adaptation measures might combat some of this sea level rise, Fig. 4 shows that carbon dioxide peak concentrations that could be reached in the future for the conservative lower limit defined by thermal expansion alone can be expected to be associated with substantial irreversible commitments to future changes in the geography of the Earth because many coastal and island features would ultimately become submerged. Discussion: Some Policy Implications It is sometimes imagined that slow processes such as climate changes pose small risks, on the basis of the assumption that a choice can always be made to quickly reduce emissions and thereby reverse any harm within a few years or decades. We have shown that this assumption is incorrect for carbon dioxide emissions, because of the longevity of the atmospheric CO2 perturbation and ocean warming. Irreversible climate changes due to carbon dioxide emissions have already taken place, and future carbon dioxide emissions would imply further irreversible effects on the planet, with attendant long legacies for choices made by contemporary society. Discount rates used in some estimates of economic trade-offs assume that more efficient climate mitigation can occur in a future richer world, but neglect the irreversibility shown here. Similarly, understanding of irreversibility reveals limitations in trading of greenhouse gases on the basis of 100-year estimated climate changes (global warming potentials, GWPs), because this metric neglects carbon dioxide’s unique long-term effects. In this paper we have quantified how societal decisions regarding carbon dioxide concentrations that have already occurred or could occur in the coming century imply irreversible dangers relating to climate change for some illustrative populations and regions. These and other dangers pose substantial challenges to humanity and nature, with a magnitude that is directly linked to the peak level of carbon dioxide reached.

#### No scientific data to support drought-induced conflict theory\*\*

Buhaug et al, Professor Centre for the Study of Civil War at Peace Research Institute Oslo, ’12 (Halvard, Winter, “Climate Wars? Assessing the Claim That Drought Breeds Conflict” International Security, Vol 36 No 3, ProjectMuse)

In his acceptance lecture on the occasion of the Nobel Peace Prize award, President Barack Obama stated, “There is little scientific dispute that if we do nothing, we will face more drought, more famine, more mass displacement—all of which will fuel more conflict for decades.”79 So far, **there is little scientific evidence to support this claim**. The results presented in this article demonstrate that **there is no direct, short-term relationship between drought and civil war onset, even within contexts presumed most conducive to violence**. At the same time, the analysis solidifies claims of recent scholarship on the importance of ethnically inclusive institutions for maintaining peace. Ethnopolitical exclusion is strongly and robustly related to the local risk of civil war. These findings contrast with efforts to blame violent conflict and atrocities on exogenous non-anthropogenic events, such as drought or desertification. The primary causes of intrastate armed conflict and civil war are political, not environmental. Consequently, the future security of Africa depends not on climate mitigation but on political and socioeconomic development. A likely objection to this conclusion relates to the magnitude of things to come; the rate and extent of past warming and drying will increase manifold in coming decades, so we cannot use historical data to project future trends. This may hold some truth, as there are limits to the coping capacity of any (agrarian) society. Crops grow only under given climatic conditions, and livestock perish in the absence of water and pasture. At the same time, gloomy interjections tend to ignore technological, societal, and political developments that might mediate (or accentuate) adverse environmental change. Increasing urbanization relieves some of the pressure on rural lands; technological innovation, DNA manipulation, irrigation, and desalination plantations promise significant increases in agricultural productivity (even though implementing such technologies successfully may prove challenging); and increasing economic interdependence and the spread of liberal democratic values would [End Page 105] suggest a more equitable distribution of resources and better disaster preparedness and response. The last ten to fifteen years have seen a striking drop in the frequency of civil wars in Africa, at a time when temperatures have risen to unprecedented levels and drying has prevailed across much of the continent. Although a drought is unlikely to directly cause civil war, climate change will affect human security in a broader sense. Drought and other climatic shocks frequently cause dismay and poverty, and more extreme weather in the years to come suggests more human suffering. For this reason alone, we should invest more in solid research on the social dimensions of climate change. But to raise alarm about coming “climate wars” may do more harm than good,80 as it could lead to a militarization of the issue and raising of barriers to prevent immigration, thereby harming those who are most in need of assistance. Finally, future research needs to apply a broader understanding of political violence and armed conflict than is normally the case today. Given data limitations and a perception that major, state-based conflicts carry greater potential for political instability and state collapse than small-scale interethnic skirmishes, recent scholarship has focused almost exclusively on civil wars.81 This is reflected in the contemporary discourse on climate security, which is dominated by a state-centric approach. In contrast, narratives and news reports of conflict over diminishing resources frequently concern clashes between rivaling ethnic groups or between pastoralists and sedentary farmers. The conflicts in Assam in India, Darfur in Sudan, Kenya, Mali, and Mauritania, all central cases in the environmental security literature, were at least initially interethnic conflicts without explicit state involvement. Key questions in this regard are how environmental conditions and rapid environmental change affect intercommunal relations and local land use disputes, and what role the state plays in ending or fueling these conflicts. [End Page 106]

### Econ

#### Economic collapse forces countries to focus inward – solves risk of conflict.

D. Scott Bennett and Timothy Nordstrom, February 2000. Department of Political Science Professors at Pennsylvania State. “Foreign Policy Substitutability and Internal Economic Problems in Enduring Rivalries,” Journal of Conflict Resolution, Ebsco.

By coming at externalization from the substitutability perspective, we hope to deal with some of the theoretical problems raised by critics of diversionary conflict theory. Substitutability can be seen as a particular problem of model specification where the dependent variable has not been fully developed. We believe that one of the theoretical problems with studies of externalization has been a lack of attention to alternative choices; Bucno de Mesquita actually hints toward this (and the importance of foreign policy substitution) when he argues that it is shortsighted to conclude that a leader will uniformly externalize in response to domestic problems at the expense of other possible policy choices (1985.130). We hope to improve on the study of externalization and behavior within rivalries by considering multiple outcomes in response to domestic conditions.5 In particular, we will focus on the alternative option that instead of externalizing, leaders may internalize when faced with domestic economic troubles. Rather than diverting the attention of the public or relevant elites through military action, leaders may actually work to solve their internal problems internally. Tying internal solutions to the external environment, we focus on the possibility that leaders may work to disengage their country from hostile relationships in the international arena to deal with domestic issues. Domestic problems often emerge from the challenges of spreading finite resources across many different issue areas in a manner that satisfies the public and solves real problems. Turning inward for some time may free up resources required to jump-start the domestic economy or may simply provide leaders the time to solve internal distributional issues. In our study, we will focus on the condition of the domestic economy (gross domestic product [GDP] per capita growth) as a source of pressure on leaders to externalize. We do this for a number of reasons. First, when studying rivalries, we need an indicator of potential domestic trouble that is applicable beyond just the United States or just advanced industrialized democracies. In many non-Western states, variables such as election cycles and presidential popularity are irrelevant. Economics are important to all countries at all times. At a purely practical level, GDP data is also more widely available (cross-nationally and historically) than is data on inflation or unemployment.6 Second, we believe that fundamental economic conditions are a source of potential political problems to which leaders must pay attention. Slowing growth or worsening economic conditions may lead to mass dissatisfaction and protests down the road; economic problems may best be dealt with at an early stage before they turn into outward, potentially violent, conflict. This leads us to a third argument, which is that we in fact believe that it may be more appropriate in general to use indicators of latent conflict rather than manifest conflict as indicators of the potential to divert. Once the citizens of a country are so distressed that they resort to manifest conflict (rioting or engaging in open protest), it may be too late for a leader to satisfy them by engaging in distracting foreign policy actions. If indeed leaders do attempt to distract people's attention, then if protest reaches a high level, that attempt has actually failed and we arc looking for correlations between failed externalization attempts and further diversion.

### Nat Gas

#### Increased gas price leads to selling reserves- corrects prices

CBO, 2012,

May, Congressional Budget Office, “Energy Security in the United States,” <http://www.cbo.gov/sites/default/files/cbofiles/attachments/05-09-EnergySecurity.pdf>

Most importantly, U.S. producers and consumers of natural gas maintain a significant reserve of natural gas in storage (30 percent of annual domestic consumption in 2010), which is drawn down or added to fairly regularly; in contrast, oil storage in the United States represents a much smaller supply of annual world consumption (less than 4 percent in 2010). 14 That storage provides firms that use natural gas a significant cushion against temporary disruptions in supply. In addition, in some parts of the United States, more natural gas is produced than can be sold profitably, causing producers to dispose of the excess. 15 A persistent disruption that put upward pressure on natural gas prices could create sufficient incentives for firms to build additional infrastructure to enable them to sell their excess natural gas.

#### Renewables fail – only nuclear solves

McNelis, Director at the Institute for the Environment at UNC-Chapel Hill, 11

(6/24, Safer power from smaller reactors, www.newsobserver.com/2011/06/24/1295895/safer-power-from-smaller-reactors.html)

Efforts to promote energy efficiency, encourage sustainable lifestyle changes and exploit renewable energy sources are laudable, but they will not be sufficient to meet the projected growth in demand for electricity. The United States and the world need to increase the use of nuclear power, particularly for energy security and to limit climate-changing emissions. Nothing that has happened in Japan has made nuclear power any less essential. The Fukushima nuclear power plant accident was caused by a major earthquake and tsunami of the sort that are not likely to occur here, but we can learn from the cascade of events that led to reactor meltdowns and hydrogen explosions there. The U.S. Nuclear Regulatory Commission is studying the accident, and its findings could lead to a number of changes, especially better protection against a loss of power from extreme events like hurricanes, earthquakes and floods. Lessons learned from Japan's crisis would improve nuclear safety, as other changes did following the Three Mile Island accident in 1979. Change could also come from a different direction: development of a new generation of small modular reactors similar in size to those that have successfully powered U.S. submarines and aircraft carriers for decades. No bigger than a double-wide trailer and built in a factory for a fraction of the cost of a large nuclear plant, the small modular reactor (SMR) is an environmentally friendly and cost-effective way to help meet growing demand for electricity. SMRs have the potential to replace older coal plants and to provide a hedge against volatility in natural gas prices. And while solar and wind are attractive energy sources, both produce power only intermittently and require back-up power in the event the weather is not cooperating.

#### Renewables can’t solve – no baseload

Loudermilk, Research Associate for the Energy & Environmental Security Policy program with the Institute for National Strategic Studies at National Defense University, 2011

(Small Nuclear Reactors and US Energy Security: Concepts, Capabilities, and Costs,” Journal of Energy Security, http://www.ensec.org/index.php?option=com\_content&view=article&id=314:small-nuclear-reactors-and-us-energy-security-concepts-capabilities-and-costs&catid=116:content0411&Itemid=375)

Limitations of renewables Renewable energy technologies have made great strides forward during the last decade. In an increasingly carbon emissions and greenhouse gas (GHG) aware global commons, the appeal of solar, wind, and other alternative energy sources is strong, and many countries are moving to increase their renewable electricity generation. However, despite massive expansion on this front, renewable sources struggle to keep pace with increasing demand, to say nothing of decreasing the amount of energy obtained from other sources. The continual problem with solar and wind power is that, lacking efficient energy storage mechanisms, it is difficult to contribute to baseload power demands. Due to the intermittent nature of their energy production, which often does not line up with peak demand usage, electricity grids can only handle a limited amount of renewable energy sources—a situation which Germany is now encountering. Simply put, nuclear power provides virtually carbon-free baseload power generation, and renewable options are unable to replicate this, especially not on the scale required by expanding global energy demands. Small nuclear reactors, however, like renewable sources, can provide enhanced, distributed, and localized power generation. As the US moves towards embracing smart grid technologies, power production at this level becomes a critical piece of the puzzle. Especially since renewable sources, due to sprawl, are of limited utility near crowded population centers, small reactors may in fact prove instrumental to enabling the smart grid to become a reality.

