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### Plan

#### The United States federal government should reduce construction and annual licensing fee restrictions in the United States that prevent expansion of small modular nuclear reactors.

### Contention One is Warming

#### Nuclear’s inevitable globally but won’t solve warming until the US develops SMR’s

Shellenberger 12 – et al and Ted Nordhaus—co-founders of American Environics and the Breakthrough Institute a think tank that works on energy and climate change – AND – Jesse Jenkins-Director of Energy and Climate Policy, the Breakthrough Institute (Michael, Why We Need Radical Innovation to Make New Nuclear Energy Cheap, 9/11, thebreakthrough.org/index.php/programs/energy-and-climate/new-nukes/)

Arguably, the biggest impact of Fukushima on the nuclear debate, ironically, has been to force a growing number of pro-nuclear environmentalists out of the closet, including us. The reaction to the accident by anti-nuclear campaigners and many Western publics put a fine point on the gross misperception of risk that informs so much anti-nuclear fear. Nuclear remains the only proven technology capable of reliably generating zero-carbon energy at a scale that can have any mpact on global warming. Climate change -- and, for that matter, the enormous present-day health risks associated with burning coal, oil, and gas -- simply dwarf any legitimate risk associated with the operation of nuclear power plants. About 100,000 people die every year due to exposure to air pollutants from the burning of coal. By contrast, about 4,000 people have died from nuclear energy -- ever -- almost entirely due to Chernobyl.¶ But rather than simply lecturing our fellow environmentalists about their misplaced priorities, and how profoundly inadequate present-day renewables are as substitutes for fossil energy, we would do better to take seriously the real obstacles standing in the way of a serious nuclear renaissance. Many of these obstacles have nothing to do with the fear-mongering of the anti-nuclear movement or, for that matter, the regulatory hurdles imposed by the U.S. Nuclear Regulatory Commission and similar agencies around the world.¶ As long as nuclear technology is characterized by enormous upfront capital costs, it is likely to remain just a hedge against overdependence on lower-cost coal and gas, not the wholesale replacement it needs to be to make a serious dent in climate change. Developing countries need large plants capable of bringing large amounts of new power to their fast-growing economies. But they also need power to be cheap. So long as coal remains the cheapest source of electricity in the developing world, it is likely to remain king.¶ The most worrying threat to the future of nuclear isn't the political fallout from Fukushima -- it's economic reality. Even as new nuclear plants are built in the developing world, old plants are being retired in the developed world. For example, Germany's plan to phase-out nuclear simply relies on allowing existing plants to be shut down when they reach the ends of their lifetime. Given the size and cost of new conventional plants today, those plants are unlikely to be replaced with new ones. As such, the combined political and economic constraints associated with current nuclear energy technologies mean that nuclear energy's share of global energy generation is unlikely to grow in the coming decades, as global energy demand is likely to increase faster than new plants can be deployed.¶ To move the needle on nuclear energy to the point that it might actually be capable of displacing fossil fuels, we'll need new nuclear technologies that are cheaper and smaller. Today, there are a range of nascent, smaller nuclear power plant designs, some of them modifications of the current light-water reactor technologies used on submarines, and others, like thorium fuel and fast breeder reactors, which are based on entirely different nuclear fission technologies. Smaller, modular reactors can be built much faster and cheaper than traditional large-scale nuclear power plants. Next-generation nuclear reactors are designed to be incapable of melting down, produce drastically less radioactive waste, make it very difficult or impossible to produce weapons grade material, useless water, and require less maintenance.¶ Most of these designs still face substantial technical hurdles before they will be ready for commercial demonstration. That means a great deal of research and innovation will be necessary to make these next generation plants viable and capable of displacing coal and gas. The United States could be a leader on developing these technologies, but unfortunately U.S. nuclear policy remains mostly stuck in the past. Rather than creating new solutions, efforts to restart the U.S. nuclear industry have mostly focused on encouraging utilities to build the next generation of large, light-water reactors with loan guarantees and various other subsidies and regulatory fixes. With a few exceptions, this is largely true elsewhere around the world as well.¶ Nuclear has enjoyed bipartisan support in Congress for more than 60 years, but the enthusiasm is running out. The Obama administration deserves credit for authorizing funding for two small modular reactors, which will be built at the Savannah River site in South Carolina. But a much more sweeping reform of U.S. nuclear energy policy is required. At present, the Nuclear Regulatory Commission has little institutional knowledge of anything other than light-water reactors and virtually no capability to review or regulate alternative designs. This affects nuclear innovation in other countries as well, since the NRC remains, despite its many critics, the global gold standard for thorough regulation of nuclear energy. Most other countries follow the NRC's lead when it comes to establishing new technical and operational standards for the design, construction, and operation of nuclear plants.¶ What's needed now is a new national commitment to the development, testing, demonstration, and early stage commercialization of a broad range of new nuclear technologies -- from much smaller light-water reactors to next generation ones -- in search of a few designs that can be mass produced and deployed at a significantly lower cost than current designs. This will require both greater public support for nuclear innovation and an entirely different regulatory framework to review and approve new commercial designs.¶ In the meantime, developing countries will continue to build traditional, large nuclear power plants. But time is of the essence. With the lion's share of future carbon emissions coming from those emerging economic powerhouses, the need to develop smaller and cheaper designs that can scale faster is all the more important.¶ A true nuclear renaissance can't happen overnight. And it won't happen so long as large and expensive light-water reactors remain our only option. But in the end, there is no credible path to mitigating climate change without a massive global expansion of nuclear energy. If you care about climate change, nothing is more important than developing the nuclear technologies we will need to get that job done.

#### Nuclear’s critical to displace coal and stop catastrophic climate change

Moore 4—co-founder of Greenpeace, is chairman and chief scientist of Greenspirit Strategies Ltd. (Patrick, Going Nuclear, <http://www.washingtonpost.com/wp-dyn/content/article/2006/04/14/AR2006041401209.html>)

In the early 1970s when I helped found Greenpeace, I believed that nuclear energy was synonymous with nuclear holocaust, as did most of my compatriots. That's the conviction that inspired Greenpeace's first voyage up the spectacular rocky northwest coast to protest the testing of U.S. hydrogen bombs in Alaska's Aleutian Islands. Thirty years on, my views have changed, and the rest of the environmental movement needs to update its views, too, because nuclear energy may just be the energy source that can save our planet from another possible disaster: catastrophic climate change.¶ Look at it this way: More than 600 coal-fired electric plants in the United States produce 36 percent of U.S. emissions -- or nearly 10 percent of global emissions -- of CO2, the primary greenhouse gas responsible for climate change. Nuclear energy is the only large-scale, cost-effective energy source that can reduce these emissions while continuing to satisfy a growing demand for power. And these days it can do so safely.¶ I say that guardedly, of course, just days after Iranian President Mahmoud Ahmadinejad announced that his country had enriched uranium. "The nuclear technology is only for the purpose of peace and nothing else," he said. But there is widespread speculation that, even though the process is ostensibly dedicated to producing electricity, it is in fact a cover for building nuclear weapons.¶ And although I don't want to underestimate the very real dangers of nuclear technology in the hands of rogue states, we cannot simply ban every technology that is dangerous. That was the all-or-nothing mentality at the height of the Cold War, when anything nuclear seemed to spell doom for humanity and the environment. In 1979, Jane Fonda and Jack Lemmon produced a frisson of fear with their starring roles in "The China Syndrome," a fictional evocation of nuclear disaster in which a reactor meltdown threatens a city's survival. Less than two weeks after the blockbuster film opened, a reactor core meltdown at Pennsylvania's Three Mile Island nuclear power plant sent shivers of very real anguish throughout the country.¶ What nobody noticed at the time, though, was that Three Mile Island was in fact a success story: The concrete containment structure did just what it was designed to do -- prevent radiation from escaping into the environment. And although the reactor itself was crippled, there was no injury or death among nuclear workers or nearby residents. Three Mile Island was the only serious accident in the history of nuclear energy generation in the United States, but it was enough to scare us away from further developing the technology: There hasn't been a nuclear plant ordered up since then.¶ Today, there are 103 nuclear reactors quietly delivering just 20 percent of America's electricity. Eighty percent of the people living within 10 miles of these plants approve of them (that's not including the nuclear workers). Although I don't live near a nuclear plant, I am now squarely in their camp.¶ And I am not alone among seasoned environmental activists in changing my mind on this subject. British atmospheric scientist James Lovelock, father of the Gaia theory, believes that nuclear energy is the only way to avoid catastrophic climate change. Stewart Brand, founder of the "Whole Earth Catalog," says the environmental movement must embrace nuclear energy to wean ourselves from fossil fuels. On occasion, such opinions have been met with excommunication from the anti-nuclear priesthood: The late British Bishop Hugh Montefiore, founder and director of Friends of the Earth, was forced to resign from the group's board after he wrote a pro-nuclear article in a church newsletter.¶ There are signs of a new willingness to listen, though, even among the staunchest anti-nuclear campaigners. When I attended the Kyoto climate meeting in Montreal last December, I spoke to a packed house on the question of a sustainable energy future. I argued that the only way to reduce fossil fuel emissions from electrical production is through an aggressive program of renewable energy sources (hydroelectric, geothermal heat pumps, wind, etc.) plus nuclear. The Greenpeace spokesperson was first at the mike for the question period, and I expected a tongue-lashing. Instead, he began by saying he agreed with much of what I said -- not the nuclear bit, of course, but there was a clear feeling that all options must be explored.¶ Here's why: Wind and solar power have their place, but because they are intermittent and unpredictable they simply can't replace big baseload plants such as coal, nuclear and hydroelectric. Natural gas, a fossil fuel, is too expensive already, and its price is too volatile to risk building big baseload plants. Given that hydroelectric resources are built pretty much to capacity, nuclear is, by elimination, the only viable substitute for coal. It's that simple.¶ That's not to say that there aren't real problems -- as well as various myths -- associated with nuclear energy. Each concern deserves careful consideration:¶ · Nuclear energy is expensive. It is in fact one of the least expensive energy sources. In 2004, the average cost of producing nuclear energy in the United States was less than two cents per kilowatt-hour, comparable with coal and hydroelectric. Advances in technology will bring the cost down further in the future.¶ · Nuclear plants are not safe. Although Three Mile Island was a success story, the accident at Chernobyl, 20 years ago this month, was not. But Chernobyl was an accident waiting to happen. This early model of Soviet reactor had no containment vessel, was an inherently bad design and its operators literally blew it up. The multi-agency U.N. Chernobyl Forum reported last year that 56 deaths could be directly attributed to the accident, most of those from radiation or burns suffered while fighting the fire. Tragic as those deaths were, they pale in comparison to the more than 5,000 coal-mining deaths that occur worldwide every year. No one has died of a radiation-related accident in the history of the U.S. civilian nuclear reactor program. (And although hundreds of uranium mine workers did die from radiation exposure underground in the early years of that industry, that problem was long ago corrected.)¶ · Nuclear waste will be dangerous for thousands of years. Within 40 years, used fuel has less than one-thousandth of the radioactivity it had when it was removed from the reactor. And it is incorrect to call it waste, because 95 percent of the potential energy is still contained in the used fuel after the first cycle. Now that the United States has removed the ban on recycling used fuel, it will be possible to use that energy and to greatly reduce the amount of waste that needs treatment and disposal. Last month, Japan joined France, Britain and Russia in the nuclear-fuel-recycling business. The United States will not be far behind.¶ · Nuclear reactors are vulnerable to terrorist attack. The six-feet-thick reinforced concrete containment vessel protects the contents from the outside as well as the inside. And even if a jumbo jet did crash into a reactor and breach the containment, the reactor would not explode. There are many types of facilities that are far more vulnerable, including liquid natural gas plants, chemical plants and numerous political targets.¶ · Nuclear fuel can be diverted to make nuclear weapons. This is the most serious issue associated with nuclear energy and the most difficult to address, as the example of Iran shows. But just because nuclear technology can be put to evil purposes is not an argument to ban its use.¶ Over the past 20 years, one of the simplest tools -- the machete -- has been used to kill more than a million people in Africa, far more than were killed in the Hiroshima and Nagasaki nuclear bombings combined. What are car bombs made of? Diesel oil, fertilizer and cars. If we banned everything that can be used to kill people, we would never have harnessed fire.¶ The only practical approach to the issue of nuclear weapons proliferation is to put it higher on the international agenda and to use diplomacy and, where necessary, force to prevent countries or terrorists from using nuclear materials for destructive ends. And new technologies such as the reprocessing system recently introduced in Japan (in which the plutonium is never separated from the uranium) can make it much more difficult for terrorists or rogue states to use civilian materials to manufacture weapons.¶ The 600-plus coal-fired plants emit nearly 2 billion tons of CO2annually -- the equivalent of the exhaust from about 300 million automobiles. In addition, the Clean Air Council reports that coal plants are responsible for 64 percent of sulfur dioxide emissions, 26 percent of nitrous oxides and 33 percent of mercury emissions. These pollutants are eroding the health of our environment, producing acid rain, smog, respiratory illness and mercury contamination.¶ Meanwhile, the 103 nuclear plants operating in the United States effectively avoid the release of 700 million tons of CO2emissions annually -- the equivalent of the exhaust from more than 100 million automobiles. Imagine if the ratio of coal to nuclear were reversed so that only 20 percent of our electricity was generated from coal and 60 percent from nuclear. This would go a long way toward cleaning the air and reducing greenhouse gas emissions. Every responsible environmentalist should support a move in that direction.