# 2NC

## Natural Gas

#### Litany of factors prevent future volatility

Sutnik, Assistant Professor of Nuclear Engineering - University of Tennessee, 2012

2-12, Steve, “The end of natural gas price volatility?” http://neutroneconomy.blogspot.com/2012/02/end-of-natural-gas-price-volatility.html

Why it will be less volatile in the future:¶ We have more storage than in the past¶ We can bring in LNG (liquified natural gas, a way to import the commodity) to up to 25% of our demand¶ Shale gas is like a manufacturing process, and it's something you can ramp up very rapidly¶ The on-shore production is not subject to weather related disruptions, like hurricanes which have historically been the reasons for major disruptions¶ The abundance of resources and diversity of supply makes long-term price much more stable and confident¶ (non-reason) States could change the rules to not disadvantage hedging of NG price risk in their utility boards¶ The core argument is that utilities could rely on NG more if the rules would take down some of the barriers that prevent making hedging bets. I agree with most points here, but I agree with some of them less. My main beef doesn't have to do with the business structure of shale gas development, but more so what the current NG market is telling us, and what that implies for the future.¶ I was happy to see that The Oil Drum (TOD) was quick to comment on the current dip in NG prices, disproving everything they can about the future history of NG production. Most organizations don't share this view. As I've pointed out before, the EIA AEO 2012 paints a picture of continuously increasing NG production. NG is increasing in production second only to non-hydro renewable power sources. I prefer to agree with TOD and the EIA at the same time - believing that the main difference is the price set-point. The EIA projection, however, I think is a little dubious with their price assumption.¶ With increased production, average annual wellhead prices for natural gas remain below $5 per thousand cubic feet (2010 dollars) through 2023 in the AEO2012 Reference case.¶ This just doesn't make sense to me. I'll give you the price claim, but not the price claim at the same time as the increasing production claim. Those are mutually exclusive. But to get back to the point of the video - diversity of sources should offer a hedge to prevent the drastic volatility we've seen throughout the last decade. Equilibrium price and volatility are two very different things, and I have no reason to contest the flexibility (as opposed to the economics) of NG supply.

#### Self-sufficiency and import capacity solves price shocks

Moniz et al., Professor @ MIT, 2011

June 6, ERNEST J. MONIZ — CHAIR ¶ Cecil and Ida Green Professor of Physics ¶ and Engineering Systems, MIT ¶ Director, MIT Energy Initiative (MITEI) ¶ ROBERT C. ARMSTRONG ¶ Chevron Professor, Department of Chemical ¶ Engineering, MIT ¶ Deputy Director, MITEI ¶ DANIEL R. COHN ¶ Senior Research Scientist, Plasma Science ¶ and Fusion Center, MIT ¶ Executive Director, Natural Gas Study ¶ STEPHEN R. CONNORS ¶ Research Engineer, MITEI ¶ JOHN M. DEUTCH ¶ Institute Professor, ¶ Department of Chemistry, MIT ¶ QUDSIA J. EJAZ ¶ Postdoctoral Associate, MITEI ¶ JOSEPH S. HEZIR ¶ Visiting Engineer, MITEI ¶ GORDON M. KAUFMAN ¶ Morris A. Adelman Professor of Management ¶ (Emeritus), MIT ¶ MELANIE A. KENDERDINE ¶ Executive Director, MITEI ¶ FRANCIS O’SULLIVAN ¶ Research Engineer, MITEI ¶ SERGEY PALTSEV ¶ Principal Research Scientist, Joint Program on ¶ the Science and Policy of Global Change, MIT ¶ JOHN E. PARSONS ¶ Senior Lecturer, Sloan School of Management, MIT ¶ Executive Director, Joint Program on the ¶ Science and Policy of Global Change and ¶ Center for Energy and Environmental ¶ Policy Research, MIT¶ IGNACIO PEREZ-ARRIAGA ¶ Professor of Electrical Engineering, ¶ Comillas University, Spain ¶ Visiting Professor, Engineering Systems Division, MIT ¶ JOHN M. REILLY ¶ Senior Lecturer, Sloan School of Management, MIT ¶ Co-Director, Joint Program on the Science ¶ and Policy of Global Change, MIT ¶ CAROLYN SETO ¶ Clare Boothe Luce Postdoctoral Fellow, ¶ Department of Chemical Engineering, MIT ¶ MORT D. WEBSTER ¶ Assistant Professor, Engineering Systems ¶ Division, MIT, “The Future of Natural Gas,” http://mitei.mit.edu/system/files/NaturalGas\_Report.pdf

At present, North America is largely selfsufﬁcient in natural gas, and this situation is ¶ likely to continue for some time, as indicated ¶ in Chapter 3. The substantial surplus of LNG ¶ import capacity, discussed in Chapter 6, ¶ effectively provides backup capacity in the event ¶ of unanticipated supply shortfalls or high prices.

### 1NC Chemical Industry

#### No impact to the Chemical industry—

#### a. Egregious author bias- their impact evidence is from the International Council of Chemical Associations and doesn’t cite any distinct studies to prove the argument.

#### b. No internal link- their evidence doesn’t predict price hikes will utterly destroy the industry- at worst growth is stalled, no brink to industry-wide collapse – at worst growth is slowed which is a far cry from collapse

#### Worst case scenario we buy the chemical products from other states- US isn’t key

NASDAQ, 2012

9-6. Subset of Ameritrade, stock market exchange. “Chemical Industry Stock Outlook - Sept. 2012 - Zacks Analyst Interviews,” http://community.nasdaq.com/News/2012-09/chemical-industry-stock-outlook-sept-2012-zacks-analyst-interviews.aspx?storyid=170806#ixzz28UcPva8c

The chemical industry, a nearly $3 trillion global business, has grown at a brisk pace for more than five decades. The fastest growing areas have involved the manufacture of synthetic organic polymers used as plastics, fibers and elastomers. The chemical industry is mainly concentrated in three areas of the world: Western Europe, North America and Japan. Europe is the largest producer, followed by the U.S. and Japan. ¶ The U.S. chemical industry represents roughly 19% of the global chemical output and employs more than 800,000 people. It is responsible for 10% of the nation's merchandise exports, aggregating $145 billion annually. Roughly 5.5 million additional jobs are backed by the purchasing activity of the chemical industry.

#### Chemical industry hurting now- commodity prices, global downturn, housing, currency exchange

NASDAQ, 2012

9-6. Subset of Ameritrade, stock market exchange. “Chemical Industry Stock Outlook - Sept. 2012 - Zacks Analyst Interviews,” http://community.nasdaq.com/News/2012-09/chemical-industry-stock-outlook-sept-2012-zacks-analyst-interviews.aspx?storyid=170806#ixzz28UcPva8c

The global nature of the industry puts competitive issues into sharp focus. The U.S. producers have responded to competitive pressures by streamlining operations, relocating manufacturing facilities to low-cost regions closer to end-markets, and being overall more nimble and flexible in responding to market opportunities. And it is not always easy to pull this off. ¶ Commodity price hikes, though subsiding lately, is adding to feedstock costs for many of these producers. Their ability to pass these costs on to end consumers is not always easy, given the competitive pressures at play. As a result, margins for a number of producers will continue to be under pressure. ¶ Given the industry's sensitivity to the global economy, any negative current in the macro economy would be reflected in the prospects of the chemical companies. The turmoil in Europe and its impact on global growth remain sources of near-term uncertainty. Western Europe continues to pose challenges on chemical stocks due to weak demand (particularly in the construction industry) and the lingering impact of debt crisis. ¶ Moreover, the U.S. housing sector remains a weak end-market. The domestic housing sector, a key consumer of chemicals, is likely to remain soft through the remainder of 2012. Weakness in the electronics and construction end-markets may weigh on the results in the back half of the year. ¶ Chemical companies generate a considerable amount of revenues outside the U.S., and therefore are exposed to foreign exchange fluctuations. Unfavorable currency exchange translation (stemming from a stronger dollar) dented most of these companies' results in the most recent quarter. ¶ Chemical titan The Dow Chemical Company ( DOW ) was pummeled by several headwinds in the June quarter. The company's results were hurt by the beleaguered economic conditions in Europe. Softness across electronics and construction markets may continue to impinge its results in the second half. Moreover, Dow is facing challenges in Western Europe due to the recessionary conditions and expects currency headwinds to continue given the weak euro.

### AT: Bioweapons !

#### No internal link- Khalizad only argues that Asia has a potential to develop bioweapons- no evidence they have or will use bio-capabilities

#### Air power decline inevitable

Auslin 10

former associate history professor @ Yale, AEI's director of Japan Studies (Michael, 19 August 2010, Make No Mistake, Air Power Keeps Us Safe, http://www.aei.org/article/102438)

Yet since the fall of the Soviet Union and in the counterinsurgency wars that define Iraq and Afghanistan, air superiority has not been an issue. Unfortunately**, the result is an increasing neglect of America's air forces.** As much as the Navy, the Air Force provides a unique global reach and presence for America. Indeed, given the vast distances the U.S. must cover in order to fight wars, provide humanitarian assistance, and keep an eye on crisis spots, the Air Force is even more crucial in ensuring timely, nearly instantaneous response. But in current defense plans, the Air Force has to keep flying 30-year old fighters until the new F-35 comes on line only slowly later in this decade. In the meantime, it will retire 250 F-15s and F-16s before they can be replaced by the F-35, putting further stress on combat readiness and ability to contribute in Afghanistan. Last year, **the White House killed the F-22 program, prematurely ending production of the most advanced fighter in the world, and leaving Air Force commanders with a fraction of the F-22s they need to ensure air superiority and to use as the most flexible intelligence asset in the sky. Bombing runs are carried out by bombers built as long ago as the early 1960s, and our planes are refueled by half-century old tankers.** Secretary of Defense Robert Gates canceled, then restarted the next generation bomber program, meaning **there will be no new bomber at least until 2025,** and the Pentagon has been trying to kill the C-17, America's most advanced transport plane, even as demand for airlift operations is prematurely aging the fleet. Some may question why the U.S. needs such a large air force, when no other country has even a fraction of our capabilities. But no other nation has America's global responsibilities, either. A modern, balanced air force is a central ingredient in America's defense strategy, and is the prerequisite to being able to intervene in the earliest stages of a conflict. Moreover, American airmen will soon face more capable adversaries, as other nations are building up their air forces, most notably China, which is introducing advanced fighter aircraft and new weapons designed to keep U.S. aircraft carriers at bay, and Russia, which has just test flown a fifth-generation challenger to America's F-22. Even more worrisome, countries such as Iran and North Korea are installing integrated air defenses that only our tiny fleet of F-22s can be assured of penetrating. **Our capability of entering any airspace we want to will be steadily degraded in coming years, reducing the credibility of our defensive alliances** with countries such as South Korea and Japan.