#### The plan solves the only major roadblock to the creation of a robust domestic SMR industry

Loris 11 Nicolas D, Research Associate in the Roe Institute, Jack Spencer – Research Fellow in Nuclear Energy in the Thomas A. Roe Institute for Economic Policy Studies, Currently is The Heritage Foundation’s senior research fellow in nuclear energy policy, Previously worked on commercial, civilian and military components of nuclear energy at the Babcock & Wilcox Companies, Holds a bachelor's degree in international politics from Frostburg State University and a master's degree from the University of Limerick, “A Big Future for Small Nuclear Reactors?”, February 2, http://www.heritage.org/research/reports/2011/02/a-big-future-for-small-nuclear-reactors

Abstract: More and more companies—in the U.S. and abroad—are investing in new commercial nuclear enterprises, chief among them, small modular reactors (SMRs). The SMR industry is growing, with many promising developments in the works—which is precisely why the government should not interfere, as subsidies and government programs have already resulted in an inefficient system for large reactors. Heritage Foundation nuclear policy experts explain how the future for small reactors can remain bright.¶ Small modular reactors (SMRs) have garnered significant attention in recent years, with companies of all sizes investing in these smaller, safer, and more cost-efficient nuclear reactors. Utilities are even forming partnerships with reactor designers to prepare for potential future construction. Perhaps most impressive is that most of this development is occurring without government involvement. Private investors and entrepreneurs are dedicating resources to these technologies based on their future prospects, not on government set-asides, mandates, or subsidies, and despite the current regulatory bias in favor of large light water reactors (LWRs).¶ The result is a young, robust, innovative, and growing SMR industry. Multiple technologies are being proposed that each have their own set of characteristics based on price, fuel, waste characteristics, size, and any number of other variables. To continue this growth, policymakers should reject the temptation to offer the same sort of subsidies and government programs that have proven ineffective for large LWRs. While Department of Energy cost-sharing programs and capital subsidies seem attractive, they have yet to net any new reactor construction. Instead, policymakers should focus on the systemic issues that have continued to thwart the expansion of nuclear power in recent years. Specifically, the federal government needs to develop an efficient and predictable regulatory pathway to new reactor certification and to develop a sustainable nuclear waste management strategy.¶ Why SMRs?¶ Small modular reactors share many of the attractive qualities of large reactors, such as providing abundant emissions-free power, while adding new features that could make them more appropriate for certain applications, such as providing power to rural communities or for dedicated industrial use. SMRs are not yet positioned to take the place of traditional large LWRs, but they represent an important growth area for the commercial nuclear industry.¶ Indeed, should the promise of small modular reactors be realized, the technology could transform the nuclear industry. That is because these attributes would potentially mitigate some of the financial and regulatory problems that nuclear energy has recently faced. SMRs potentially cost less (at least in up-front capital), are more mobile and multifunctional, provide competition, and can largely be produced by existing domestic infrastructure.¶ Lower Costs Up Front. Large reactors are very expensive to license and construct and require massive up-front capital investments to begin a project. Small reactors, while providing far less power than large reactors, can be built in modules and thus be paid for over time. For example, estimates for larger reactors range from $6 billion to $10 billion and must be financed all at once. The Babcock & Wilcox Company’s modular mPower reactors, alternatively, can be purchased in increments of 125 megawatts (MW), which would allow costs to be spread out over time. Though cost estimates are not yet available for the mPower reactor, its designers have stated that they will be competitive. This should not be used as a reason to refrain from building larger, 1,000-plus MW reactors. Each utility will have its own set of variables that it must consider in choosing a reactor technology, but given that one of the primary justifications for government subsidies is that the high costs of large reactors puts unacceptable strain on utility balance sheets, an option that spreads capital outlays over time should be attractive.¶ Safe Installation in Diverse Locations. Some designs are small enough to produce power for as few as 20,000 homes. One such reactor, Hyperion Power’s HPM (Hyperion Power Module) offers 25 MW of electricity for an advertised cost of $50 million per unit. This makes the HPM a potential power solution for isolated communities or small cities.[1] The Alaskan town of Galena, for example, is planning to power its community with a small reactor designed by Toshiba, while Fairbanks is looking into a small plant constructed by Hyperion.[2] In addition, Western Troy Capital Resources has stated that it will form a private corporation to provide electric power from small reactors for remote locations in Canada.[3] Public utility officials in Grays Harbor, Washington, have spoken with the NuScale Power company about powering the community with eight small nuclear plants;[4] and Hyperion Power has reported a high level of interest in small nuclear reactor designs from islands around the world.[5]¶ Using a small nuclear reactor could cut electricity costs in isolated areas since there would be no need for expensive transmission lines to carry power to remote locations.[6] SMRs could also potentially be integrated into existing energy infrastructure. SMRs could be built into old coal plants, for instance. The reactors would replace the coal boilers and be hooked into the existing turbines and distribution lines. According to the Nuclear Regulatory Commission, these modifications could be completed safely since small reactors will likely be easier to control during times of malfunction.[7]¶ Multi-functionality. SMRs can be used in a variety of applications that have substantial power and heat requirements. The chemical and plastics industries and oil refineries all use massive amounts of natural gas to fuel their operations. Similarly, small reactors could produce the heat needed to extract oil from tar sands, which currently requires large amounts of natural gas. While affordable today, natural gas prices vary significantly over time, so the long-term predictable pricing that nuclear provides could be very attractive. SMRs may also provide a practical solution for desalination plants (which require large amounts of electricity) that can bring fresh water to parts of the world where such supplies are depleting.[8] Perhaps most important, is that SMRs have the potential to bring power and electricity to the 1.6 billion people in the world today that have no access to electricity, and to the 2.4 billion that rely on biomass, such as wood, agricultural residue, and dung for cooking and heating.[9]¶ Competition. While competition among large nuclear-reactor technologies currently exists, small reactors will add a new dimension to nuclear-reactor competition. Multiple small technology designs are set to emerge on the market. Not only will competition among small reactors create a robust market, it will also provide an additional incentive for large reactors to improve. If smaller reactors begin to capture a share of the nuclear market and the energy market at large, it will drive innovation and ultimately lower prices for both new and existing technologies.¶ Domestic Production. Although the nuclear industry necessarily shrank to coincide with decreased demand, much of the domestic infrastructure remains in place today and could support the expansion of small-reactor technologies. Although the industrial and intellectual base has declined over the past three decades, forging production, heavy manufacturing, specialized piping, mining, fuel services, and skilled labor could all be found in the United States. Lehigh Heavy Forge Corporation in Bethlehem, Pennsylvania, could build the forges while Babcock & Wilcox could provide the heavy nuclear components, for instance. AREVA/Northrop Grumman Shipbuilding broke ground on a heavy components manufacturing facility last June.[10] Further, a number of companies are expanding manufacturing, engineering, and uranium enrichment capabilities—all in the United States.¶ If SMRs are so great, where is the construction?¶ While some designs are closer to market introduction than others, the fact is that America’s regulatory and policy environment is not sufficient to support a robust expansion of existing nuclear technologies, much less new ones. New reactor designs are difficult to license efficiently, and the lack of a sustainable nuclear waste management policy causes significant risk to private investment.¶ Many politicians are attempting to mitigate these market challenges by offering subsidies, such as loan guarantees. While this approach still enjoys broad support in Congress and industry, the reality is that it has not worked. Despite a lavish suite of subsidies offered in the Energy Policy Act of 2005, including loan guarantees, insurance against government delays, and production tax credits, no new reactors have been permitted, much less constructed. These subsidies are in addition to existing technology development cost-sharing programs that have been in place for years and defer significant research and development costs from industry to the taxpayer.¶ The problem with this approach is that it ignores the larger systemic problems that create the unstable marketplace to begin with. These systemic problems generally fall into three categories:¶ Licensing. The Nuclear Regulatory Commission (NRC) is ill prepared to build the regulatory framework for new reactor technologies, and no reactor can be offered commercially without an NRC license. In a September 2009 interview, former NRC chairman Dale E. Klein said that small nuclear reactors pose a dilemma for the NRC because the commission is uneasy with new and unproven technologies and feels more comfortable with large light water reactors, which have been in operation for years and has a long safety record.[11] The result is that enthusiasm for building non-light-water SMRs is generally squashed at the NRC as potential customers realize that there is little chance that the NRC will permit the project within a timeframe that would promote near-term investment. So, regardless of which attributes an SMR might bring to the market, the regulatory risk is such that real progress on commercialization is difficult to attain. This then leaves large light water reactors, and to a lesser extent, small ones, as the least risky option, which pushes potential customers toward that technology, which then undermines long-term progress, competition, and innovation.¶ Nuclear Waste Management. The lack of a sustainable nuclear waste management solution is perhaps the greatest obstacle to a broad expansion of U.S. nuclear power. The federal government has failed to meet its obligations under the 1982 Nuclear Waste Policy Act, as amended, to begin collecting nuclear waste for disposal in Yucca Mountain. The Obama Administration’s attempts to shutter the existing program to put waste in Yucca Mountain without having a backup plan has worsened the situation. This outcome was predictable because the current program is based on the flawed premise that the federal government is the appropriate entity to manage nuclear waste. Under the current system, waste producers are able to largely ignore waste management because the federal government is responsible. The key to a sustainable waste management policy is to directly connect financial responsibility for waste management to waste production. This will increase demand for more waste-efficient reactor technologies and drive innovation on waste-management technologies, such as reprocessing. Because SMRs consume fuel and produce waste differently than LWRs, they could contribute greatly to an economically efficient and sustainable nuclear waste management strategy.¶ Government Intervention. Too many policymakers believe that Washington is equipped to guide the nuclear industry to success. So, instead of creating a stable regulatory environment where the market value of different nuclear technologies can determine their success and evolution, they choose to create programs to help industry succeed. Two recent Senate bills from the 111th Congress, the Nuclear Energy Research Initiative Improvement Act (S. 2052) and the Nuclear Power 2021 Act (S. 2812), are cases in point. Government intervention distorts the normal market processes that, if allowed to work, would yield the most efficient, cost-effective, and appropriate nuclear technologies. Instead, the federal government picks winners and losers through programs where bureaucrats and well-connected lobbyists decide which technologies are permitted, and provides capital subsidies that allow investors to ignore the systemic problems that drive risk and costs artificially high. This approach is especially detrimental to SMRs because subsidies to LWRs distort the relative benefit of other reactor designs by artificially lowering the cost and risk of a more mature technology that already dominates the marketplace.¶ How to Fix a Broken System¶ At the Global Nuclear Renaissance Summit on July 24, 2008, then-NRC chairman Dale Klein said that a nuclear renaissance with regard to small reactors will take “decades to unfold.”[12] If Members of Congress and government agencies do not reform their current approach to nuclear energy, this will most certainly be the case. However, a new, market-based approach could lead to a different outcome. Instead of relying on the policies of the past, Congress, the Department of Energy, and the NRC should pursue a new, 21st-century model for small and alternative reactor technologies by doing the following:¶ Reject additional loan guarantees. Loan guarantee proponents argue that high up-front costs of new large reactors make them unaffordable without loan guarantees. Presumably, then, a smaller, less expensive modular option would be very attractive to private investors even without government intervention. But loan guarantees undermine this advantage by subsidizing the capital costs and risk associated with large reactors. A small reactor industry without loan guarantees would also provide competition and downward price pressure on large light water reactors. At a minimum, Congress should limit guarantees to no more than two plants of any reactor design and limit to two-thirds the amount of any expanded loan guarantee program that can support a single technology. Such eligibility limits will prevent support from going only to a single basic technology, such as large light water reactors.[13]¶ Avoid subsidies. Subsidies do not work if the objective is a diverse and economically sustainable nuclear industry. Despite continued attempts to subsidize the nuclear industry into success, the evidence demonstrates that such efforts invariably fail. The nuclear industry’s success stories are rooted in the free market. Two examples include the efficiency and low costs of today’s existing plants, and the emergence of a private uranium enrichment industry. Government intervention is the problem, as illustrated by the government’s inability to meet its nuclear waste disposal obligations.¶ Build expertise at the Nuclear Regulatory Commission. The NRC is built to regulate large light water reactors. It simply does not have the regulatory capability and resources to efficiently regulate other technologies, and building that expertise takes time. Helping the NRC to develop that expertise now would help bring new technologies into the marketplace more smoothly. Congress should direct and resource the NRC to develop additional broad expertise for liquid metal-cooled, fast reactors and high-temperature, gas-cooled reactors. With its existing expertise in light water technology, this additional expertise would position the NRC to effectively regulate an emerging SMR industry.¶ Establish a new licensing pathway. The current licensing pathway relies on reactor customers to drive the regulatory process. But absent an efficient and predictable regulatory pathway, few customers will pursue these reactor technologies. The problem is that the legal, regulatory, and policy apparatus is built to support large light water reactors, effectively discriminating against other technologies. Establishing an alternative licensing pathway that takes the unique attributes of small reactors into consideration could help build the necessary regulatory support on which commercialization ultimately depends.[14]¶ Resolve staffing, security, construction criteria, and fee-structure issues by December 31, 2011. The similarity of U.S. reactors has meant that the NRC could establish a common fee structure and many general regulatory guidelines for areas, such as staffing levels, security requirements, and construction criteria. But these regulations are inappropriate for many SMR designs that often have smaller staff requirements, unique control room specifications, diverse security requirements, and that employ off-site construction techniques. Subjecting SMRs to regulations built for large light water reactors would add cost and result in less effective regulation. The NRC has acknowledged the need for this to be resolved and has committed to doing so, including developing the budget requirements to achieve it. It has not committed to a specific timeline.[15] Congress should demand that these issues be resolved by the end of 2011.