#### Multiple checks prevent the use of force in Asia even when tensions rise

Alagappa Director East-West Center ‘9

(Muthiah-, The Long Shadow: Nuclear Weapons and Security in 21st Century Asia, P. 70-71)

Despite this, the role of force in Asian international politics is becoming more limited due to a number of developments. First, the traditional need for force to protect the territorial integrity of states has declined in importance. With few exceptions (Taiwan. North Korea, and South Korea) state survival is not problematic. The Asian political map is for the most part internationally accepted, although some boundaries arc still in dispute. Such disputes are being settled through negotiations or shelved in the interest of promoting better bilateral relations (Wang 2003).¶ Second, the political, diplomatic, strategic, military, and economic cost of using force has increased dramatically. Over the past several decades, a normative framework has developed in Asia that delegitimizes the use of force to invade and occupy another country or to annex territory that is internationally recognized as belonging to another state. The use of force to invade and occupy another country or to annex territory will incur high costs. For example, if China were to invade Taiwan without serious provocation, it can expect civil and military resistance in Taiwan, U.S. military intervention, international condemnation, and a setback to its image as a responsible power. Such action would also incur huge economic costs resulting from international and domestic disruptions. Unless military action were swift and surgical, it would also result in substantial physical damage that would only increase as Asian countries continued to modernize and urbanize. Further, military action that is not successful can have negative domestic political consequences as well.¶ Third, most Asian countries benefit from participation in the regional and global capitalist marketplace. The 1997-98 financial crisis sensitized Asian countries to the vagaries and negative consequences of globalization but did not turn them away from liberalization and participation in the global economy. Preserving international stability has become a key goal of major powers. Economic growth, modernization, and growing economic interdependence have increased the cost of the force option and restrained the behavior of states even when major political issues are at stake, as for example in cross-Strait relations. Economic interdependence does not close the force option in all cases, but the high costs of economic disruption can restrain military action. Further, force is no longer relevant for the attainment of economic goals such as access to resources, labor, and markets. Energy security, for example, is sought through the market, national stockpiling, and sourcing arrangements.¶ Finally, resolution of existing disputes through the use of force is not practical. Except for the United States, none of the Asian states can marshal the necessary military power to impose a settlement by force. The experience in Iraq and Afghanistan suggests that even the United States suffers limitations and that the use of force carries much risk. These considerations explain the reluctance of the United States to undertake preventive action against North Korea, the reluctance of China to carry out its threat of using force to unify Taiwan with the PRC, and the continuing stalemate in the India-Pakistan conflict over Kashmir. Force may still be used in these cases, but the attendant strategic, political, diplomatic, and economic costs and risks are high.

#### No bioweapon could kill off humanity – natural resistance and technology check a superbug

Easterbrook (Gregg, The New Republic Editor) 2003 [Wired, "We're All Gonna Die!" 11/7, http://www.wired.com/wired/archive/11.07/doomsday.html]

3. Germ warfare! Like chemical agents, biological weapons have never lived up to their billing in popular culture. Consider the 1995 medical thriller Outbreak, in which a highly contagious virus takes out entire towns. The reality is quite different. Weaponized smallpox escaped from a Soviet laboratory in Aralsk, Kazakhstan, in 1971; three people died, no epidemic followed. In 1979, weapons-grade anthrax got out of a Soviet facility in Sverdlovsk (now called Ekaterinburg); 68 died, no epidemic. The loss of life was tragic, but no greater than could have been caused by a single conventional bomb. In 1989, workers at a US government facility near Washington were accidentally exposed to Ebola virus. They walked around the community and hung out with family and friends for several days before the mistake was discovered. No one died. The fact is, evolution has spent millions of years conditioning mammals to resist germs. Consider the Black Plague. It was the worst known pathogen in history, loose in a Middle Ages society of poor public health, awful sanitation, and no antibiotics. Yet it didn't kill off humanity. Most people who were caught in the epidemic survived. Any superbug introduced into today's Western world would encounter top-notch public health, excellent sanitation, and an array of medicines specifically engineered to kill bioagents. Perhaps one day some aspiring Dr. Evil will invent a bug that bypasses the immune system. Because it is possible some novel superdisease could be invented, or that existing pathogens like smallpox could be genetically altered to make them more virulent (two-thirds of those who contract natural smallpox survive), biological agents are a legitimate concern. They may turn increasingly troublesome as time passes and knowledge of biotechnology becomes harder to control, allowing individuals or small groups to cook up nasty germs as readily as they can buy guns today. But no superplague has ever come close to wiping out humanity before, and it seems unlikely to happen in the future.

### AT: Disease

#### Technology checks a superbug

Easterbrook (Gregg, The New Republic Editor) 2003 [Wired, "We're All Gonna Die!" 11/7, http://www.wired.com/wired/archive/11.07/doomsday.html]

3. Germ warfare! Like chemical agents, biological weapons have never lived up to their billing in popular culture. Consider the 1995 medical thriller Outbreak, in which a highly contagious virus takes out entire towns. The reality is quite different. Weaponized smallpox escaped from a Soviet laboratory in Aralsk, Kazakhstan, in 1971; three people died, no epidemic followed. In 1979, weapons-grade anthrax got out of a Soviet facility in Sverdlovsk (now called Ekaterinburg); 68 died, no epidemic. The loss of life was tragic, but no greater than could have been caused by a single conventional bomb. In 1989, workers at a US government facility near Washington were accidentally exposed to Ebola virus. They walked around the community and hung out with family and friends for several days before the mistake was discovered. No one died. The fact is, evolution has spent millions of years conditioning mammals to resist germs. Consider the Black Plague. It was the worst known pathogen in history, loose in a Middle Ages society of poor public health, awful sanitation, and no antibiotics. Yet it didn't kill off humanity. Most people who were caught in the epidemic survived. Any superbug introduced into today's Western world would encounter top-notch public health, excellent sanitation, and an array of medicines specifically engineered to kill bioagents. Perhaps one day some aspiring Dr. Evil will invent a bug that bypasses the immune system. Because it is possible some novel superdisease could be invented, or that existing pathogens like smallpox could be genetically altered to make them more virulent (two-thirds of those who contract natural smallpox survive), biological agents are a legitimate concern. They may turn increasingly troublesome as time passes and knowledge of biotechnology becomes harder to control, allowing individuals or small groups to cook up nasty germs as readily as they can buy guns today. But no superplague has ever come close to wiping out humanity before, and it seems unlikely to happen in the future.

#### No risk of huge pandemic – genetic diversity

Townsville Bulletin ‘3

(“Bio-terror talk Professor says body can cope with viruses,” Australia, August 30, Lexis)

Immunogenetics researcher Professor Alan Baxter, head of JCU Comparative Genomics Centre, held a public lecture this week on the body's defences against bio-terrorism. Professor Baxter said the global epidemics people were concerned about were highly unlikely to occur. "It is not all doom and gloom, the body has a number of defences against biological weapons and emerging infections," he said. "There are a number of ways the human body has evolved to protect itself from novel infections, or infections it might not have encountered before." Professor Baxter said the requirements for an organism to cause a world-wide pandemic were very restrictive. "Very few organisms are capable of doing this," he said. "And in a mixed population such as ours there's quite a diverse range of genetic resistance strategies, meaning we're unlikely to encounter the sorts of deadly epidemics that decimated the small foundling communities of the past."

## K

### Warming Link

#### Their framing of global warming as a techno-fix blocks broader efforts to transform society’s relationship to the Earth, and displaces concern for other environmental issues – their depictions *actively produce* biodiversity loss, topsoil erosion, deforestation, and ocean acidification

Crist 7

(Eileen, has been teaching at Virginia Tech in the Department of Science and Technology in Society since 1997, where she is advisor for the undergraduate program Humanities, Science, and Environment, “Beyond the Climate Crisis: A Critique of Climate Change Discourse”, *Telos*, 141 (Winter 2007): 29–55.)

While the dangers of climate change are real, I argue that there are even greater dangers in representing it as the most urgent problem we face. Framing climate change in such a manner deserves to be challenged for two reasons: it encourages the restriction of proposed solutions to the technical realm, by powerfully insinuating that the needed approaches are those that directly address the problem; and it detracts attention from the planet’s ecological predicament as a whole, by virtue of claiming the limelight for the one issue that trumps all others. Identifying climate change as the biggest threat to civilization, and ushering it into center stage as the highest priority problem, has bolstered the proliferation of technical proposals that address the specific challenge. The race is on for figuring out what technologies, or portfolio thereof, will solve “the problem.” Whether the call is for reviving nuclear power, boosting the installation of wind turbines, using a variety of renewable energy sources, increasing the efficiency of fossil-fuel use, developing carbon-sequestering technologies, or placing mirrors in space to deflect the sun’s rays, the narrow character of such proposals is evident: confront the problem of greenhouse gas emissions by technologically phasing them out, superseding them, capturing them, or mitigating their heating effects. In his The Revenge of Gaia, for example, Lovelock briefly mentions the need to face climate change by “changing our whole style of living.”16 But the thrust of this work, what readers and policy-makers come away with, is his repeated and strident call for investing in nuclear energy as, in his words, “the one lifeline we can use immediately.”17 In the policy realm, the first step toward the technological fix for global warming is often identified with implementing the Kyoto protocol. Biologist Tim Flannery agitates for the treaty, comparing the need for its successful endorsement to that of the Montreal protocol that phased out the ozone-depleting CFCs. “The Montreal protocol,” he submits, “marks a signal moment in human societal development, representing the first ever victory by humanity over a global pollution problem.”18 He hopes for a similar victory for the global climate-change problem. Yet the deepening realization of the threat of climate change, virtually in the wake of stratospheric ozone depletion, also suggests that dealing with global problems treaty-by-treaty is no solution to the planet’s predicament. Just as the risks of unanticipated ozone depletion have been followed by the dangers of a long underappreciated climate crisis, so it would be naïve not to anticipate another (perhaps even entirely unforeseeable) catastrophe arising after the (hoped-for) resolution of the above two. Furthermore, if greenhouse gases were restricted successfully by means of technological shifts and innovations, the root cause of the ecological crisis as a whole would remain unaddressed. The destructive patterns of production, trade, extraction, land-use, waste proliferation, and consumption, coupled with population growth, would go unchallenged, continuing to run down the integrity, beauty, and biological richness of the Earth. Industrial-consumer civilization has entrenched a form of life that admits virtually no limits to its expansiveness within, and perceived entitlement to, the entire planet.19 But questioning this civilization is by and large sidestepped in climate-change discourse, with its single-minded quest for a global-warming techno-fix.20 Instead of confronting the forms of social organization that are causing the climate crisis—among numerous other catastrophes—climate-change literature often focuses on how global warming is endangering the culprit, and agonizes over what technological means can save it from impending tipping points.21 The dominant frame of climate change funnels cognitive and pragmatic work toward specifically addressing global warming, while muting a host of equally monumental issues. Climate change looms so huge on the environmental and political agenda today that it has contributed to downplaying other facets of the ecological crisis: mass extinction of species, the devastation of the oceans by industrial fishing, continued old-growth deforestation, topsoil losses and desertification, endocrine disruption, incessant development, and so on, are made to appear secondary and more forgiving by comparison with “dangerous anthropogenic interference” with the climate system. In what follows, I will focus specifically on how climate-change discourse encourages the continued marginalization of the biodiversity crisis—a crisis that has been soberly described as a holocaust,22 and which despite decades of scientific and environmentalist pleas remains a virtual non-topic in society, the mass media, and humanistic and other academic literatures. Several works on climate change (though by no means all) extensively examine the consequences of global warming for biodiversity, 23 but rarely is it mentioned that biodepletion predates dangerous greenhouse-gas buildup by decades, centuries, or longer, and will not be stopped by a technological resolution of global warming. Climate change is poised to exacerbate species and ecosystem losses—indeed, is doing so already. But while technologically preempting the worst of climate change may temporarily avert some of those losses, such a resolution of the climate quandary will not put an end to—will barely address—the ongoing destruction of life on Earth.