#### SMRs can reprocess and solve waste

Biello 12 David, March 27, "Small Reactors Make a Bid to Revive Nuclear Power", www.scientificamerican.com/article.cfm?id=small-reactors-bid-to-revive-nuclear-power

Alternative fuel?¶ Small modular reactors may help with two of the biggest challenges facing the nuclear industry: the growing stores of waste from existing reactors and residue from the mass production of nuclear weapons as well as the overall safety of nuclear power. GE's PRISM fast reactor, General Atomic's helium-cooled fast reactor, or Hyperion Power's liquid lead-bismuth cooled reactor could all turn waste into fuel. Hyperion hopes to demonstrate its reactor, capable of generating 25 megawatts of electricity, at the Savannah River National Laboratory in South Carolina. The site has also signed memorandums of understanding to host prototypes of the NuScale and Holtech reactors.

#### SMRs are feasible, safer and solve other nuclear downsides

Ringle 10 John, Professor Emeritus of Nuclear Engineering at Oregon State University, "Reintroduction of reactors in US a major win", November 13, robertmayer.wordpress.com/2010/11/21/reintroduction-of-reactors-in-us-a-major-win/

Small nuclear reactors will probably be the mechanism that ushers in nuclear power’s renaissance in the U.S.¶ Nuclear plants currently supply about 20 percent of the nation’s electricity and more than 70 percent of our carbon-free energy. But large nuclear plants cost $8 billion to $10 billion and utilities are having second thoughts about how to finance these plants.¶ A small modular reactor (SMR) has several advantages over the conventional 1,000-megawatt plant:¶ 1. It ranges in size from 25 to 140 megawatts, hence only costs about a tenth as much as a large plant.¶ 2. It uses a cookie-cutter standardized design to reduce construction costs and can be built in a factory and shipped to the site by truck, railroad or barge.¶ 3. The major parts can be built in U.S. factories, unlike some parts for the larger reactors that must be fabricated overseas.¶ 4. Because of the factory-line production, the SMR could be built in three years with one-third of the workforce of a large plant.¶ 5. More than one SMR could be clustered together to form a larger power plant complex. This provides versatility in operation, particularly in connection with large wind farms. With the variability of wind, one or more SMRs could be run or shut down to provide a constant base load supply of electricity.¶ 6. A cluster of SMRs should be very reliable. One unit could be taken out of service for maintenance or repair without affecting the operation of the other units. And since they are all of a common design, replacement parts could satisfy all units. France has already proved the reliability of standardized plants.¶ At least half a dozen companies are developing SMRs, including NuScale in Oregon. NuScale is American-owned and its 45-megawatt design has some unique features. It is inherently safe. It could be located partially or totally below ground, and with its natural convection cooling system, it does not rely on an elaborate system of pumps and valves to provide safety. There is no scenario in which a loss-of-coolant accident could occur.

#### Scientific consensus concludes warming is real, anthropogenic, and will be catastrophic if left unchecked

Flournoy 12 –Dan Flournoy, PhD and MA from the University of Texas, Former Dean of the University College at Ohio University, Former Associate Dean at State University of New York and Case Institute of Technology, Project Manager for University/Industry Experiments for the NASA ACTS Satellite, Currently Professor of Telecommunications at Scripps College of Communications @ Ohio University, January 2012, "Solar Power Satellites," Springer Briefs in Space Development

In the Online Journal of Space Communication , Dr. Feng Hsu, a NASA scientist at Goddard Space Flight Center, a research center in the forefront of science of space and Earth, writes, “The **evidence of global warming is alarming**,” noting the potential for a catastrophic planetary climate change is real and troubling (Hsu 2010 ) . Hsu and his NASA colleagues were engaged in monitoring and analyzing climate changes on a global scale, through which they received first-hand scientific information and data relating to global warming issues, including the dynamics of polar ice cap melting. After discussing this research with colleagues who were world experts on the subject, he wrote: I now have no doubt global temperatures are rising, and that global warming is a serious problem confronting all of humanity. No matter whether these trends are due to human interference or to the cosmic cycling of our solar system, there are two basic facts that are crystal clear: (a) there is overwhelming scientific evidence showing **positive correlations between the level of CO2 concentrations** in Earth’s atmosphere **with respect to** the historical **fluctuations of global temperature** changes; and (b) the overwhelming majority of the world’s scientific community is in agreement about the risks of a potential catastrophic global climate change. That is, if we humans continue to ignore this problem and do nothing, if we continue dumping huge quantities of greenhouse gases into Earth’s biosphere, humanity will be at dire risk (Hsu 2010 ) . As a technology risk assessment expert, Hsu says he can show with some confidence that the planet will face more risk doing nothing to curb its fossil-based energy addictions than it will in making a fundamental shift in its energy supply. “This,” he writes, “is because the risks of a catastrophic anthropogenic climate change can be potentially the **extinction of human species**, a risk that is simply too high for us to take any chances” (Hsu 2010 ) . It was this NASA scientist’s conclusion that humankind must now embark on the next era of “sustainable energy consumption and re-supply, the most obvious source of which is the mighty energy resource of our Sun” (Hsu 2010 ) (Fig . 2.1 ).

#### It is not too late to reverse warming – taking action now is critical – the alternative to reducing emissions is mass death

Nuccitelli 12 – Dana, environmental scientist at a private environmental consulting firm in Sacramento and has a Bachelor's Degree in astrophysics from the University of California at Berkeley, and a Master's Degree in physics from the University of California at Davis, 2012, “Realistically What Might The Future Climate Look Like?”, http://thinkprogress.org/climate/2012/09/01/784931/realistically-what-might-the-future-climate-look-like/

This is Why Reducing Emissions is Critical¶ We’re not yet committed to surpassing 2°C global warming, but as Watson noted, we are quickly running out of time to realistically give ourselves a chance to stay below that ‘danger limit’. However, 2°C is not a do-or-die threshold. Every bit of CO2 emissions we can reduce means that much avoided future warming, which means that much avoided climate change impacts. As Lonnie Thompson noted, the more global warming we manage to mitigate, the less adaption and suffering we will be forced to cope with in the future.¶ Realistically, based on the current political climate (which we will explore in another post next week), limiting global warming to 2°C is probably the best we can do. However, there is a big difference between 2°C and 3°C, between 3°C and 4°C, and anything greater than 4°C can probably accurately be described as catastrophic, since various tipping points are expected to be triggered at this level. Right now, we are on track for the catastrophic consequences (widespread coral mortality, mass extinctions, hundreds of millions of people adversely impacted by droughts, floods, heat waves, etc.). But we’re not stuck on that track just yet, and we need to move ourselves as far off of it as possible by reducing our greenhouse gas emissions as soon and as much as possible.¶ There are of course many people who believe that the planet will not warm as much, or that the impacts of the associated climate change will be as bad as the body of scientific evidence suggests. That is certainly a possiblity, and we very much hope that their optimistic view is correct. However, what we have presented here is the best summary of scientific evidence available, and it paints a very bleak picture if we fail to rapidly reduce our greenhouse gas emissions.¶ If we continue forward on our current path, catastrophe is not just a possible outcome, it is the most probable outcome. And an intelligent risk management approach would involve taking steps to prevent a catastrophic scenario if it were a mere possibility, let alone the most probable outcome. This is especially true since the most important component of the solution – carbon pricing – can be implemented at a relatively low cost, and a far lower cost than trying to adapt to the climate change consequences we have discussed here (Figure 4).¶ Climate contrarians will often mock ‘CAGW’ (catastrophic anthropogenic global warming), but the sad reality is that CAGW is looking more and more likely every day. But it’s critical that we don’t give up, that we keep doing everything we can do to reduce our emissions as much as possible in order to avoid as many catastrophic consequences as possible, for the sake of future generations and all species on Earth. The future climate will probably be much more challenging for life on Earth than today’s, but we still can and must limit the damage.

### Contention Two is Advocacy

#### Debating energy policy joins members of different fields and philosophies to create a consciousness shift towards sustainable environmental policy – how students are trained matters immensely to public policy

Crist 4 (Eileen, Professor at Virginia Tech in the Department of Science and Technology, “Against the social construction of nature and wilderness”, Environmental Ethics 26;1, p 13-6, http://www.sts.vt.edu/faculty/crist/againstsocialconstruction.pdf)

Yet, constructivist analyses of "nature" favor remaining in the comfort zone of zestless agnosticism and noncommittal meta-discourse. As David Kidner suggests, this intellectual stance may function as a mechanism against facing the devastation of the biosphere—an undertaking long underway but gathering momentum with the imminent bottlenecking of a triumphant global consumerism and unprecedented population levels. Human-driven extinction—in the ballpark of Wilson's estimated 27,000 species per year—is so unthinkable a fact that choosing to ignore it may well be the psychologically risk-free option.¶ Nevertheless, this is the opportune historical moment for intellectuals in the humanities and social sciences to join forces with conservation scientists in order to help create the consciousness shift and policy changes to stop this irreversible destruction. Given this outlook, how students in the human sciences are trained to regard scientific knowledge, and what kind of messages percolate to the public from the academy about the nature of scientific findings, matter immensely. The "agnostic stance" of constructivism toward "scientific claims" about the environment—a stance supposedly mandatory for discerning how scientific knowledge is "socially assembled"[32]—is, to borrow a legendary one-liner, striving to interpret the world at an hour that is pressingly calling us to change it.

#### Switch side debate empirically inculcates portable skills that lead to better energy policy – it gives voice to buried arguments and challenges bias and institutional affiliations

Mitchell 10 (Gordon R, Associate Professor and Director of Graduate Studies in the Department of Communication at the University of Pittsburgh, where he also directs the William Pitt Debating Union, “SWITCH-SIDE DEBATING MEETS DEMAND-DRIVEN RHETORIC OF SCIENCE”, <http://www.pitt.edu/~gordonm/JPubs/Mitchell2010.pdf>)

An additional dimension of nuance emerging from this avenue of analysis pertains to the precise nature of the deliberative goals set by bridge. Program descriptions notably eschew Kettering-style references to democratic citizen empowerment, yet feature deliberation prominently as a key ingredient of strong intelligence tradecraft. This caveat is especially salient to consider when it comes to the second category of rhetorically informed critical work invited by the contingent aspect of specific debate initiatives. To grasp this layer it is useful to appreciate how the name of the bridge project constitutes an invitation for those outside the intelligence community to participate in the analytic outreach effort. According to Doney, bridge “provides an environment for Analytic Outreach—a place where IC analysts can reach out to expertise elsewhere in federal, state, and local government, in academia, and industry. New communities of interest can form quickly in bridge through the ‘web of trust’ access control model—access to minds outside the intelligence community creates an analytic force multiplier.”48 This presents a moment of choice for academic scholars in a position to respond to Doney’s invitation; it is an opportunity to convert scholarly expertise into an “analytic force multiplier.”¶ In reflexively pondering this invitation, it may be valuable for scholars to read Greene and Hicks’s proposition that switch-side debating should be viewed as a cultural technology in light of Langdon Winner’s maxim that “technological artifacts have politics.”49 In the case of bridge, politics are informed by the history of intelligence community policies and practices. Commenter Thomas Lord puts this point in high relief in a post offered in response to a news story on the topic: “[W]hy should this thing (‘bridge’) be? . . . [The intelligence community] on the one hand sometimes provides useful information to the military or to the civilian branches and on the other hand it is a dangerous, out of control, relic that by all external appearances is not the slightest bit reformed, other than superficially, from such excesses as became exposed in the cointelpro and mkultra hearings of the 1970s.”50 A debate scholar need not agree with Lord’s full-throated criticism of the intelligence community (he goes on to observe that it bears an alarming resemblance to organized crime) to understand that participation in the community’s Analytic Outreach program may serve the ends of deliberation, but not necessarily democracy, or even a defensible politics. Demand-driven rhetoric of science necessarily raises questions about what’s driving the demand, questions that scholars with relevant expertise would do well to ponder carefully before embracing invitations to contribute their argumentative expertise to deliberative projects. By the same token, it would be prudent to bear in mind that the technological determinism about switch-side debate endorsed by Greene and Hicks may tend to flatten reflexive assessments regarding the wisdom of supporting a given debate initiative—as the next section illustrates, manifest differences among initiatives warrant context-sensitive judgments regarding the normative political dimensions featured in each case.¶ Public Debates in the EPA Policy Process¶ The preceding analysis of U.S. intelligence community debating initiatives highlighted how analysts are challenged to navigate discursively the heteroglossia of vast amounts of different kinds of data flowing through intelligence streams. Public policy planners are tested in like manner when they attempt to stitch together institutional arguments from various and sundry inputs ranging from expert testimony, to historical precedent, to public comment. Just as intelligence managers find that algorithmic, formal methods of analysis often don’t work when it comes to the task of interpreting and synthesizing copious amounts of disparate data, public-policy planners encounter similar challenges.¶ In fact, the argumentative turn in public-policy planning elaborates an approach to public-policy analysis that foregrounds deliberative interchange and critical thinking as alternatives to “decisionism,” the formulaic application of “objective” decision algorithms to the public policy process. Stating the matter plainly, Majone suggests, “whether in written or oral form, argument is central in all stages of the policy process.” Accordingly, he notes, “we miss a great deal if we try to understand policy-making solely in terms of power, influence, and bargaining, to the exclusion of debate and argument.”51 One can see similar rationales driving Goodwin and Davis’s EPA debating project, where debaters are invited to conduct on-site public debates covering resolutions crafted to reflect key points of stasis in the EPA decision-making process. For example, in the 2008 Water Wars debates held at EPA headquarters in Washington, D.C., resolutions were crafted to focus attention on the topic of water pollution, with one resolution focusing on downstream states’ authority to control upstream states’ discharges and sources of pollutants, and a second resolution exploring the policy merits of bottled water and toilet paper taxes as revenue sources to fund water infrastructure projects. In the first debate on interstate river pollution, the team of Seth Gannon and Seungwon Chung from Wake Forest University argued in favor of downstream state control, with the Michigan State University team of Carly Wunderlich and Garrett Abelkop providing opposition. In the second debate on taxation policy, Kevin Kallmyer and Matthew Struth from University of Mary Washington defended taxes on bottled water and toilet paper, while their opponents from Howard University, Dominique Scott and Jarred McKee, argued against this proposal. Reflecting on the project, Goodwin noted how the intercollegiate debaters’ ability to act as “honest brokers” in the policy arguments contributed positively to internal EPA deliberation on both issues.52 Davis observed that since the invited debaters “didn’t have a dog in the fight,” they were able to give voice to previously buried arguments that some EPA subject matter experts felt reticent to elucidate because of their institutional affiliations.53¶ Such findings are consistent with the views of policy analysts advocating the argumentative turn in policy planning. As Majone claims, “Dialectical confrontation between generalists and experts often succeeds in bringing out unstated assumptions, conflicting interpretations of the facts, and the risks posed by new projects.”54 Frank Fischer goes even further in this context, explicitly appropriating rhetorical scholar Charles Willard’s concept of argumentative “epistemics” to flesh out his vision for policy studies: Uncovering the epistemic dynamics of public controversies would allow for a more enlightened understanding of what is at stake in a particular dispute, making possible a sophisticated evaluation of the various viewpoints and merits of different policy options. In so doing, the differing, often tacitly held contextual perspectives and values could be juxtaposed; the viewpoints and demands of experts, special interest groups, and the wider public could be directly compared; and the dynamics among the participants could be scrutizined. This would by no means sideline or even exclude scientific assessment; it would only situate it within the framework of a more comprehensive evaluation.55¶ As Davis notes, institutional constraints present within the EPA communicative milieu can complicate efforts to provide a full airing of all relevant arguments pertaining to a given regulatory issue. Thus, intercollegiate debaters can play key roles in retrieving and amplifying positions that might otherwise remain sedimented in the policy process. The dynamics entailed in this symbiotic relationship are underscored by deliberative planner John Forester, who observes, “If planners and public administrators are to make democratic political debate and argument possible, they will need strategically located allies to avoid being fully thwarted by the characteristic self-protecting behaviors of the planning organizations and bureaucracies within which they work.”56 Here, an institution’s need for “strategically located allies” to support deliberative practice constitutes the demand for rhetorically informed expertise, setting up what can be considered a demand-driven rhetoric of science. As an instance of rhetoric of science scholarship, this type of “switch-side public debate”57 differs both from insular contest tournament debating, where the main focus is on the pedagogical benefit for student participants, and first-generation rhetoric of science scholarship, where critics concentrated on unmasking the rhetoricity of scientific artifacts circulating in what many perceived to be purely technical spheres of knowledge production.58 As a form of demand-driven rhetoric of science, switch-side debating connects directly with the communication field’s performative tradition of argumentative engagement in public controversy—a different route of theoretical grounding than rhetorical criticism’s tendency to locate its foundations in the English field’s tradition of literary criticism and textual analysis.59¶ Given this genealogy, it is not surprising to learn how Davis’s response to the EPA’s institutional need for rhetorical expertise took the form of a public debate proposal, shaped by Davis’s dual background as a practitioner and historian of intercollegiate debate. Davis competed as an undergraduate policy debater for Howard University in the 1970s, and then went on to enjoy substantial success as coach of the Howard team in the new millennium. In an essay reviewing the broad sweep of debating history, Davis notes, “Academic debate began at least 2,400 years ago when the scholar Protagoras of Abdera (481–411 bc), known as the father of debate, conducted debates among his students in Athens.”60 As John Poulakos points out, “older” Sophists such as Protagoras taught Greek students the value of dissoi logoi, or pulling apart complex questions by debating two sides of an issue.61 The few surviving fragments of Protagoras’s work suggest that his notion of dissoi logoi stood for the principle that “two accounts [logoi] are present about every ‘thing,’ opposed to each other,” and further, that humans could “measure” the relative soundness of knowledge claims by engaging in give-and-take where parties would make the “weaker argument stronger” to activate the generative aspect of rhetorical practice, a key element of the Sophistical tradition.62¶ Following in Protagoras’s wake, Isocrates would complement this centrifugal push with the pull of synerchésthé, a centripetal exercise of “coming together” deliberatively to listen, respond, and form common social bonds.63 Isocrates incorporated Protagorean dissoi logoi into synerchésthé, a broader concept that he used flexibly to express interlocking senses of (1) inquiry, as in groups convening to search for answers to common questions through discussion;64 (2) deliberation, with interlocutors gathering in a political setting to deliberate about proposed courses of action;65 and (3) alliance formation, a form of collective action typical at festivals,66 or in the exchange of pledges that deepen social ties.67¶ Returning once again to the Kettering-informed sharp distinction between debate and deliberation, one sees in Isocratic synerchésthé, as well as in the EPA debating initiative, a fusion of debate with deliberative functions. Echoing a theme raised in this essay’s earlier discussion of intelligence tradecraft , such a fusion troubles categorical attempts to classify debate and deliberation as fundamentally opposed activities. The significance of such a finding is amplified by the frequency of attempts in the deliberative democracy literature to insist on the theoretical bifurcation of debate and deliberation as an article of theoretical faith.¶ Tandem analysis of the EPA and intelligence community debating initiatives also brings to light dimensions of contrast at the third level of Isocratic synerchésthé, alliance formation. The intelligence community’s Analytic Outreach initiative invites largely one-way communication flowing from outside experts into the black box of classified intelligence analysis. On the contrary, the EPA debating program gestures toward a more expansive project of deliberative alliance building. In this vein, Howard University’s participation in the 2008 EPA Water Wars debates can be seen as the harbinger of a trend by historically black colleges and universities (hbcus) to catalyze their debate programs in a strategy that evinces Davis’s dual-focus vision. On the one hand, Davis aims to recuperate Wiley College’s tradition of competitive excellence in intercollegiate debate, depicted so powerfully in the feature film The Great Debaters, by starting a wave of new debate programs housed in hbcus across the nation.68 On the other hand, Davis sees potential for these new programs to complement their competitive debate programming with participation in the EPA’s public debating initiative.¶ This dual-focus vision recalls Douglas Ehninger’s and Wayne Brockriede’s vision of “total” debate programs that blend switch-side intercollegiate tournament debating with forms of public debate designed to contribute to wider communities beyond the tournament setting.69 Whereas the political telos animating Davis’s dual-focus vision certainly embraces background assumptions that Greene and Hicks would find disconcerting—notions of liberal political agency, the idea of debate using “words as weapons”70—there is little doubt that the project of pursuing environmental protection by tapping the creative energy of hbcu-leveraged dissoi logoi diff ers significantly from the intelligence community’s effort to improve its tradecraft through online digital debate programming. Such difference is especially evident in light of the EPA’s commitment to extend debates to public realms, with the attendant possible benefits unpacked by Jane Munksgaard and Damien Pfister:¶ Having a public debater argue against their convictions, or confess their indecision on a subject and subsequent embrace of argument as a way to seek clarity, could shake up the prevailing view of debate as a war of words. Public uptake of the possibility of switch-sides debate may help lessen the polarization of issues inherent in prevailing debate formats because students are no longer seen as wedded to their arguments. This could transform public debate from a tussle between advocates, with each public debater trying to convince the audience in a Manichean struggle about the truth of their side, to a more inviting exchange focused on the content of the other’s argumentation and the process of deliberative exchange.71¶ Reflection on the EPA debating initiative reveals a striking convergence among (1) the expressed need for dissoi logoi by government agency officials wrestling with the challenges of inverted rhetorical situations, (2) theoretical claims by scholars regarding the centrality of argumentation in the public policy process, and (3) the practical wherewithal of intercollegiate debaters to tailor public switch-side debating performances in specific ways requested by agency collaborators. These points of convergence both underscore previously articulated theoretical assertions regarding the relationship of debate to deliberation, as well as deepen understanding of the political role of deliberation in institutional decision making. But they also suggest how decisions by rhetorical scholars about whether to contribute switch-side debating acumen to meet demand-driven rhetoric of science initiatives ought to involve careful reflection. Such an approach mirrors the way policy planning in the “argumentative turn” is designed to respond to the weaknesses of formal, decisionistic paradigms of policy planning with situated, contingent judgments informed by reflective deliberation.

#### Switch side debate over energy policy is a reflexive forum that facilitates effective decision-making and deliberation

Mitchell 10 (Gordon R, Associate Professor and Director of Graduate Studies in the Department of Communication at the University of Pittsburgh, where he also directs the William Pitt Debating Union, “SWITCH-SIDE DEBATING MEETS DEMAND-DRIVEN RHETORIC OF SCIENCE”, <http://www.pitt.edu/~gordonm/JPubs/Mitchell2010.pdf>)

Yet the picture grows more complex when one considers what is happening over at the Environmental Protection Agency (EPA), where environmental scientist Ibrahim Goodwin is collaborating with John W. Davis on a project that uses switch-side debating to clean up air and water. In April 2008, that initiative brought top intercollegiate debaters from four universities to Washington, D.C., for a series of debates on the topic of water quality, held for an audience of EPA subject matter experts working on interstate river pollution and bottled water issues. An April 2009 follow-up event in Huntington Beach, California, featured another debate weighing the relative merits of monitoring versus remediation as beach pollution strategies. “We use nationally ranked intercollegiate debate programs to research and present the arguments, both pro and con, devoid of special interest in the outcome,” explains Davis. “In doing so, agency representatives now remain squarely within the decision-making role thereby neutralizing overzealous advocacy that can inhibit learned discourse.”7¶ The intelligence community and EPA debating initiatives vary quite a bit simply by virtue of the contrasting policy objectives pursued by their sponsoring agencies (foreign policy versus environmental protection). Significant process-level differences mark off the respective initiatives as well; the former project entails largely one-way interactions designed to sluice insight from “open sources” to intelligence analysts working in classified environments and producing largely secret assessments. In contrast, the EPA’s debating initiative is conducted through public forums in a policy process required by law to be transparent. This granularity troubles Greene and Hicks’s deterministic framing of switch-side debate as an ideologically smooth and consistent cultural technology. In an alternative approach, this essay positions debate as a malleable method of decision making, one utilized by different actors in myriad ways to pursue various purposes. By bringing forth the texture inherent in the associated messy “mangle of practice,”8 such an approach has potential to deepen our understanding of debate as a dynamic and contingent, rather than static, form of rhetorical performance.¶ Juxtaposition of the intelligence community and EPA debating initiatives illuminates additional avenues of inquiry that take overlapping elements of the two projects as points of departure. Both tackle complex, multifaceted, and technical topics that do not lend themselves to reductionist, formal analysis, and both tap into the creative energy latent in what Protagoras of Abdera called dissoi logoi, the process of learning about a controversial or unresolved issue by airing opposing viewpoints.9 In short, these institutions are employing debate as a tool of deliberation, seeking outside expertise to help accomplish their aims. Such trends provide an occasion to revisit a presumption commonly held among theorists of deliberative democracy—that debate and deliberation are fundamentally opposed practices—as the intelligence community’s Analytic Outreach program and the EPA’s debating initiatives represent examples where debating exercises are designed to facilitate, not frustrate, deliberative goals.