### 2NC Consumption Framework

#### The aff’s calls for pragmatism and specificity are a farce – their change in energy strategy represents conscious adoption of larger institutional logics, not an incremental change in existing policy – only radical analysis of the energy system takes the aff’s change seriously and avoids error replication

Byrne & Toly 6

(Josh, director of the Center for Energy and Environmental Policy and distinguished professor of energy and climate policy at the University of Delaware, Noah, Associate Professor of Urban Studies and Politics & International Relations, Director of Urban Studies Program at Wheaton, “Energy as a Social Project: Recovering a Discourse”, pgs. 1-32 in Transforming Power: Energy, Environment, and Society in Conflict, eds. Josh Byrne, Noah Toly, and Leigh Glover)

When measured in social and political-economic terms, the current energy discourse appears impoverished. Many of its leading voices proclaim great things will issue from the adoption of their strategies (conventional or sustainable), yet inquiry into the social and political-economic interests that power promises of greatness by either camp is mostly absent. In reply, some participants may petition for a progressive middle ground, acknowledging that energy regimes are only part of larger institutional formations that organize political and economic power. It is true that the political economy of energy is only a component of systemic power in the modern order, but it hardly follows that pragmatism toward energy policy and politics is the reasonable social response. Advocates of energy strategies associate their contributions with distinct pathways of social development and define the choice of energy strategy as central to the types of future(s) that can unfold. Therefore, acceptance of appeals for pragmatist assessments of energy proposals, that hardly envision incremental consequences, would indulge a form of selfdeception rather than represent a serious discursive position. An extensive social analysis of energy regimes of the type that Mumford (1934; 1966; 1970), Nye (1999), and others have envisioned is overdue. The preceding examinations of the two strategies potentiate conclusions about both the governance ideology and the political economy of modernist energy transitions that, by design, leave modernism undisturbed (except, perhaps, for its environmental performance).

### AT: No Link/Collapse not Inevitable

#### Solar tech is uniquely environmentally destructive – rare earth mineral extraction alone produces massive chemical pollution, warming, soil erosion, and watershed contamination

Downey, Barnes & Clark 10

(Liam, is an associate professor of sociology at the University of Colorado at Boulder, Eric, is a doctoral student at the University of Colorado at Boulder, Katherine, graduate student in environmental studies at the University of Colorado at Boulder, “Natural Resource Extraction, Armed Violence, and Environmental Degradation”, Organ Environ, 2010 December; 23(4): 417–445, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3169238/)

The social, political, and economic importance of efficiently extracting and safely transporting natural resources cannot be underestimated. State, military, and geopolitical power, capital accumulation, social stability, industrial production, and the legitimacy of the state and economy all depend on large, increasing, and ever more concentrated withdrawals of natural resources from the earth (Bunker & Ciccantell, 2005; Gould, Pellow, & Schnaiberg, 2004, 2008; Klare, 2001, 2004; O’Connor, 1996; Schnaiberg & Gould, 2000). Moreover, because natural resources are the ultimate source of all the energy and goods we produce, consume, and throw away, natural resource extraction harms the environment not only at the “point of extraction” but globally as well. Thus, the grave environmental problems associated with industrial production and consumption (in both capitalist and noncapitalist societies) would not exist, or would not exist in their current form, if industrial societies were unable to efficiently extract and safely transport vast quantities of natural resources. Computer production, for example, could not occur without the extraction of minerals, fossil fuels, and other natural resources from around the world. One such category of resources is rare earth minerals, which are mined primarily in China (NRC, 2008). The mining of rare earth minerals produces as much as 2,000 tons of solid waste, including toxic heavy metals and radioactive thorium, for every ton of rare earth mineral produced (Farago, 2009; Rong & Yu, 2009). In China, it also results in topsoil loss, erosion, and widespread silting and contamination of rivers and reservoirs used for drinking and irrigation (Xu & Liu, 1999).2 Computers also harm the environment during the production, assembly, consumer use, shipping, disposal, and recycling stages of their lives and thus affect the environment and human health around the world. Environmental impacts during these stages of a computer’s life include abiotic depletion, global warming, the release of toxins into the environment, human exposure to highly toxic materials, acidification, ozone depletion, the formation of photoxidants, and water eutrophication (Choi, Shin, Lee, & Hur, 2006). Because computing power is so critical to globalization and economic growth, computer use also helps foster environmental problems associated with these phenomena. It would be difficult to argue, therefore, that the environmental problems associated with computer use and production are confined solely to the resource extraction stage of the commodity chain or that the environmental problems associated with the remaining stages of a computer’s life would exist without the extraction of the minerals, fuels, and other natural resources needed to produce, ship, use, recycle, and dispose of computers. This is true, of course, of all the products we use and produce, including weapons systems, automobiles, solar panels, and cell phones. Thus, resource extraction is a pivotal link in the chain connecting human activity and social organization to environmental degradation.

#### Excessive consumption makes extinction inevitable- social and environmental factors build positive feedbacks create a cascade of destruction - only social reorganization away from consumption can save the planet

Ehrenfeld ‘5,

(David, Dept. of Ecology, Evolution, and Natural Resources @ Rutgers University, “The Environmental Limits to Globalization”, *Conservation Biology* Vol. 19 No. 2 April 2005)

The known effects of globalization on the environment are numerous and highly significant. Many others are undoubtedly unknown. Given these circumstances, the first question that suggests itself is: Will globalization, as we see it now, remain a permanent state of affairs (Rees 2002; Ehrenfeld 2003a)? The principal environmental side effects of globalization—climate change, resource exhaustion (particularly cheap energy), damage to agroecosystems, and the spread of exotic species, including pathogens (plant, animal, and human)—are sufficient to make this economic system unstable and short-lived. The socioeconomic consequences of globalization are likely to do the same. In my book *The Arrogance of Humanism* (1981), I claimed that our ability to manage global systems, which depends on our being able to predict the results of the things we do, or even to understand the systems we have created, has been greatly exaggerated. Much of our alleged control is science fiction; it doesn’t work because of theoretical limits that we ignore at our peril. We live in a dream world in which reality testing is something we must never, never do, lest we awake. In 1984 Charles Perrow explored the reasons why we have trouble predicting what so many of our own created systems will do, and why they surprise us so unpleasantly while we think we are managing them. In his book *Normal Accidents*, which does not concern globalization, he listed the critical characteristics of some of today’s complex systems. They are highly interlinked, so a change in one part can affect many others, even those that seem quite distant. Results of some processes feed back on themselves in unexpected ways. The controls of the system often interact with each other unpredictably. We have only indirect ways of finding out what is happening inside the system. And we have an incomplete understanding of some of the system’s processes. His example of such a system is a nuclear power plant, and this, he explained, is why system-wide accidents in nuclear plants cannot be predicted or eliminated by system design. I would argue that globalization is a similar system, also subject to catastrophic accidents, many of them environmental—events that we cannot define until after they have occurred, and perhaps not even then. The comparatively few commentators who have predicted the collapse of globalization have generally given social reasons to support their arguments. These deserve some consideration here, if only because the environmental and social consequences of globalization interact so strongly with each other. In 1998, the British political economist John Gray, giving scant attention to environmental factors, nevertheless came to the conclusion that globalization is unstable and will be short-lived. He said, “There is nothing in today’s global market that buffers it against the social strains arising from highly uneven economic development within and between the world’s diverse societies.” The result, Gray states, is that “The combination of [an] unceasing stream of new technologies, unfettered market competition and weak or fractured social institutions” has weakened both sovereign states and multinational corporations in their ability to control important events. Note that Gray claims that not only nations but also multinational corporations, which are widely touted as controlling the world, are being weakened by globalization. This idea may come as a surprise, considering the growth of multinationals in the past few decades, but I believe it is true. Neither governments nor giant corporations are even remotely capable of controlling the environmental or social forces released by globalization, without first controlling globalization itself. Two of the social critics of globalization with the most dire predictions about its doom are themselves masters of the process. The late Sir James Goldsmith, billionaire financier, wrote in 1994, It must surely be a mistake to adopt an economic policy which makes you rich if you eliminate your national workforce and transfer production abroad, and which bankrupts you if you continue to employ your own people.... It is the poor in the rich countries who will subsidize the rich in the poor countries. This will have a serious impact on the social cohesion of nations. Another free-trade billionaire, George Soros, said much the same thing in 1995: “The collapse of the global marketplace would be a traumatic event with unimaginable consequences. Yet I find it easier to imagine than the continuation of the present regime.” How much more powerful these statements are if we factor in the environment! As globalization collapses, what will happen to people, biodiversity, and ecosystems? With respect to people, the gift of prophecy is not required to answer this question. What will happen depends on where you are and how you live. Many citizens of the Third World are still comparatively self-sufficient; an unknown number of these will survive the breakdown of globalization and its attendant chaos. In the developed world, there are also people with resources of self-sufficiency and a growing understanding of the nature of our social and environmental problems, which may help them bridge the years of crisis. Some species are adaptable; some are not. For the non- human residents of Earth, not all news will be bad. Who would have predicted that wild turkeys (Meleagris gallopavo), one of the wiliest and most evasive of woodland birds, extinct in New Jersey 50 years ago, would now be found in every county of this the most densely populated state, and even, occasionally, in adjacent Manhattan? Who would have predicted that black bears (Ursus americanus), also virtually extinct in the state in the mid-twentieth century, would now number in the thousands (Ehrenfeld 2001)? Of course these recoveries are unusual—rare bright spots in a darker landscape. Finally, a few ecological systems may survive in a comparatively undamaged state; most will be stressed to the breaking point, directly or indirectly, by many environmental and social factors interacting unpredictably. Lady Luck, as always, will have much to say. In his book *The Collapse of Complex Societies,* the archaeologist Joseph Tainter (1988) notes that collapse, which has happened to all past empires, inevitably results in human systems of lower complexity and less specialization, less centralized control, lower economic activity, less information flow, lower population levels, less trade, and less redistribution of resources. All of these changes are inimical to globalization. This less-complex, less-globalized condition is probably what human societies will be like when the dust settles. I do not think, however, that we can make such specific predictions about the ultimate state of the environment after globalization, because we have never experienced anything like this exceptionally rapid, global environmental damage before. History and science have little to tell us in this situation. The end of the current economic system and the transition to a postglobalized state is and will be accompanied by a desperate last raid on resources and a chaotic flurry of environmental destruction whose results cannot possibly be told in advance. All one can say is that the surviving species, ecosystems, and resources will be greatly impoverished compared with what we have now, and our descendants will not thank us for having adopted, however briefly, an economic system that consumed their inheritance and damaged their planet so wantonly. Environment is a true bottom line—concern for its condition must trump all purely economic growth strategies if both the developed and developing nations are to survive and prosper. Awareness of the environmental limits that globalized industrial society denies or ignores should not, however, bring us to an extreme position of environmental determinism. Those whose preoccupations with modern civilization’s very real social problems cause them to reject or minimize the environmental constraints discussed here ( Hollander 2003) are guilty of seeing only half the picture. Environmental scientists sometimes fall into the same error. It is tempting to see the salvation of civilization and environment solely in terms of technological improvements in efficiency of energy extraction and use, control of pollution, conservation of water, and regulation of environmentally harmful activities. But such needed developments will not be sufficient—or may not even occur— without corresponding social change, including an end to human population growth and the glorification of consumption, along with the elimination of economic mechanisms that increase the gap between rich and poor. The environmental and social problems inherent in globalization are completely interrelated—any attempt to treat them as separate entities is unlikely to succeed in easing the transition to a postglobalized world. Integrated change that combines environmental awareness, technological innovation, and an altered world view is the only answer to the life-threatening problems exacerbated by globalization (Ehrenfeld 2003b). If such integrated change occurs in time, it will likely happen partly by our own design and partly as an unplanned response to the constraints imposed by social unrest, disease, and the economics of scarcity. With respect to the planned component of change, we are facing, as eloquently described by Rees (2002), “the ultimate challenge to human intelligence and self-awareness, those vital qualities we humans claim as uniquely our own. *Homo sapiens* will either. . .become fully human or wink out ignominiously, a guttering candle in a violent storm of our own making.” If change does not come quickly, our global civilization will join Tainter’s (1988) list as the latest and most dramatic example of collapsed complex societies. Is there anything that could slow globalization quickly, before it collapses disastrously of its own environmental and social weight? It is still not too late to curtail the use of energy, reinvigorate local and regional communities while restoring a culture of concern for each other, reduce nonessential global trade and especially global finance (Daly & Cobb 1989), do more to control introductions of exotic species (including pathogens), and accelerate the growth of sustainable agriculture. Many of the needed technologies are already in place. It is true that some of the damage to our environment—species extinctions, loss of crop and domestic animal varieties, many exotic species introductions, and some climatic change— will be beyond repair. Nevertheless, the opportunity to help our society move past globalization in an orderly way, while there is time, is worth our most creative and passionate efforts. The citizens of the United States and other nations have to understand that our global economic system has placed both our environment and our society in peril, a peril as great as that posed by any war of the twentieth century. This understanding, and the actions that follow, must come not only from enlightened leadership, but also from grassroots consciousness raising. It is still possible to reclaim the planet from a self-destructive economic system that is bringing us all down together, and this can be a task that bridges the divide between conservatives and liberals. The crisis is here, now. What we have to do has become obvious. Globalization can be scaled back to manageable proportions only in the context of an altered world view that rejects materialism even as it restores a sense of communal obligation. In this way, alone, can we achieve real homeland security, not just in the United States, but also in other nations, whose fates have become so thoroughly entwined with ours within the global environment we share.