#### Taking action against warming represents an opportunity to rebuild progressive politics for a better society – we must set aside differences based on identity in favor of a broad-based coalition

Smith 10 Brendan, co-founder of Labor Network for Sustainability, 11-23, “Fighting Doom: The New Politics of Climate Change,” Common Dreams, http://www.commondreams.org/view/2010/11/23-1

I admit I have arrived late to the party. Only recently have I begun to realize what others have known for decades: The climate crisis is not, at its core, an environmental issue. In fact it is not an "issue" at all; it is an existential threat to every human and community on the planet. It threatens every job, every economy in the world. It threatens the health of our children. It threatens our food and water supply. Climate change will continue to alter the world our species has known for the past three thousand years. As an oyster farmer and longtime political activist, the effects of climate change on my life will be neither distant nor impersonal. Rising greenhouse gases and ocean temperatures may well force me to abandon my 60-acre farm within the next forty years. From France to Washington state, oystermen are already seeing massive die-offs of seed oysters and the thinning shells science has long predicted. I can see the storm clouds and they are foretelling doom. But my political alter ego is oddly less pessimistic. Rather than triggering gloom, the climate crisis has surprisingly stirred up more hope than I have felt in twenty years as a progressive activist. After decades of progressive retreat it is a strange feeling. But I am haunted by the suspicion that this coming crisis may be the first opportunity we have had in generations to radically re-shape the political landscape and build a more just and sustainable society. The Power of Doom The modern progressive movement in the U.S. has traditionally grounded its organizing in the politics of identity and altruism. Organize an affected group -- minorities, gays, janitors or women -- and then ask the public at large to support the cause -- prison reform, gay marriage, labor rights, or abortion -- based on some cocktail of good will, liberal guilt, and moral persuasion. This strategy has been effective at times. But we have failed to bring these mini-movements together into a force powerful enough to enact broad-based social reform. It takes a lot of people to change society and our current strategy has left us small in numbers and weak in power. The highlights of my political life -- as opposed to oystering -- have been marked by winning narrow, often temporary, battles, but perennially losing the larger war. I see the results in every direction I look: growing poverty and unemployment, two wars, the rise of the right, declining unionization, the failure of the Senate's climate legislation and of Copenhagen, the wholesale domination of corporate interests. The list goes on and on. We have lost; it's time to admit our strategy has been too tepid and begin charting anew. This time can be different. What is so promising about the climate crisis is that because it is not an "issue" experienced by one disenfranchised segment of the population, it opens the opportunity for a new organizing calculus for progressives. Except for nuclear annihilation, humanity has never faced so universal a threat where all our futures are bound inextricably together. This universality provides the mortar of common interest required for movement building. We could literally knock on every door on the planet and find someone -- whether they know it or not -- who has a vital self-interest in averting the climate crisis by joining a movement for sustainability. With all of humanity facing doom, we can finally gather under one banner and count our future members not in the thousands but in the millions, even billions. But as former White House "Green Jobs Czar" Van Jones told the New Yorker in 2009, "The challenge is making this an everybody movement, so your main icons are Joe Six-Pack, Joe the Plumber, becoming Joe the Solar Guy, or that kid on the street corner putting down his handgun, picking up a caulk gun." The climate crisis is carrying us into uncharted waters and our political strategy needs to be directed toward making the climate movement an "everybody movement." Let me use a personal example. As an oysterman on Long Island Sound my way of life is threatened by rising greenhouse gases and ocean temperatures. If the climate crisis is not averted my oysters will die and my farm will be shuttered. Saving my livelihood requires that I politically engage at some level. Normally I would gather together my fellow oyster farmers to lobby state and federal officials and hold a protest or two. Maybe I would find a few coalitions to join. But we would remain small in number, wield little power, and our complaints about job loss would fall on largely unsympathetic ears in the face of so many suffering in so many ways. And what would we even petition our government to do about the problem? Buyouts and unemployment benefits? Re-training classes? Our oysters will still die and we will still lose our farms. To save our lives and livelihood we need to burrow down to the root of the problem: halting greenhouse gas emissions. And halting emissions requires joining a movement with the requisite power to dismantle the fossil fuel economy while building a green economy. To tackle such a large target requires my support for every nook and cranny effort to halt greenhouse gases and transition to a green economy. I need to gather up my fellow oyster farmers and link arms with students blocking new coal-fired power plants while fighting for just transition for coal workers; I need to join forces with other green workers around the country to demand government funding for green energy jobs, not more bank and corporate bailouts; I need to support labor movement efforts in China and elsewhere to climb out of poverty by going "green not dirty." I have a stake in these disparate battles not out of political altruism, but because my livelihood and community depend on stopping greenhouse gases and climate change. In other words, the hidden jewel of the climate crisis is that I need others and others need me. We are bound together by the same story of crisis and struggle. Some in the sustainability movement have been taking advantage of the "power of doom" by weaving together novel narratives and alliances around climate change. Groups in Kentucky are complementing their anti-mountain top removal efforts by organizing members of rural electrical co-ops into "New Power" campaigns to force a transition from fossil fuels to renewable power -- and create jobs in the process. Police unions in Canada, recognizing their members will be first responders as climate disasters hit, have reached out to unions in New Orleans to ensure the tragedies that followed Katrina are not repeated. Artists, chefs, farmers, bike mechanics, designers, and others are coalescing into a "green artisan movement" focused on building vibrant sustainable communities. Immigrant organizers, worried about the very real possibility of ever-worsening racial tensions triggered by millions of environmental refugees flooding in from neighboring countries, are educating their membership about why the climate crisis matters. My hope is that over the coming years we will be able to catalog increasing numbers of these tributaries of the climate crisis. Our power will not stem from a long list of issue concerns or sponsors at events -- we have tried that as recently as the October 2nd Washington D.C. "One Nation Working Together" march with little impact. Nor, with the rise of do-it-yourself organizing, will our power spring from top-down political parties of decades past. Instead oystermen like me, driven by the need to save our lives and livelihood, will storm the barricades with others facing the effects of the climate crisis. We will merge our mini-movements under a banner of common crisis, common vision and common struggle. We will be in this fight together and emerge as force not to be trifled with. This Time We Have an Alternative I am also guardedly optimistic because this time we have an alternative. My generation came of age after the fall of communism, and as a result, we have been raised in the midst of one-sided debate. We recognize that neoliberalism has ravaged society, but besides nostalgic calls for socialism, what has been the alternative? As globalization swept the globe, we demanded livable wages and better housing for the poorest in our communities; we fought sweatshops in China; we lobbied for new campaign finance and corporate governance laws. But these are mere patchwork reforms that fail to add up to a full-blown alternative to our current anti-government, free-market system. Never being able to fully picture the progressive alternative left me not fully trusting that progressive answers were viable solutions. But when I hear the proposed solutions to the climate crisis, the fog lifts. I can track the logic and envision the machinery of our alternative. And it sounds surprisingly like a common sense rebuttal to the current free-market mayhem: We face a global emergency of catastrophic proportions. Market fundamentalism will worsen rather than solve the crisis. Instead we need to re-direct our institutions and economic resources toward solving the crisis by replacing our carbon-based economy with a green sustainable economy. And by definition, for an economy to be sustainable it must addresses the longstanding suffering ordinary people face in their lives, ranging from unemployment and poverty to housing and healthcare. For years I have tossed from campaign to campaign, but the framework of our new progressive answer to the climate crisis now provides a roadmap for my political strategy. It helps chart my opponents -- coal companies and their political minions, for example -- as well as my diverse range of allies. It lays out my policy agenda, ranging from creating millions of new green jobs to building affordable green housing in low-income communities. I finally feel confident enough in my bearings to set sail. The Era of Crisis Politics While building a new green economy makes sense on paper, it is hard to imagine our entrenched political system yielding even modest progressive reform, let alone the wholesale re-formatting of the carbon economy. But I suspect this will change in the coming years, with our future governed by cascading political crises, rather than political stasis. We are likely entering an era of crisis politics whereby each escalating environmental disaster -- ranging from water shortages and hurricanes to wildfires and disease outbreaks -- will expose the impotence of our existing political institutions and economic system. In the next 40 years alone, scientists predict a state of permanent drought throughout the Southwest US and climate-linked disease deaths to double. As Danny Thompson, secretary-treasurer of the Nevada AFL-CIO, told the Las Vegas Review Journal, the ever-worsening water crisis could be "the end of the world" that could "turn us upside down, and I don't know how you recover from that." As if that is not enough, these crises will be played out in the context of a global economy spiraling out of control. Each hurricane, drought or recession will send opinion polls and politicians lurching from right to left and vice versa. Think of how quickly, however momentarily, the political debate pivoted in the wake of Katrina, the BP disaster, and the financial crisis. As White House chief of staff Rahm Emanuel famously said "Never let a serious crisis go to waste...It's an opportunity to do things you couldn't do before." While addressing the climate crisis requires radical solutions that cannot be broached in today's political climate, each disaster opens an opportunity to advance alternative agendas -- both for the left and right. While politicians debate modest technical fixes, ordinary people left desperate by floods, fires, droughts and other disasters will increasingly -- and angrily -- demand more fundamental reforms. While our current policy choices appear limited by polls and election results, in an era of crisis politics what appears unrealistic and radical before a storm may well appear as common sense reform in its wake. My generation has been raised in the politics of eternal dusk. Except for a passing ray of hope during the Obama campaign, our years have been marked by the failure of every political force in society -- whether it be political elites or social movement leaders -- to address the problems we face as a nation and world. They have left us spinning towards disaster. We can forge a better future. Climate-generated disasters will bring our doomed future into focus. The failure of political elites to adequately respond to these cascading crises will transform our political landscape and seed the ground for social movements. And if we prepare for the chaos and long battle ahead, our alternative vision will become a necessity rather than an impossibility. As a friend recently said to me, "God help us, I hope you're right."

#### Engagement within the existing system of market mechanisms is necessary to avoid reproducing the status quo

Bryant 12—professor of philosophy at Collin College (Levi, We’ll Never Do Better Than a Politician: Climate Change and Purity, 5/11/12, http://larvalsubjects.wordpress.com/2012/05/11/well-never-do-better-than-a-politician-climate-change-and-purity/)

However, pointing this out and deriding market based solutions doesn’t get us very far. In fact, such a response to proposed market-based solutions is downright dangerous and irresponsible. The fact of the matter is that 1) we currently live in a market based world, 2) there is not, in the foreseeable future an alternative system on the horizon, and 3), above all, we need to do something now. We can’t afford to reject interventions simply **because they don’t meet our ideal conceptions** of how things should be. We have to work with the world that is here, not the one that we would like to be here. And here it’s crucial to note that pointing this out does not entail that we shouldn’t work for producing that other world. It just means that we have to grapple with the world that is actually there before us.¶ It pains me to write this post because I remember, with great bitterness, the diatribes hardcore Obama supporters leveled against legitimate leftist criticisms on the grounds that these critics were completely unrealistic idealists who, in their demand for “purity”, were asking for “ponies and unicorns”. This rejoinder always seemed to ignore that words have power and that Obama, through his profound power of rhetoric, had, at least the power to shift public debates and frames, opening a path to making new forms of policy and new priorities possible. The tragedy was that he didn’t use that power, though he has gotten better.¶ I do not wish to denounce others and dismiss their claims on these sorts of grounds. As a Marxist anarchists, I do believe that we should fight for the creation of an alternative hominid ecology or social world. I think that the call to commit and fight, to put alternatives on the table, has been one of the most powerful contributions of thinkers like Zizek and Badiou. If we don’t commit and fight for alternatives those alternatives will never appear in the world. Nonetheless, we still have to grapple with the world we find ourselves in. And it is here, in my encounters with some Militant Marxists, that I sometimes find it difficult to avoid the conclusion that they are unintentionally aiding and abetting the very things they claim to be fighting. In their refusal to become impure, to work with situations or assemblages as we find them, to sully their hands, they end up reproducing the very system they wish to topple and change. Narcissistically they get to sit there, smug in their superiority and purity, while everything continues as it did before because they’ve refused to become politicians or engage in the difficult concrete work of assembling human and nonhuman actors to render another world possible. As a consequence, they occupy the position of Hegel’s beautiful soul that denounces the horrors of the world, celebrate the beauty of their soul, while depending on those horrors of the world to sustain their own position. ¶ To engage in politics is to engage in networks or ecologies of relations between humans and nonhumans. To engage in ecologies is to descend into networks of causal relations and feedback loops that you cannot completely master and that will modify your own commitments and actions. But there’s no other way, there’s no way around this, and we do need to act now.

#### The discourse of environmental action must be attached to the state garner public support and lead to policy action

[Note: EM = ecological modernization]

Doran and Barry 6 – worked at all levels in the environment and sustainable development policy arena - at the United Nations, at the Northern Ireland Assembly and Dáil Éireann, and in the Irish NGO sector. PhD--AND-- Reader in Politics, Queen's University School of Politics, International Studies, and Philosophy. PhD Glasgow (Peter and John, Refining Green Political Economy: From Ecological Modernisation to Economic Security and Sufficiency, Analyse & Kritik 28/2006, p. 250–275, http://www.analyse-und-kritik.net/2006-2/AK\_Barry\_Doran\_2006.pdf)

Viewed in isolation EM can be painted as a reformist and limited strategy for achieving a more sustainable economy and society, and indeed questions could be legitimately asked as to whether the development of a recognisably ‘green’ political economy for sustainable development can be based on it. In this paper, it is contended that there are strategic advantages in seeking to build upon and radicalise EM. There are indications in the UK that the debate on sustainable consumption may lead to new deliberative fora for a re-negotiation of the meaning and ends of consumption. Could it be that ‘suﬃciency’ will emerge as the logical complement (on the consumer side) of the early production-side debate on EM on the limits of ‘eﬃciency’ without an ecological context? ¶ While there are various reasons one can give for this, in this conclusion we focus on two—one normative/principled the other strategic.¶ From a strategic point of view, it is clear that, as Dryzek and his colleagues have shown, if green and sustainability goals, aims and objectives are to be integrated within state policy, these need to attach themselves to one of the core state imperatives—accumulation/economic growth or legitimacy (Dryzek et al. 2003; Barry 2003b). It is clear that the discourse of EM allows (some) green objectives to be integrated/translated into a policy language and framework which complements and does not undermine the state’s core imperative of pursuing orthodox economic growth. Therefore if (in the absence of a Green Party forming a government or being part of a ruling coalition, or even more unlikely of one of the main traditional parties initiating policies consistent with a radical understanding of sustainable development), the best that can be hoped for under current political conditions is the ‘greening of growth and capitalism’ i. e. a narrow, ‘business as usual’ version of EM. Or as Jonathan Porritt has put it, “We need more emphasis about the inherent unsustainability of our dominant economic model, even as we seek to improve the delivery of that model in the short to medium term” (Porritt 2004, 5). 23 ¶ On a more principled note, the adoption of EM as a starting point for the development of a model/theory of green political economy does carry with it the not inconsiderable beneﬁt of removing the ‘anti-growth’ and ‘limits to growth’ legacy which has (in our view) held back the theoretical development of a positive, attractive, modern conceptualisation of green political economy and radical conceptualisations of sustainable development. Here the technological innovation, the role of regulation driving innovation and eﬃciency, the promise that the transition to a more sustainable economy and society does not necessarily mean completely abandoning currently lifestyles and aspirations—strategically important in generating democratic support for sustainable development, and as indicated above, importance if the vision of a green sustainable economy is one which promotes diversity and tolerance in lifestyles and does not demand everyone conform to a putative ‘green’ lifestyle. Equally, this approach does not completely reject the positive role/s of a regulated market within sustainable development. However, it does demand a clear shift towards making the promotion of economic security (and quality of life) central to economic (and other) policy. Only when this happens can we say we have begun the transition to implementing the principles of sustainable development rather than fruitlessly seeking for some ‘greenprint’ of an abstract and utopian vision of the ‘sustainable society’.

#### The state is an inevitable and indispensable part of the solution to warming

Eckersley 4 Robyn, Reader/Associate Professor in the Department of Political Science at the University of Melbourne, “The Green State: Rethinking Democracy and Sovereignty”, MIT Press, 2004, Google Books, pp. 3-8

While acknowledging the basis for this antipathy toward the nation- state, and the limitations of state-centric analyses of global ecological degradation, I seek to draw attention to the positive role that states have played, and might increasingly play, in global and domestic politics. Writing more than twenty years ago, Hedley Bull (a proto-constructivist and leading writer in the English school) outlined the state's positive role in world affairs, and his arguments continue to provide a powerful challenge to those who somehow seek to "get beyond the state," as if such a move would provide a more lasting solution to the threat of armed conflict or nuclear war, social and economic injustice, or environmental degradation.10 As Bull argued, given that the state is here to stay whether we like it or not, then the call to get "beyond the state is a counsel of despair, at all events if it means that we have to begin by abolishing or subverting the state, rather than that there is a need to build upon it.""¶ In any event, rejecting the "statist frame" of world politics ought not prohibit an inquiry into the emancipatory potential of the state as a crucial "node" in any future network of global ecological governance. This is especially so, given that one can expect states to persist as major sites of social and political power for at least the foreseeable future and that any green transformations of the present political order will, short of revolution, necessarily be state-dependent. Thus, like it or not, those concerned about ecological destruction must contend with existing institutions and, where possible, seek to "rebuild the ship while still at sea." And if states are so implicated in ecological destruction, then an inquiry into the potential for their transformation even their modest reform into something that is at least more conducive to ecological sustainability would seem to be compelling.¶ Of course, it would be unhelpful to become singularly fixated on the redesign of the state at the expense of other institutions of governance. States are not the only institutions that limit, condition, shape, and direct political power, and it is necessary to keep in view the broader spectrum of formal and informal institutions of governance (e.g., local, national, regional, and international) that are implicated in global environmental change. Nonetheless, while the state constitutes only one modality of political power, it is an especially significant one because of its historical claims to exclusive rule over territory and peoples—as expressed in the principle of state sovereignty. As Gianfranco Poggi explains, the political power concentrated in the state "is a momentous, pervasive, critical phenomenon. Together with other forms of social power, it constitutes an indispensable medium for constructing and shaping larger social realities, for establishing, shaping and maintaining all broader and more durable collectivities."12 States play, in varying degrees, significant roles in structuring life chances, in distributing wealth, privilege, information, and risks, in upholding civil and political rights, and in securing private property rights and providing the legal/regulatory framework for capitalism. Every one of these dimensions of state activity has, for good or ill, a significant bearing on the global environmental crisis. Given that the green political project is one that demands far-reaching changes to both economies and societies, it is difficult to imagine how such changes might occur on the kind of scale that is needed without the active support of states. While it is often observed that states are too big to deal with local ecological problems and too small to deal with global ones, the state nonetheless holds, as Lennart Lundqvist puts it, "a unique position in the constitutive hierarchy from individuals through villages, regions and nations all the way to global organizations. The state is inclusive of lower political and administrative levels, and exclusive in speaking for its whole territory and population in relation to the outside world."13 In short, it seems to me inconceivable to advance ecological emancipation without also engaging with and seeking to transform state power.¶ Of course, not all states are democratic states, and the green movement has long been wary of the coercive powers that all states reputedly enjoy. Coercion (and not democracy) is also central to Max Weber's classic sociological understanding of the state as "a human community that (successfully) claims the monopoly of the legitimate use of physical force within a given territory."14 Weber believed that the state could not be defined sociologically in terms of its ends\* only formally as an organization in terms of the particular means that are peculiar to it.15 Moreover his concept of legitimacy was merely concerned with whether rules were accepted by subjects as valid (for whatever reason); he did not offer a normative theory as to the circumstances when particular rules ought to be accepted or whether beliefs about the validity of rules were justified. Legitimacy was a contingent fact, and in view of his understanding of politics as a struggle for power in the context of an increasingly disenchanted world, likely to become an increasingly unstable achievement.16¶ In contrast to Weber, my approach to the state is explicitly normative and explicitly concerned with the purpose of states, and the democratic basis of their legitimacy. It focuses on the limitations of liberal normative theories of the state (and associated ideals of a just constitutional arrangement), and it proposes instead an alternative green theory that seeks to redress the deficiencies in liberal theory. Nor is my account as bleak as Weber's. The fact that states possess a monopoly of control over the means of coercion is a most serious matter, but it does not necessarily imply that they must have frequent recourse to that power. In any event, whether the use of the state's coercive powers is to be deplored or welcomed turns on the purposes for which that power is exercised, the manner in which it is exercised, and whether it is managed in public, transparent, and accountable ways—a judgment that must be made against a background of changing problems, practices, and under- standings. The coercive arm of the state can be used to "bust" political demonstrations and invade privacy. It can also be used to prevent human rights abuses, curb the excesses of corporate power, and protect the environment.¶ In short, although the political autonomy of states is widely believed to be in decline, there are still few social institution that can match the same degree of capacity and potential legitimacy that states have to redirect societies and economies along more ecologically sustainable lines to address ecological problems such as global warming and pollution, the buildup of toxic and nuclear wastes and the rapid erosion of the earth's biodiversity. States—particularly when they act collectively—have the capacity to curb the socially and ecologically harmful consequences of capitalism. They are also more amenable to democratization than cor- porations, notwithstanding the ascendancy of the neoliberal state in the increasingly competitive global economy. There are therefore many good reasons why green political theorists need to think not only critically but also constructively about the state and the state system. While the state is certainly not "healthy" at the present historical juncture, in this book I nonetheless join Poggi by offering "a timid two cheers for the old beast," at least as a potentially more significant ally in the green cause.17

#### Simulation and institutional deliberation motivate effective responses to climate risks

Marx et al. 7 (Sabine M, Center for Research on Environmental Decisions (CRED) @ Columbia University, Elke U. Weber, Graduate School of Business and Department of Psychology @ Columbia University, Benjamin S. Orlovea, Department of Environmental Science and Policy @ University of California Davis, Anthony Leiserowitz, Decision Research, David H. Krantz, Department of Psychology @ Columbia University, Carla Roncolia, South East Climate Consortium (SECC), Department of Biological and Agricultural Engineering @ University of Georgia and Jennifer Phillips, Bard Centre for Environmental Policy @ Bard College, “Communication and mental processes: Experiential and analytic processing of uncertain climate information”, 2007, http://climate.columbia.edu/sitefiles/file/Marx\_GEC\_2007.pdf)

Based on the observation that experiential and analytic processing systems compete and that personal experience and vivid descriptions are often favored over statistical information, we suggest the following research and policy implications.¶ Communications designed to create, recall and highlight relevant personal experience and to elicit affective responses can lead to more public attention to, processing of, and engagement with forecasts of climate variability and climate change. Vicarious experiential information in the form of scenarios, narratives, and analogies can help the public and policy makers imagine the potential consequences of climate variability and change, amplify or attenuate risk perceptions, and influence both individual behavioral intentions and public policy preferences. Likewise, as illustrated by the example of retranslation in the Uganda studies, the translation of statistical information into concrete experience with simulated forecasts, decisionmaking and its outcomes can greatly facilitate an intuitive understanding of both probabilities and the consequences of incremental change and extreme events, and motivate contingency planning.¶ Yet, while the engagement of experience-based, affective decision-making can make risk communications more salient and motivate behavior, experiential processing is also subject to its own biases, limitations and distortions, such as the finite pool of worry and single action bias. Experiential processing works best with easily imaginable, emotionally laden material, yet many aspects of climate variability and change are relatively abstract and require a certain level of analytical understanding (e.g., long-term trends in mean temperatures or precipitation). Ideally, communication of climate forecasts should encourage the interactive engagement of both analytic and experiential processing systems in the course of making concrete decisions about climate, ranging from individual choices about what crops to plant in a particular season to broad social choices about how to mitigate or adapt to global climate change.¶ One way to facilitate this interaction is through group and participatory decision-making. As the Uganda example suggests, group processes allow individuals with a range of knowledge, skills and personal experience to share diverse information and perspectives and work together on a problem. Ideally, groups should include at least one member trained to understand statistical forecast information to ensure that all sources of information—both experiential and analytic—are considered as part of the decision-making process. Communications to groups should also try to translate statistical information into formats readily understood in the language, personal and cultural experience of group members. In a somewhat iterative or cyclical process, the shared concrete information can then be re-abstracted to an analytic level that leads to action.¶ Risk and uncertainty are inherent dimensions of all climate forecasts and related decisions. Analytic products like trend analysis, forecast probabilities, and ranges of uncertainty ought to be valuable contributions to stakeholder decision-making. Yet decision makers also listen to the inner and communal voices of personal and collective experience, affect and emotion, and cultural values. Both systems—analytic and experiential—should be considered in the design of climate forecasts and risk communications. If not, many analytic products will fall on deaf ears as decision makers continue to rely heavily on personal experience and affective cues to make plans for an uncertain future. The challenge is to find innovative and creative ways to engage both systems in the process of individual and group decision-making.