### AT: Produce With Clean Tech

#### Solar tech relies on rare earth mineral extraction that causes massive global instability and collapses democracy and trade – it relies on corruption and social inequality to maintain economic production

Bringezu & Bleischwitz ‘11

(Stefan, director of material flows and resource management at the Wuppertal Institute, Germany, and a member of the International Panel for Sustainable Resource Management, Raimund, co-director of material flows and resource management at the Wuppertal Institute and professor at the College of Europe, Bruges, Belgium, “Preventing a resource curse fuelled by the green economy”, Global Corruption Report: Climate Change, pg. 199-201 http://www.transparency.org/publications/gcr/gcr\_climate\_change2)

Mining, a second activity necessary to support the green economy, carries significant opportunities for corruption. The industry is believed to be one of the business sectors most likely to bribe public officials or to influence political processes unduly.12 The industry is characterized by opacity and confidentiality, which enable companies to conspire with government officials to rig the bidding process. By developing personal relationships with influential members of the political elite, or offering bribes, corporate representatives may secure contracts or political decisions in their favour.13 Host governments may launder money offshore or direct funds towards spending that benefits the interests of the political elite. The scaling up of renewable energy will require significant mineral resources for new supply facilities and energy distribution, however. Telecommunication and other information technologies, increasingly used to reduce the need for global travel and transportation, depend on microelectronic devices that require speciality metals. As these and other solutions for reducing greenhouse gas (GHG) emissions are more widely embraced, demand will increase for many types of minerals. Lithium ion batteries, currently used in electronic devices, are expected to play a growing role in future demand for electric cars. Although forecasts are sensitive to public policy, Credit Suisse’s estimate of annual growth rates for lithium demand of about 10 per cent14 seems conservative but reliable. Increased demand for lithium will lead to additional extraction activities at a limited number of salt lakes, such as in Argentina, Bolivia and Chile. In Bolivia, the government’s early planning for joint exploitation projects with international companies and governments has been met with much public approval, but it has also raised concerns from some civil society and environmental organizations regarding the transparency of negotiations and the reliability of environmental assessments15 (see the Bolivia case study following this section). Photovoltaic cells for solar arrays and LED-dependent energy-efficient lighting16 rely on the aluminium by-product gallium. Gallium demand for green technology development is forecast to exceed current total world production by a factor of six by 2030.17 This could lead to enhanced bauxite mining18 in countries such as Guinea, China, Russia and Kazakhstan. Mining for tantalum, which is used for capacitors in microelectronics such as mobile phones and PCs, has increased in the Democratic Republic of the Congo (DRC), where the militarization of mining is well documented19 and illegal trade revenues have been linked to the financing of civil war activities. Platinum group metals (PGMs) are important chemical catalysts used for pollution control, such as in exhaust catalysts in cars and fuel cells. PGM mining and refining is concentrated in a few regions in the world, though supply is not sufficient to meet expected demand. Platinum is mined in South Africa, and PGMs are produced as a by-product of nickel and copper mining in Russia and Canada. The market for rare earth metals, used in defence technologies and also crucial for low-fossil-carbon technologies such as wind turbines and hybrid cars, is worth some US$1.3 billion annually. China, one of the few countries currently mining rare earth metals, has considered significantly curbing or ending their export altogether, prompting a rush on mines in Russia, Kazakhstan, South Africa, Botswana, Vietnam and Malaysia.20 Rising demand for many of these mineral resources will probably coincide with a shifting pattern of mining activity. Emerging economies such as Brazil, China and India are expected to reach a period of high metal intensity as their development approaches the levels of Organisation for Economic Co-operation and Development (OECD) countries. As mining companies from these countries transition from trading into production, they can be expected to meet domestic demand for raw materials through direct investment throughout the world, and particularly in Africa. This new buying power may not be matched by high standards in business integrity. In 2008 companies from Brazil, Russia, India and China were perceived by the business community to be among the most likely to engage in bribery when doing business abroad.21 Indeed, China and India have no law making foreign bribery a criminal offence.22 With the exception of Brazil, the adoption of international anti-corruption standards is weak. India has ratified neither the UN Convention against Corruption (UNCAC) nor the OECD Convention on Combating Bribery of Foreign Public Officials, while China and Russia have ratified only the former.23

#### You should privilege everyday violence for two reasons- A) social bias underrepresents its effects B) its effects are exponential, not linear which means even if the only causes a small amount of structural violence, its terminal impacts are huge

Nixon ‘11

(Rob, Rachel Carson Professor of English, University of Wisconsin-Madison, Slow Violence and the Environmentalism of the Poor, pgs. 2-3)

Three primary concerns animate this book, chief among them my conviction that we urgently need to rethink-politically, imaginatively, and theoretically-what I call "slow violence." By slow violence I mean a violence that occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all. Violence is customarily conceived as an event or action that is immediate in time, explosive and spectacular in space, and as erupting into instant sensational visibility. We need, I believe, to engage a different kind of violence, a violence that is neither spectacular nor instantaneous, but rather incremental and accretive, its calamitous repercussions playing out across a range of temporal scales. In so doing, we also need to engage the representational, narrative, and strategic challenges posed by the relative invisibility of slow violence. Climate change, the thawing cryosphere, toxic drift, biomagnification, deforestation, the radioactive aftermaths of wars, acidifying oceans, and a host of other slowly unfolding environmental catastrophes present formidable representational obstacles that can hinder our efforts to mobilize and act decisively. The long dyings-the staggered and staggeringly discounted casualties, both human and ecological that result from war's toxic aftermaths or climate change-are underrepresented in strategic planning as well as in human memory. Had Summers advocated invading Africa with weapons of mass destruction, his proposal would have fallen under conventional definitions of violence and been perceived as a military or even an imperial invasion. Advocating invading countries with mass forms of slow-motion toxicity, however, requires rethinking our accepted assumptions of violence to include slow violence. Such a rethinking requires that we complicate conventional assumptions about violence as a highly visible act that is newsworthy because it is event focused, time bound, and body bound. We need to account for how the temporal dispersion of slow violence affects the way we perceive and respond to a variety of social afflictions-from domestic abuse to posttraumatic stress and, in particular, environmental calamities. A major challenge is representational: how to devise arresting stories, images, and symbols adequate to the pervasive but elusive violence of delayed effects. Crucially, slow violence is often not just attritional but also exponential, operating as a major threat multiplier; it can fuel long-term, proliferating conflicts in situations where the conditions for sustaining life become increasingly but gradually degraded.