#### Science is a process – it subjects itself to constant refinement based on empirical evidence – we can make sufficient contingent claims about the world

Hutcheon 93—former prof of sociology of education at U Regina and U British Columbia. Former research advisor to the Health Promotion Branch of the Canadian Department of Health and Welfare and as a director of the Vanier Institute of the Family. Phd in sociology, began at Yale and finished at U Queensland. (Pat, A Critique of "Biology as Ideology: The Doctrine of DNA", http://www.humanists.net/pdhutcheon/humanist%20articles/lewontn.htm)

The introductory lecture in this series articulated the increasingly popular "postmodernist" claim that all science is ideology. Lewontin then proceeded to justify this by stating the obvious: that scientists are human like the rest of us and subject to the same biases and socio-cultural imperatives. Although he did not actually say it, his comments seemed to imply that the enterprise of scientific research and knowledge building could therefore be no different and no more reliable as a guide to action than any other set of opinions. The trouble is that, in order to reach such an conclusion, one would have to ignore all those aspects of the scientific endeavor that do in fact distinguish it from other types and sources of belief formation.¶ Indeed, if the integrity of the scientific endeavor depended only on the wisdom and objectivity of the individuals engaged in it we would be in trouble. North American agriculture would today be in the state of that in Russia today. In fact it would be much worse, for the Soviets threw out Lysenko's ideology-masquerading-as-science decades ago. Precisely because an alternative scientific model was available (thanks to the disparaged Darwinian theory) the former Eastern bloc countries have been partially successful in overcoming the destructive chain of consequences which blind faith in ideology had set in motion. This is what Lewontin's old Russian dissident professor meant when he said that the truth must be spoken, even at great personal cost. How sad that Lewontin has apparently failed to understand the fact that while scientific knowledge -- with the power it gives us -- can and does allow humanity to change the world, ideological beliefs have consequences too. By rendering their proponents politically powerful but rationally and instrumentally impotent, they throw up insurmountable barriers to reasoned and value-guided social change.¶ What are the crucial differences between ideology and science that Lewonton has ignored? Both Karl Popper and Thomas Kuhn have spelled these out with great care -- the former throughout a long lifetime of scholarship devoted to that precise objective. Stephen Jay Gould has also done a sound job in this area. How strange that someone with the status of Lewontin, in a series of lectures supposedly covering the same subject, would not at least have dealt with their arguments!¶ Science has to do with the search for regularities in what humans experience of their physical and social environments, beginning with the most simple units discernible, and gradually moving towards the more complex. It has to do with expressing these regularities in the clearest and most precise language possible, so that cause-and-effect relations among the parts of the system under study can be publicly and rigorously tested. And it has to do with devising explanations of those empirical regularities which have survived all attempts to falsify them. These explanations, once phrased in the form of testable hypotheses, become predictors of future events. In other words, they lead to further conjectures of additional relationships which, in their turn, must survive repeated public attempts to prove them wanting -- if the set of related explanations (or theory) is to continue to operate as a fruitful guide for subsequent research.¶ This means that science, unlike mythology and ideology, has a self-correcting mechanism at its very heart. A conjecture, to be classed as scientific, must be amenable to empirical test. It must, above all, be open to refutation by experience. There is a rigorous set of rules according to which hypotheses are formulated and research findings are arrived at, reported and replicated. It is this process -- not the lack of prejudice of the particular scientist, or his negotiating ability, or even his political power within the relevant university department -- that ensures the reliability of scientific knowledge. The conditions established by the community of science is one of precisely defined and regulated "intersubjectivity". Under these conditions the theory that wins out, and subsequently prevails, does so not because of its agreement with conventional wisdom or because of the political power of its proponents, as is often the case with ideology. The survival of a scientific theory such as Darwin's is due, instead, to its power to explain and predict observable regularities in human experience, while withstanding worldwide attempts to refute it -- and proving itself open to elaboration and expansion in the process. In this sense only is scientific knowledge objective and universal. All this has little relationship to the claim of an absolute universality of objective "truth" apart from human strivings that Lewontin has attributed to scientists.¶ Because ideologies, on the other hand, do claim to represent truth, they are incapable of generating a means by which they can be corrected as circumstances change. Legitimate science makes no such claims. Scientific tests are not tests of verisimilitude. Science does not aim for "true" theories purporting to reflect an accurate picture of the "essence" of reality. It leaves such claims of infallibility to ideology. The tests of science, therefore, are in terms of workability and falsifiability, and its propositions are accordingly tentative in nature. A successful scientific theory is one which, while guiding the research in a particular problem area, is continuously elaborated, revised and refined, until it is eventually superseded by that very hypothesis-making and testing process that it helped to define and sharpen. An ideology, on the other hand, would be considered to have failed under those conditions, for the "truth" must be for all time. More than anything, it is this difference that confuses those ideological thinkers who are compelled to attack Darwin's theory of evolution precisely because of its success as a scientific theory. For them, and the world of desired and imagined certainty in which they live, that very success in contributing to a continuously evolving body of increasingly reliable -- albeit inevitably tentative -- knowledge can only mean failure, in that the theory itself has altered in the process.

#### Forecasting of future events helps us plan for the future through risk management – this improves both personal and public policies

Cochrane 11 (John H. Cochrane is a Professor of finance at the University of Chicago Booth School of Business and a contributor to Business Class "IN DEFENSE OF THE HEDGEHOGS" July 15 www.cato-unbound.org/2011/07/15/john-h-cochrane/in-defense-of-the-hedgehogs/)

Risk Management Rather than Forecast-and-Plan¶ **The answer is to change the question**, to **focus on risk management**, as Gardner and Tetlock suggest. **There is a set of events that could happen tomorrow**—Chicago could have an earthquake, there could be a run on Greek debt, the Administration could decide “Heavens, Dodd–Frank and Obamacare were huge mistakes, let’s fix them” (Okay, not the last one.) Attached to each event, there is some probability that it could happen.¶ Now “forecasting” as Gardner and Tetlock characterize it, is an attempt to figure out which event really will happen, whether the coin will land on heads or tails, and then make a plan based on that knowledge. It’s a fool’s game.¶ Once we recognize that uncertainty will always remain, **risk management rather than forecasting is much wiser**. Just the step of naming the events that could happen is useful. **Then, ask yourself, “if this event happens, let’s make sure we have a contingency plan so we’re not really screwed**.” Suppose you’re counting on diesel generators to keep cooling water flowing through a reactor. What if someone forgets to fill the tank?¶ The good use of “forecasting” **is to** get a better handle on probabilities, so we focus our risk management resources on the most important events. But **we must still pay attention to events**, **and** buy insurance against them, based as much on the painfulness of the event as on its probability**.** (Note to economics techies: what matters is the risk-neutral probability, probability weighted by marginal utility.)¶ So **it’s not really the forecast that’s wrong, it’s what people do with it.** If we all understood the essential unpredictability of the world, especially of rare and very costly events, if we got rid of the habit of mind that asks for a forecast and then makes “plans” as if that were the only state of the world that could occur; if we instead focused on laying out all the bad things that could happen and made sure we had insurance or contingency plans, **both personal and public** policies might be a lot better.

# 2AC

## Movements DA 2AC

#### Giroux goes aff

**Giroux, October, 2012** (Oct 8, 2012, Henry, Coutnerpunch, “The Crisis of Education as a Public Good

The Disappearance of Public Intellectuals, http://www.counterpunch.org/2012/10/08/the-disappearance-of-public-intellectuals/, acsd 10-8-12)

Their **struggles are** not simply aimed at the 1% but also the 99 percent as **part of a broader effort to** get them to connect the dots, educate themselves, and **develop and join social movements that can rewrite the language of** democracy and put into place the institutions and formative cultures that make it possible. Stanley Aronowitz is right in arguing that “**The system survives on the eclipse of the radical imagination, the absence of a viable political opposition with roots in the general population, and the conformity of its intellectuals** who, to a large extent, are subjugated by their secure berths in the academy. [At the same time,] **it would be premature to predict that decades of retreat, defeat and silence can be reversed overnight without a commitment to what may be termed ‘a long march’ though the institutions, the workplaces and the streets** of the capitalist metropoles.”[xxxvi] **The current protests in the United States, Canada, Greece, and Spain make clear that this is not–indeed, cannot be–only a short-term project for reform, but a political movement that needs to intensify**, accompanied by the reclaiming of public spaces, the progressive use of digital technologies, the development of public spheres, the production of new modes of education, and the safeguarding of places where democratic expression, new identities, and collective hope can be nurtured and mobilized. **A formative culture must be put in place pedagogically and institutionally in a variety of spheres extending from** churches and **public and higher education to all those cultural apparatuses engaged in the production and circulation of knowledge,** desire, identities, and values. **Clearly, such efforts need to address the language of** democratic **revolution rather than the seductive incremental adjustments of liberal reform. This suggests not only** calling for a living wage, jobs programs, especially for the young, the democratization of power, economic equality, and **a massive shift** in funds **away from the machinery of war and big banks but also a social movement that not only engages in critique but makes hope a real possibility by organizing to seize power. There is no room for failure here because failure would cast us back into the clutches of authoritarianism–that** while different from previous historical periods–**shares nonetheless the imperative to proliferate violent social formations and a death-dealing blow to the promise of a democracy to come.**

#### Individual changes only redirect money within the economy – there’s no warming solvency

Wapner and Willoughby 5--Professor of Global Environmental Politics in School of Int'l Service, American U--AND--Professor of Economics at American University (Paul and John, The Irony of Environmentalism: The Ecological Futility but Political Necessity of Lifestyle Change, http://www.astepback.com/EP/Irony%20of%20Environmentalism.pdf)

While acting at the microlevel to reduce family size and consume less is almost dogma among environmentalists, there are reasons to question their admonitions, or at least to specify the conditions under which such activities would genuinely make a difference in terms of environmental wellbeing. In this article we argue that prescriptions that call for individually reducing consumption and having fewer children are valid only under highly restricted conditions, conditions that are gen-erally unacknowledged by environmental researchers and activists. In fact, we show that the conditions are so narrow that, for most people most of the time, lifestyle changes are ecologically irrelevant. ¶ Many environmentalists call for reducing family size and consuming less because they see these as ways to decrease the total amount of spending within an economy. Reduced spending limits the demand for resources and the production of waste, and thus contributes to environmental wellbeing. As we will demonstrate, however, while less spending within an economy may, in fact, minimize environmental harm, it is not the case that cutting back on individual consumption or having a smaller family will reduce overall spending. In most cases, such actions will simply shift the locus of spending. If a family, for example, continues to receive the same amount of income but decides to buy fewer products or have fewer children (and thus forgo the consumption associated with additional family members), they have more savings at their disposal. In fact, much of the literature advocating less consumption and greater consumer simplicity emphasizes the bonus of extra savings.3 It is crucial to recognize, however, that savings do not simply sit in banks or other financial portfolios; rather, they are deployed by financial institutions to fund investment projects. Consequently, because purchasing power is fungible, it makes little difference ecologically if one saves or invests money rather than spends it. For, aside from placing money under one’s mattress, it will most likely be used by investors to create more economic wealth, and this will be done primarily by funding practices that use resources and create waste.4 ¶ In this essay, we demonstrate that unless one invests savings in particular, very circumscribed ways (to be explained), one is not necessarily supporting environmental protection. Money withheld from one sector simply gets channeled into another. To the degree that this is the case, the irony of environmentalism is that the very practices that seemingly hold promise for environmental protection at the individual level become a matter of merely shifting the locale of environmental harm. Lifestyle changes that emphasize greater efficiency, less consumption, and genuine personal sacrifice may feel good and make for good press, but they rarely help the earth. ¶ This argument is troubling and, when we first developed it, it threatened our most cherished assumptions about environmentalism. Both of us believe that environmental problems represent some of the most profound challenges that humanity faces, and that there is an important role for individual choice in environmental politics. But, based on the economic reasoning of this article, we have come to see the benefits of that choice more in moral terms and for the good of political agency rather than as a direct causal influence on ecological conditions. For many, this may diminish the meaning of individual choice when choosing to reduce consumption or our progeny.As we will argue at the end of the article, however, such a reaction is inappropriate. By circumscribing and analyzing the genuine environmental effects of lifestyle choices, we can better appreciate their influence. While such influence may be less on biophysical systems than on political forces, this takes nothing away from the informed actions of individuals. Rather, an accurate understanding of their political influence provides greater hope for environmental protection, because we can focus more rigorously on actions that actually help to protect the earth’s ecosystems. ¶ This article is not simply a critique of certain environmentalist strategies. We also offer ways to think about environmental protection that avoid the pitfalls of a single-minded focus on lifestyle changes and family size. Our research shows that the structure of the economy frustrates individuals’ efforts to protect the environment by maintaining the fungibility of money and demanding that finances be continually deployed in the service of investment and productivity. In other words, impediments to environmental protection are structural, and environmentalists must consequently embrace a politics that focuses on changing the nature of the world economy, rather than tinkering with individual practices that are fundamentally regulated by the economy itself. ¶ Before proceeding, it is important to make one caveat. We do not question the environmentalist insight that people must consume less in the service of environmental protection. The ideal of environmentalism must include, as Herman Daly, Lester Brown, and numerous others point out, reducing the overall amount of raw materials and energy used by a society, or what is often called throughput.5 Rather, we question the injunction that the best route to less consumption is through individual action. Individual action within the current world economy will not reduce overall throughput, but will simply change where the engines of consumption operate.