### AT Perm/Link Turn

Alt must come first – the aff’s increase in energy efficiency produces increases in consumption, only first changing consumption patterns can avoid ecological collapse

Dardozzi 8

(Jeff, co-founder of The Earth Alchemists and is a designer/builder of living structure for the un-plasticized, “The Specter of Jevons' Paradox”, Synthesis/Regeneration 47 (Fall 2008))

In the early eighties, an old debate within economics resurfaced surrounding something called Jevons' Paradox, or the more descriptive term rebound effect. Many well-known minds, such as Amory Lovins, piped in on the new meaning of this old, obscure argument buried in 19th century classical economics. First coined by the economist W. Stanley Jevons in The Coal Question (1865), the paradox he noted was in regards to coal consumption and efficiency improvements in steam engines: "It is a confusion of ideas to suppose that economical use of fuel is equivalent to diminished consumption. The very contrary is the truth." In the 1980s, Jevons' observation was revisited by the economists Daniel Khazzoom and Leonard Brookes. In their analysis, they looked beyond the relationship between energy resources and the machines that convert them to useful work to consider the overall effect of technological improvements in resource efficiencies on the energy use of a society as a whole. They argued that increased efficiency paradoxically leads to increased overall energy consumption. In 1992, the economist Harry Saunders dubbed this hypothesis the Khazzoom-Brookes Postulate and showed that it was true under neo-classical growth theory over a wide range of assumptions. Since the appearance of the Khazzoom-Brookes Postulate, numerous studies have weighed in on the debate arguing a range of impacts of the rebound effect. In January 2008, Earthscan released Jevons Paradox: The Myth of Resource Efficiency Improvements as the latest and most comprehensive review of the paradox in economics literature. Prefaced by anthropologist Joseph Tainter (The Collapse of Complex Societies, 1988), the book reviews the history of the debate, current findings and includes the latest multi-disciplinary studies regarding the existence of the rebound effect. The book clearly supports the proposition that the rebound effect is present in the US, Europe and most other economies and that strategies to increase energy efficiency in themselves will do little to improve the energy or the ecological situation. In fact, they may well worsen it as the historical impact of resource efficiency improvements shows that increasing the efficiency in the use of a resource in turn increases the consumption of that resource.

#### Sequencing DA – centering consumption as a subject of ethical concern is a pre-requisite to the aff – their “production-focused” change to energy policy only marginalizes consumption practices by treating them as a given outside of politics

Alexander ‘11

(Samuel, University of Melbourne; Office for Environmental Programs/Simplicity Institute, “

Voluntary Simplicity as an Aesthetics of Existence”, Social Sciences Research Network, http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=1941087)

For present purposes, the third and final point about how neoclassicism marginalizes consumption concerns the way in which any problems caused by market activity are always approached from the ‘production angle,’ never the ‘consumption angle.’70 The reasoning is as follows. Despite the first two ways in which neoclassicists conceptualize consumption as unquestionably good, no one, not even neoclassicists, can deny that market activity is causing, and has always caused, some real problems. Think, for example, of the many ecological crises we are facing today, such as climate change, the mass extinction of species, pollution, deforestation, the depletion of the ocean’s fisheries, soil erosion, etc. One might have thought that these crises would have prompted neoclassicists to finally rethink their uncritical attitudes toward consumption, to finally acknowledge that, perhaps, consumption is not unquestionably good. But this has proven to be a false hope, and perhaps this should have come as no surprise. Neoclassicism, after all, is a grand, totalizing meta‐narrative, which claims to have an answer to all criticisms, such that all and any of the problems caused by market activity have a purported solution within the free market system and without needing to rethink or revise any of the neoclassical assumptions (including the assumptions about consumption). If there is a problem caused by market activity, neoclassicists argue, this simply indicates that there has been what is called a ‘market failure,’ which typically means that the costs of production have somehow been externalized, leading to artificially cheap commodities which, in turn, leads to the overconsumption of such commodities. But the neoclassical solution to such overconsumption does not require questioning consumption in any way. Consumption, as we have seen, is sacrosanct! Rather, the solution to such market failures is simply to attempt to internalize all externalities from the production angle – that is, to try to find ways to make sure that the costs of production reflect the ‘true’ costs (i.e. the costs all things considered). Once this has been achieved – if it can be achieved – any consumption that takes place is once again assumed to be at an ‘optimal’ level, which is to say, at a level that maximizes overall utility. In this way, neoclassicism manages to retain perfect faith in the virtue of consumption. We might conclude, therefore, consciously or unconsciously, that since consumption is a virtue, it need not be a subject of ethical concern. Acts of consumption are beyond ethics, or, as neoclassicists put it, such acts are simply ‘given.’ The point of all this has been to suggest that the paradigm of neoclassical economics may be responsible, and surely is responsible, for why consumption has been marginalized as a subject of ethical concern within market societies and beyond. And given the essentially hegemonic role neoclassical economics plays in the world today – manifesting in the globalized political sphere as ‘neoliberalism’71 or ‘Empire’72 – perhaps it should come as no surprise to discover that all of us may have internalized its precepts to some degree. That is, even those who have never studied or even heard of neoclassical economics – indeed, even those who dedicate considerable amounts of time to criticizing the ideology! – may still have imbibed some of its reasoning simply by virtue of living in a world that is so fundamentally shaped by it. We are, after all, social constructs, and, as explained earlier, our perception of the world and of ourselves is a function of the paradigm of understanding that we bring to experience and that we use to make sense of the world. We do not get to choose which paradigm we think with, however, since the act of choosing would be an act of thinking, and in order to think in the first place a paradigm of understanding already has to be in place. As Martin Heidegger once asserted, somewhat cryptically, ‘language speaks man,’73 by which he meant, we can suppose, that our notions of ‘self’ are not independent of language but a function of it. Donald Davidson made a similar point, but more clearly, when he wrote that ‘there is no chance that someone can take up a vantage point for comparing conceptual schemes by temporarily shedding his own.’74 We must begin, that is, from where we are, with whom we are, rebuilding the boat of understanding one plank at a time, without ever being able to begin again from scratch. If neoclassical economics has been internalized to some extent, consciously or unconsciously – in particular, if one has internalized the neoclassical understanding of consumption as unquestionably good – this means that the first step in any ethics of consumption might involve engaging the self by the self for the purpose of centering consumption; that is, for the purpose of deliberately bringing consumption into focus as a subject of ethical concern. Every conceptual framework conceals as it reveals, and whatever enlightenment one might gain from neoclassical economics, it must be acknowledged that its impressive edifice also casts shadows. Consumption, for reasons just explained, lies in the dark. An ethics of consumption must begin, therefore, by casting light in its direction, and this can only be achieved by deliberately giving the subject increased attention. Obviously, if one does not look for, or cannot see, a subject of ethical concern, it will not be a subject of ethical concern. However, even when the possibility of dedicating increased attention to consumption has been raised, which is perhaps the most difficult step, there is a second step, and that is to actually maintain the attention. The third step is to determine how, exactly, and in what ways, one could engage the self by the self with respect to consumption (an endeavor that is taken up in the next two sections). Notice, here, that the terrain of ethical activity lies within the self, at least at first, rather than being external to it. Someone who is cognizant of the three consumption-­‐ related problems outlined above – ecological degradation, poverty amidst plenty, and consumer malaise – might initially think that living in opposition to those problems must require, say, attending rallies, campaigning for political reform, engaging in civil disobedience, volunteering, engaging with and trying to mobilize the community, etc. These are surely all important things, but if our minds are not in order, then it may be that we end up directing our time and energies to pointless or even counter‐productive activity. One thinks here of the young Alcibiades, who wanted to leap into a political career, but who was ultimately persuaded by Socrates that, before he tried to take care of and assume control over others, he should first make sure he had taken care of and was in control of himself.75 Otherwise, even the best intentions might go astray. Socrates was to reproach Alcibiades for being so presumptuous: ‘you are not only ignorant of the greatest things, but while not knowing them you think that you do.’76 Importantly, however, Socrates was not assuming the role of advisor on the basis that he knew more than Alcibiades; rather, in typical fashion, Socrates assumed his role on the basis that he better understood the limits of knowledge; better understood that if he knew anything, it was that he knew not. In other words, Socrates knew better than any other that human understanding always has blind spots. The analysis above was intended to suggest that consumption might be one such blind spot.

####

### 2nc Alt Solvency/AT Consumption-Focus Commodified

#### Consumption-focus allows individuals to reconceptualize money as “votes” – this process creates non-violent revolutionary change to ecological and social practices

Alexander 10

(Samuel, University of Melbourne; Office for Environmental Programs/Simplicity Institute, “Deconstructing the Shed: Where I Live and What I Live For”, *The Concord Saunterer: A Journal of Thoreau Studies*, N.S. Vol. 18, 2010)

When it comes to spending money in accordance with the ethos of simple living, it is also important to bear in mind Vicki Robin’s profound democratic insight: That how we spend our money is how we vote on what exists in the world. Purchasing something sends a message, consciously or unconsciously, to the marketplace, affirming the product, its ecological impact, its process of manufacture, etc. Simple living, therefore, involves shopping as conscientiously as possible, directing one’s monetary “votes” into socially and ecologically responsible avenues and avoiding irresponsible avenues. A tension can arise here, of course, because shopping conscientiously or ethically tends to be (but is not always) more expensive. If it is true, however, that market expenditure is a vote on what exists in the world, then it would seem that the global consumer class has the potential to become a non-violent revolutionary class and change the world, simply by changing its spending habits. *Simplicity is the new spectre haunting capitalism*. Never before have so many people had the option of casting off the chains of consumer culture, stepping out of the rat race, and living in opposition to the existing order of things. Money is power, and with this power comes responsibility. Consumers of the world unite!

### AT: Limitless Energy

#### negative externalities mean even if tech solves in the short term it ultimately damages the environment

Jouvet and de Perthuis 2012 - Paris Ouest Nanterre University and Scientific Director of the Climate Economics Chair AND Professor at Paris-Dauphine University and President of the Climate Economics Chair’s Scientific Committee (June, Pierre-Andre and Christian, “Green Growth: From Intention to Implementation ,” Les Cahiers de la Chaire Economie du Climat n° 15 Information and debates Series, <http://www.chaireeconomieduclimat.org/wp-content/uploads/2012/06/12-06-19-GG-engFINAL.pdf>)

In approaches involving technical progress, it is possible to obtain infinite growth even in an economy whose development is based on a finite resource. Indeed, if we accept that technological progress can continually compensate for the depletion of the resource, then infinite growth is possible. Intuitively, if we use 10 litres of gasoline to drive 100 km, and our gasoline reserve is 100 litres, then without technical progress we can expect to travel a maximum of 1000 km. By introducing technical progress that allows us to drive 500 km on 10 litres of gasoline, then we can go 5000 km. So if we constantly improve our consumption performance then it is not impossible to travel an unlimited distance with the last drop of gasoline: the progress of human intelligence will have find perfect substitutes to ensure our mobility without gasoline. Thus without too much difficulty we can imagine infinite growth in a finite world.

The historical analysis carried out in Part I recalled that beyond limits to growth based on resource depletion, we must turn to externalities. Although technical progress and substitution between factors of production suggest that we can circumvent the depletion of natural resources, there are nonetheless still limits how much the planet can withstand. There is probably more to fear by way of damage to the conditions for reproducing resources, disruption of regulatory systems and loss of biodiversity than the potential depletion of resources. How can we incorporate pollution into our reasoning?

### AT: Sustainability

#### **The ambiguity of sustainable development de-politicizes consumption and directs attention towards technology – only directly challenging consumption produces effective politics**

Princen et al 2

(Thomas, Professor at the School of Natural Resources and Environment at the University of Michigan, Ken Conca, Associate Professor of Government and Politics and Director of the Harrison Program on the Future Global Agenda at the University of Maryland, Michael Maniates, Professor of Environmental Science and Political Science Allegheny College, Confronting Consumption, pgs. 1-2)

Perhaps it is no surprise, then, that comforting terms like sustainable development have come to frame the dominant environmental discourse in North America, where the contributors to this volume live and work. Those who developed the term—a concept that suffused the 1992 Earth Summit in Rio de Janeiro and, to this day, reverberates powerfully through the environmental debate—defined sustainable practice as actions that meet the needs of current populations without endangering the prospects and livelihoods of future generations.1 Just what constitutes the needs of today’s people remains blurred, out of focus, even usefully ambiguous: everyone has become adept at talking about sustainability without having to wade into the treacherous waters of consumption. Consequently, much that is said today in the name of sustainability continues to stress the familiar environmental themes of population (too large), technology (not green enough), and economic growth (not enough of it in the right places). Consumption occasionally enters the discussion, but only in nonthreatening ways, and most often in the form of calls for ‘‘green consumption’’ or in support of some moral imperative to consume recycled or recyclable products. Much of this sustainable development talk steers clear of escalating consumption levels and, especially, the roots of such escalation. In the United States, for example, conventional wisdom casts recycling as a primary mechanism for mass publics to ‘‘save the planet’’ without confronting the hard truth that recycling can be a reward for ever-increasing consumption. Questions about driving forces and the impact of consumption continue to hang there, unaddressed. They are like the proverbial 800-pound gorilla in the living room that almost everyone chooses to ignore.

# 1NR

## T

### Predictable Limits 2NC

#### Including purchase mandates explodes the topic –

#### Nullifies the word “financial” – We added a qualifier to “incentive” in the topic because it could mean ANYTHING – You should prefer an interpretation that explicitly acknowledges that “financial incentives” are only ONE TYPE of incentive, otherwise the topic will be huge.

#### Multiplies every aff by all its different components that the government could purchase. The topic is big enough.

#### Prefer our interpretation – it creates the most predictable set of affs for BOTH teams – Using financial assistance to change a producer’s per-kilowatt bottom line is substantially different than potentially boosting overall profits but creating extra demand. It’s a simple question: does the aff affect supply costs or consumer prices? - That’s Benson

### Ground 2NC

#### Aff’s interpretation destroys neg ground – two internal links

#### Core DAs – voters and markets perceive purchase mandates differently than spending. Mandates are budget-neutral and don’t pick a winner for the WHOLE MARKET – subsidies and tax breaks are qualitatively different. Using non-financial policy allows the aff to skirt core links about financial expenditures

#### Core CPs – the debate between financial and non-financial incentives should be core CP ground, especially questions about the ability of financial incentives for production to influence overall demand. The aff has fiated away one of the most important questions and a key area of competition

#### Also no natural gas argument

### A2: W/M

#### You should take their contextual evidence with a grain of salt – even if it has an “intent to define,” it doesn’t have an intent to COMPARE financial incentives with other types of incentives – this is essential for aff and neg predictability and crafting a non-arbitrary community consensus on the meaning of “financial incentive.”

#### They might be an incentive, but they missed the boat on its qualifiers

#### Aff is a non-financial incentive

Czinkota et al, 9 - Associate Professor at the McDonough School of Business at Georgetown University (Michael, Fundamentals of International Business, p. 69 – google books)

Incentives offered by policymakers to facilitate foreign investments are mainly of three types: fiscal, financial, and nonfinancial. Fiscal incentives are specific tax measures designed to attract foreign investors. They typically consist of special depreciation allowances, tax credits or rebates, special deductions for capital expenditures, tax holidays, and the reduction of tax burdens. Financial incentives offer special funding for the investor by providing, for example, land or buildings, loans, and loan guarantees. Nonfinancial incentives include guaranteed government purchases; special protection from competition through tariffs, import quotas, and local content requirements, and investments in infrastructure facilities.

#### Not an incentive for production

Doris, NREL researcher, 12

(Elizabeth Doris, researcher at the National Renewable Energy Laboratory, “Policy Building Blocks: Helping Policymakers Determine Policy Staging for the Development of Distributed PV Markets,” Paper to be presented at the 2012 World Renewable Energy Forum, 5/13-5/17, <http://www.nrel.gov/docs/fy12osti/54801.pdf>)

3.3 Market Expansion

This stage of policy development targets the development of projects and includes both incentives that attempt to distribute the high first costs of distributed technologies and policies that facilitate project installation. The purpose of this category is to increase the installation of individual projects through monetizing the non-economic benefits of distributed generation for the developer. Because the value of those benefits vary in different contexts, these policies can be politically challenging to put in place and technically challenging to design and implement. There is a large body of literature (encompassing the energy field as well as other fields) that discusses the design and implementation of effective market incentives. Specific policy types include:

• Incentives. In the context of this framework, incentives are defined as direct monetary support for specific project development. Incentives, especially in the current economic environment, can be politically challenging to implement and require detailed design to ensure that they are effectively reaching the intended market at levels that spur development without creating over-subsidization. Because of the complications and expense of these types of policies, they are most used and most cost-effective in environments where the market is prepared for project development. There are three primary types of incentives:

• Investment incentives directly alter the first cost of technologies. These incentives can take the form of grants, rebates, or tax incentives, depending on the market needs. Grants are typically applied to larger scale projects and are paid in advance of development, and so target development that would not take place without advance investment. Rebates are most commonly based on equipment purchases and can be applied at the time of purchase or through a post-purchase mechanism. Tax incentives can be deductions or credits, can be applied to entire installations, and are applied after purchase, annually. Tax incentives target development that does not need direct capital investment, but instead prioritizes reduction in pay-back period.

• Production incentives provide payment for electricity produced from the distributed electricity. These are different from net metering because the aim is not to provide the economic value of electricity sold into the grid, but instead, to monetize the indirect benefits of distributed generation and apply that on a production basis to projects. These incentives do not directly remove the challenge of higher first costs, and so are most effective in situations in which those high first costs can be spread over the course of the project lifetime (e.g., where direct priori investment is not a priority). In the last decade, incentives for distributed generation have tended toward the production type, because it assures the public that the investment is resulting in clean energy development (whereas investment incentives have the potential to be invested in projects that do not materialize).

• Feed-in-Tariffs. This incentive type reduces investment risk by providing fixed payments for projects based on the levelized cost of renewable energy generation. This (among other design characteristics) distinguishes feed-in-tariffs from production-based incentives, which are based on monetizing the value of the electricity to the grid or the value to the electricity purchaser.

#### Here’s more ev – creating a market preference is NOT a financial incentive

Sung-Hoon Lim – Senior Researcher/ Ph.D. – 2000 (last cite)

Foreign Direct Investment Policy and Incentives, Korea Trade-Investment Promotion Agency, http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&ved=0CCIQFjAA&url=http%3A%2F%2Fwww.investkorea.org%2FInvestKoreaWar%2Fwork%2Fik%2Feng%2Flr%2Flr\_down1.jsp%3Ffilename%3D20040102165239\_1.pdf%26path%3D20061206&ei=xRNIUIzKEtS60AGlpYCADw&usg=AFQjCNHIiZDG3SX9W5gjKuMEjhMA1IR2LQ&sig2=pXUztiCNaKxUGEudYKH2fw

In addition to their economic effects, investment incentives can be classified as to their operational flexibility and their point of realization. First, regarding operation flexibility, fiscal incentives, e.g., reduction of the standard corporate income-tax rate, tax holidays, accelerated depreciation, and exemptions from import duties are hard to apply flexible in individual cases of investment. This is because fiscal incentives are based on laws pertaining to such subjects as taxation. Financial incentives, on the other hand, e.g., government grants, subsidized credits and government insurance at preferential rates, and market preference incentives, e.g., granting of monopoly rights, protection from import competition, and preferential government contracts, may be implemented flexibly by a local government through individual negotiations with a foreign investor. In this book, the former are referred to as inflexible incentives and the latter, flexible incentives. In the incentive realization point of view, the financial incentives can be Classified as ex-ante incentives, in which the extent of an incentive such as scope of government grants and preferential rates are determined in the investment decision stage or start-up stage of foreign investors, and materialize the profit to the foreign investors immediately. The market preference incentive also can be classified as an ex-ante incentive, since the extent of benefits such as the permission of market monopoly right and the demand guarantee of specific goods is decided on the incentive negotiation table between a host country's government and foreign investors. In this case, the benefit of incentive takes place and rightfully goes to foreign investors immediately. However, fiscal incentives, which reduce or exempt corporate income tax on their returns to create value-added business activities by foreign investors, can be ex-post incentives in which the extent of benefit takes place after foreign investors’ business performances in proportion them. The classification of investment incentives as objectives for FDI policy, i.e., the economic effects to be achieved by a host country's government, using FDI inducements, and the means, especially incentive types, are indicated in Figure 3. [Figure Omitted]

## CP

## 2NC Condo

**First our offense-**

**1- Critical thinking- Reacting to multiple attacks increases aff ability to evaluate their best arguments and collapsing down teaches the neg to make strategic, reactive decisions- that’s key to decisionmaking skills**

**2- Negative flexibility- The aff gets to parametricize the rez by picking one example- its an inherent advantage because they know way more about their one aff than the neg who has to be prepared for every aff- the only check is to advance multiple cps**

**Now our defense-**

**1 - Not “infinitely” regressive- time limits and quality of argument create a limit. Our interp is: 2 Conditional advocacies**

**2 - Strat and time skew are inev- The alternative to multiple advocacies is more T and Das- those require just as many answers and create strategic double binds too**

**3- To vote aff you have to believe the debate is irreparably damaged by conditionality- it might make debate hard but not impossible**

### Water Argument = Stupid

#### Great plains that’s obviously used for agriculture – they’d have to mandate the use everywhere

## Warming

### Warming

#### Warming is inevitable – status quo CO2 levels linger for hundreds of years which guarantees warming until the year 3000 assuming we completely stop emitting in the status quo – which is impossible and significantly less than what the plan accomplishes – even if CO2 levels somehow decline, positive ocean feedbacks have already been triggered which guarantee warming – that’s Solomon – prefer her study because it cites the most advanced computer modeling and she’s one of the lead IPCC authors – no bias

#### Can’t solve – CO2 stays in the atmosphere for hundreds of years

Mayer Hillman, Senior Fellow at the Policy Studies Institute, 2007

*The Suicidal Planet: How To Prevent Global Climate Catastrophe*, p. 25-6

The effects of climate change cannot quickly be reversed by reducing or even eliminating future emissions of greenhouse gases. There are two reasons for this. First, greenhouse gases released into the atmosphere linger for decades (in the case of relatively short-lived gases like methane), or hundreds of years (for carbon dioxide), or even thousands of years (for the long-lived gases like per-fluorocarbons). Carbon dioxide and methane concentrations in the atmosphere are respectively one-third and more than twice as high as those at any time over the last 650,000 years. Even if no additional carbon dioxide were emitted from now on, atmospheric concentrations would take centuries to decline to pre-Industrial Revolution levels. While elevated levels of greenhouse gases remain in the atmosphere, additional warming will occur.

### CO2 Acid

#### Solomon – Ocean acidification already happening

#### No impact to ocean acidficiation – marine life is resilient and there studies are incomplete

Hendriks, et. Al, ’10 [[I.E. Hendriks](http://www.sciencedirect.com.ezproxy.baylor.edu/science?_ob=RedirectURL&_method=outwardLink&_partnerName=27983&_origin=article&_zone=art_page&_linkType=scopusAuthorDocuments&_targetURL=http%3A%2F%2Fwww.scopus.com%2Fscopus%2Finward%2Fauthor.url%3FpartnerID%3D10%26rel%3D3.0.0%26sortField%3Dcited%26sortOrder%3Dasc%26author%3DHendriks,%2520I.E.%26authorID%3D8646599000%26md5%3Db1126e5dafa84cc3aed0ba078390ee6d&_acct=C000003958&_version=1&_userid=29621&md5=b73b5f6b37cfb25ec6754b5bbb5f04ed), [C.M. Duarte](http://www.sciencedirect.com.ezproxy.baylor.edu/science?_ob=RedirectURL&_method=outwardLink&_partnerName=27983&_origin=article&_zone=art_page&_linkType=scopusAuthorDocuments&_targetURL=http%3A%2F%2Fwww.scopus.com%2Fscopus%2Finward%2Fauthor.url%3FpartnerID%3D10%26rel%3D3.0.0%26sortField%3Dcited%26sortOrder%3Dasc%26author%3DDuarte,%2520C.M.%26authorID%3D35271799200%26md5%3Dc77907b022fa915f0a14e754e6aa66b1&_acct=C000003958&_version=1&_userid=29621&md5=0f0bb4215cd153e9571ad9628b306b19)[a](http://www.sciencedirect.com.ezproxy.baylor.edu/science/article/pii/S027277140900537X#implicit0), and [M. Álvarez](http://www.sciencedirect.com.ezproxy.baylor.edu/science?_ob=RedirectURL&_method=outwardLink&_partnerName=27983&_origin=article&_zone=art_page&_linkType=scopusAuthorDocuments&_targetURL=http%3A%2F%2Fwww.scopus.com%2Fscopus%2Finward%2Fauthor.url%3FpartnerID%3D10%26rel%3D3.0.0%26sortField%3Dcited%26sortOrder%3Dasc%26author%3DAlvarez,%2520M.%26authorID%3D25959834200%26md5%3D6432778b0f4354160b5b45a451551519&_acct=C000003958&_version=1&_userid=29621&md5=55871851bee9d4ea01c08508ea7b6efb)[a](http://www.sciencedirect.com.ezproxy.baylor.edu/science/article/pii/S027277140900537X#implicit0), Department of Global Change Research. IMEDEA (CSIC-UIB), Instituto Mediterráneo de Estudios Avan, “Vulnerability of marine biodiversity to ocean acidification: A meta-analysis” [Estuarine, Coastal and Shelf Science](http://www.sciencedirect.com.ezproxy.baylor.edu/science/journal/02727714), [Volume 86, Issue 2](http://www.sciencedirect.com.ezproxy.baylor.edu/science?_ob=PublicationURL&_tockey=%23TOC%236776%232010%23999139997%231578281%23FLA%23&_cdi=6776&_pubType=J&view=c&_auth=y&_acct=C000003958&_version=1&_urlVersion=0&_userid=29621&md5=6093e28e0040ace4b92c45f2d19d9266), 20 January 2010, Pages 157-164, ]

In summary, our analysis shows that marine biota is more resistant to ocean acidiﬁcation than suggested by pessimistic predictions identifying ocean acidiﬁcation as a major threat to marine biodiversity (Kleypas et al., 1999; Orr et al., 2005; Raven, 2005; Sponberg, 2007; Zondervan et al., 2001), which may not be the widespread problem conjured into the 21st century. Ocean acidiﬁcation will enhance growth of marine autotrophs and reduce fertility and metabolic rates, but effects are likely to be minor along the range of pCO2 predicted for the 21st century, and feedbacks between positive responses of autotrophs and pH may further buffer the impacts. Particularly sensitive processes like calciﬁcation may be affected, while bivalves seem to be most vulnerable to changes in ambient pH. Modellers and chemical oceanographers need to improve their predictions on the impacts of ocean acidiﬁ- cation by incorporating natural variability in pCO2 in marine waters, the small-scale physical processes that detach the organismal chemosphere from the bulk water properties and the potential for homeostasis resulting from active processes at the cellular level. The predictions need also consider how the gradual changes conducive to the changes in pH expected during the 21st century may depart from the impacts extrapolated from experiments involving the sudden exposure of organisms to reduced pH. Ocean acidiﬁcation needs be carefully monitored and its effects better understood, while especially synergistic effects and complex interactions between acidiﬁcation and other stressors need to be studied, as these synergies may amplify the otherwise limited impacts of ocean acidiﬁcation. Science and society should not forget other major threats to marine biodiversity like overﬁshing, habitat destruction, increased nutrient inputs and associated oxygen depletion and warming (Dobson et al., 2006; Jackson et al., 2001; Kennish, 2002; Thomas et al., 2004; Valiela, 2006). The attention that ocean acidiﬁcation as a sole threat to marine biodiversity has drawn recently might not be fully justiﬁed concerning the limited impact of experimental acidiﬁcation on organism processes as shown by the meta-analysis presented here..

### Econ

#### No conflict from economic decline – recession proves

Barnett, 09 – Senior Managing Director of Enterra Solutions LLC, Contributing Editor and Online Columnist for Esquire (Thomas P.M, “The New Rules: Security Remains Stable Amid Financial Crisis,” Aprodex, Asset Protection Index, 8/25/09 <http://www.aprodex.com/the-new-rules--security-remains-stable-amid-financial-crisis-398-bl.aspx>)

When the global financial crisis struck roughly a year ago, the blogosphere was ablaze with all sorts of scary predictions of, and commentary regarding, ensuing conflict and wars -- a rerun of the Great Depression leading to world war, as it were. Now, as global economic news brightens and recovery -- surprisingly led by China and emerging markets -- is the talk of the day, it's interesting to look back over the past year and realize how globalization's first truly worldwide recession has had virtually no impact whatsoever on the international security landscape. None of the more than three-dozen ongoing conflicts listed by GlobalSecurity.org can be clearly attributed to the global recession. Indeed, the last new entry (civil conflict between Hamas and Fatah in the Palestine) predates the economic crisis by a year, and three quarters of the chronic struggles began in the last century. Ditto for the 15 low-intensity conflicts listed by Wikipedia (where the latest entry is the Mexican "drug war" begun in 2006). Certainly, the Russia-Georgia conflict last August was specifically timed, but by most accounts the opening ceremony of the Beijing Olympics was the most important external trigger (followed by the U.S. presidential campaign) for that sudden spike in an almost two-decade long struggle between Georgia and its two breakaway regions. Looking over the various databases, then, we see a most familiar picture: the usual mix of civil conflicts, insurgencies, and liberation-themed terrorist movements. Besides the recent Russia-Georgia dust-up, the only two potential state-on-state wars (North v. South Korea, Israel v. Iran) are both tied to one side acquiring a nuclear weapon capacity -- a process wholly unrelated to global economic trends. And with the United States effectively tied down by its two ongoing major interventions (Iraq and Afghanistan-bleeding-into-Pakistan), our involvement elsewhere around the planet has been quite modest, both leading up to and following the onset of the economic crisis: e.g., the usual counter-drug efforts in Latin America, the usual military exercises with allies across Asia, mixing it up with pirates off Somalia's coast). Everywhere else we find serious instability we pretty much let it burn, occasionally pressing the Chinese -- unsuccessfully -- to do something. Our new Africa Command, for example, hasn't led us to anything beyond advising and training local forces. So, to sum up: No significant uptick in mass violence or unrest (remember the smattering of urban riots last year in places like Greece, Moldova and Latvia?); The usual frequency maintained in civil conflicts (in all the usual places); Not a single state-on-state war directly caused (and no great-power-on-great-power crises even triggered); No great improvement or disruption in great-power cooperation regarding the emergence of new nuclear powers (despite all that diplomacy); A modest scaling back of international policing efforts by the system's acknowledged Leviathan power (inevitable given the strain); and No serious efforts by any rising great power to challenge that Leviathan or supplant its role. (The worst things we can cite are Moscow's occasional deployments of strategic assets to the Western hemisphere and its weak efforts to outbid the United States on basing rights in Kyrgyzstan; but the best include China and India stepping up their aid and investments in Afghanistan and Iraq.) Sure, we've finally seen global defense spending surpass the previous world record set in the late 1980s, but even that's likely to wane given the stress on public budgets created by all this unprecedented "stimulus" spending. If anything, the friendly cooperation on such stimulus packaging was the most notable great-power dynamic caused by the crisis. Can we say that the world has suffered a distinct shift to political radicalism as a result of the economic crisis? Indeed, no. The world's major economies remain governed by center-left or center-right political factions that remain decidedly friendly to both markets and trade. In the short run, there were attempts across the board to insulate economies from immediate damage (in effect, as much protectionism as allowed under current trade rules), but there was no great slide into "trade wars." Instead, the World Trade Organization is functioning as it was designed to function, and regional efforts toward free-trade agreements have not slowed. Can we say Islamic radicalism was inflamed by the economic crisis? If it was, that shift was clearly overwhelmed by the Islamic world's growing disenchantment with the brutality displayed by violent extremist groups such as al-Qaida. And looking forward, austere economic times are just as likely to breed connecting evangelicalism as disconnecting fundamentalism. At the end of the day, the economic crisis did not prove to be sufficiently frightening to provoke major economies into establishing global regulatory schemes, even as it has sparked a spirited -- and much needed, as I argued last week -- discussion of the continuing viability of the U.S. dollar as the world's primary reserve currency. Naturally, plenty of experts and pundits have attached great significance to this debate, seeing in it the beginning of "economic warfare" and the like between "fading" America and "rising" China. And yet, in a world of globally integrated production chains and interconnected financial markets, such "diverging interests" hardly constitute signposts for wars up ahead. Frankly, I don't welcome a world in which America's fiscal profligacy goes undisciplined, so bring it on -- please! Add it all up and it's fair to say that this global financial crisis has proven the great resilience of America's post-World War II international liberal trade order. Do I expect to read any analyses along those lines in the blogosphere any time soon? Absolutely not. I expect the fantastic fear-mongering to proceed apace. That's what the Internet is for.