#### It solves best – framing around institutional action leads to effective localism but not the other way around

Monbiot 4 – George Monbiot, journalist, academic, and political activist, 2004, Manifesto for a New World Order, p. 11-13

The quest for global solutions is difficult and divisive. Some members of this movement are deeply suspicious of all institutional power at the global level, fearing that it could never be held to account by the world’s people. Others are concerned that a single set of universal prescriptions would threaten the diversity of dissent. A smaller faction has argued that all political programmes are oppressive: our task should not be to replace one form of power with another, but to replace all power with a magical essence called ‘anti-power’. But most of the members of this movement are coming to recognize that if we propose solutions which can be effected only at the local or the national level, we remove ourselves from any meaningful role in solving precisely those problems which most concern us. Issues such as cli­mate change, international debt, nuclear proliferation, war, peace and the balance of trade between nations can be addressed only globally or internationally. Without global measures and global institutions, it is impossible to see how we might distribute wealth from rich nations to poor ones, tax the mobile rich and their even more mobile money, control the shipment of toxic waste, sustain the ban on landmines, prevent the use of nuclear weapons, broker peace between nations or prevent powerful states from forc­ing weaker ones to trade on their terms. If we were to work only at the local level, we would leave these, the most critical of issues, for other people to tackle. Global governance will take place whether we participate in it or not. Indeed, it must take place if the issues which concern us are not to be resolved by the brute force of the powerful. That the international institutions have been designed or captured by the dictatorship of vested interests is not an argument against the existence of international institutions, but a reason for overthrowing them and re­placing them with our own. It is an argument for a global political system which holds power to account. In the absence of an effective global politics, moreover, local solutions will always be undermined by communities of interest which do not share our vision. We might, for example, manage to persuade the people of the street in which we live to give up their cars in the hope of preventing climate change, but unless everyone, in all communities, either shares our politics or is bound by the same rules, we simply open new road space into which the neighbouring communities can expand. We might declare our neighbour­hood nuclear-free, but unless we are simultaneously work­ing, at the international level, for the abandonment of nuclear weapons, we can do nothing to prevent ourselves and everyone else from being threatened by people who are not as nice as we are. We would deprive ourselves, in other words, of the power of restraint. By first rebuilding the global politics, we establish the political space in which our local alternatives can flourish. If, by contrast, we were to leave the governance of the neces­sary global institutions to others, then those institutions will pick off our local, even our national, solutions one by one. There is little point in devising an alternative economic policy for your nation, as Luis Inacio ‘Lula’ da Silva, now president of Brazil, once advocated, if the International Monetary Fund and the financial speculators have not first been overthrown. There is little point in fighting to protect a coral reef from local pollution, if nothing has been done to prevent climate change from destroying the conditions it requires for its survival.

#### The alt fails – no spillover – empirically proven

Wilckin 95—Patrick, Department of Anthropology, Goldsmiths’ College, University of London “The Intellectuals, the Media and the Gulf War” Critique of Anthropology 1995 15: 37

The expanded university may have professionalized academics, but it also diversified the student population4 and pluralized academic discourse. The new wave of identity politics, the liberating of once-suppressed voices of ethnic minorities, women and homosexuals may have been some of the more tangible gains in the academy since the 1960s, but at what cost? Why are these supposedly popular concerns so often couched in incomprehensible jargon? Why has mass culture’s movement into the academy given rise to a style of theorizing that is inaccessible to the general public? Who stands to gain from such highly specialized analysis?’ One could argue that feminist and race discourse, in the long run have not so much alleviated the plight of America’s burgeoning underclass but instead have created ’professional spokesperson[s] for the seemingly permanently aggrieved’ (Steele in Robbins, 1993: 3). Another consequence has been that problems which can only be addressed by looking at power relations on a global scale have been obscured in favour of micro-politics.¶ Even if, as Edward Said claims, the university still offers western intellectuals an almost ideal space for research, this factor alone does not guarantee that this freedom will produce desirable results (Said, 1994). For Said, it is not the academy, but the ethos of professionalism that subverts oppositional voices, producing the highly specialized nine-to-fiver, working within the dominant paradigm in the pay of higher powers (Said, 1994). But Said falsely divides intrinsically related factors. The intellectuals of today, hoping to appeal to an audience outside their peers, are not isolates negotiating their way through distracting specialist fields, warding off compromises offered by the publishing industry and the media. They are part of a wider system, a system which to a large degree defines their roles and the audience they reach. Specialization is often a precondition for advancement; jargon-ridden language a prerequisite for publishing and state patronage an unavoidable fact of life. Given this situation, being above the fray, unattached and independent, has distinct advantages. But more importantly, this set of relationships between academics and institutions, publishing houses and contributors and the mainstream media and commentators, unevenly distributes political opinion. The specialist carries disproportionate weight; the dissenting generalist is denied significant access to the wider public. Radical thought lives on, but largely within the private domain of the academic journal.¶ Anthropological careers may never have been closely connected with broader political issues, but recent developments ensure that private theorizing will be kept more and more out of the public domain. Part of the problem may well be the media themselves which, as Ahmed points out, require the expert ’who can comment on the larger picture’ whereas the anthropologist prefers to focus on the ’fine-grained ethnography’ (1991: 2).¶ But another part of the problem is surely in the institutional conditions in which anthropologists work which affect both the focus of their efforts and the theoretical frameworks they employ. A growing institution that produces ever smaller subdivisions of knowledge, and malleable theoretical frameworks with which to accommodate these specialist interests, stands less and less of a chance of communicating its ideas outside of its own walls. There is some security in this position for the anthropologist, but ossification may be the price.¶ This paper has related the institutional changes in the universities to a decline in dissident voices in the public domain. The expansion of the universities has given rise to a class of institutionalized specialists whose interrelations have had a relativizing effect producing flexible theoretical positions. This process has brought with it some gains: the activating of new and diverse voices in the academy, the realization of the plurality of interests that binds any society together and the highlighting of cultural differences that exist within societies and around the world. But the losses have been heavy. Claims that pliant theoretical positions have democratized intellectual discourse by pluralizing it cannot be sustained in the face of an international event like the Gulf War. Society may well be composed of different voices, overlapping identities and divergent world views, but this does little to explain the fact that a tiny elite in the space of a few months managed to place half a million troops in Saudi Arabia. In this case, for all intents and purposes, the USA did not act like an amorphous body but as a monolithic world power which can send its massive military forces at a moment’s notice anywhere in the world without even consulting congress.¶ A review of commentary on the Gulf War showed that dissenting opinion was concentrated in a handful of low-circulation radical journals (e.g. New Left Review, Dissent, Lies of Our Times), while the academic response in the mainstream media was largely conservative. A look at anthropology’s reaction found that the discipline, because of its specialized character could not adequately explain the event. This is not to say that specialist pursuits are not important or even crucial to our understanding, but the institutional precedence of the specialist, even in cases that have quite general implications, has seriously affected the way such events are viewed.¶ In the wake of Foucault, much has recently been written about the relationships between knowledge and power, but little has been said about the connections between knowledge and powerlessness. In some ways, looking at reactions to the Gulf War showed how restricted and impotent the dissenting generalist is when faced with institutional structures which militate against such voices being heard. But the power/knowledge nexus lives on in the form of the nascent professional classes who, as Gouldner (1979) points out, are reproducing themselves faster than any other class (in the US at least). Their claims to power will be based firmly on their monopoly of specialized knowledge, not on an oppositional ideological stand. Their fragmentation and institutionalization has further consolidated their positions in a late capitalist society which is not characterized by ongoing ethical soul searching, but rather, to use C. Wright Mills’ expression, by a bureaucratic system of ’organized irresponsibility’ (1953:149).

#### Public advocacy is key to effective action on climate change

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This short advisory paper collates a set of recommendations about how best to shape mass public communications aimed at increasing concern about climate change and motivating commensurate behavioural changes.¶ Its focus is not upon motivating small private-sphere behavioural changes on a piece-meal basis. Rather, it marshals evidence about how best to motivate the ambitious and systemic behavioural change that is necessary – including, crucially, greater public engagement with the policy process (through, for example, lobbying decision-makers and elected representatives, or participating in demonstrations), as well as major lifestyle changes. ¶ Political leaders themselves have drawn attention to the imperative for more vocal public pressure to create the ‘political space’ for them to enact more ambitious policy interventions. 1 While this paper does not dismiss the value of individuals making small private-sphere behavioural changes (for example, adopting simple domestic energy efficiency measures) it is clear that such behaviours do not, in themselves, represent a proportional response to the challenge of climate change. As David MacKay, Chief Scientific Advisor to the UK Department of Energy and Climate change writes: “Don’t be distracted by the myth that ‘every little helps’. If everyone does a little, we’ll achieve only a little” (MacKay, 2008).¶ The task of campaigners and communicators from government, business and non-governmental organisations must therefore be to motivate both (i) widespread adoption of ambitious private-sphere behavioural changes; and (ii) widespread acceptance of – and indeed active demand for – ambitious new policy interventions.¶ Current public communication campaigns, as orchestrated by government, business and non-governmental organisations, are not achieving these changes. This paper asks: how should such communications be designed if they are to have optimal impact in motivating these changes? The response to this question will require fundamental changes in the ways that many climate change communication campaigns are currently devised and implemented. ¶ This advisory paper offers a list of principles that could be used to enhance the quality of communication around climate change communications. The authors are each engaged in continuously sifting the evidence from a range of sub-disciplines within psychology, and reflecting on the implications of this for improving climate change communications. Some of the organisations that we represent have themselves at times adopted approaches which we have both learnt from and critique in this paper – so some of us have first hand experience of the need for on-going improvement in the strategies that we deploy. ¶ The changes we advocate will be challenging to enact – and will require vision and leadership on the part of the organisations adopting them. But without such vision and leadership, we do not believe that public communication campaigns on climate change will create the necessary behavioural changes – indeed, there is a profound risk that many of today’s campaigns will actually prove counter-productive. ¶ Seven Principles¶ 1. Move Beyond Social Marketing¶ We believe that too little attention is paid to the understanding that psychologists bring to strategies for motivating change, whilst undue faith is often placed in the application of marketing strategies to ‘sell’ behavioural changes. Unfortunately, in the context of ambitious pro-environmental behaviour, such strategies seem unlikely to motivate systemic behavioural change.¶ Social marketing is an effective way of achieving a particular behavioural goal – dozens of practical examples in the field of health behaviour attest to this. Social marketing is really more of a framework for designing behaviour change programmes than a behaviour change programme - it offers a method of maximising the success of a specific behavioural goal. Darnton (2008) has described social marketing as ‘explicitly transtheoretical’, while Hastings (2007), in a recent overview of social marketing, claimed that there is no theory of social marketing. Rather, it is a ‘what works’ philosophy, based on previous experience of similar campaigns and programmes. Social marketing is flexible enough to be applied to a range of different social domains, and this is undoubtedly a fundamental part of its appeal.¶ However, social marketing’s 'what works' status also means that it is agnostic about the longer term, theoretical merits of different behaviour change strategies, or the cultural values that specific campaigns serve to strengthen. Social marketing dictates that the most effective strategy should be chosen, where effective means ‘most likely to achieve an immediate behavioural goal’. ¶ This means that elements of a behaviour change strategy designed according to the principles of social marketing may conflict with other, broader goals. What if the most effective way of promoting pro-environmental behaviour ‘A’ was to pursue a strategy that was detrimental to the achievement of long term pro-environmental strategy ‘Z’? The principles of social marketing have no capacity to resolve this conflict – they are limited to maximising the success of the immediate behavioural programme. This is not a flaw of social marketing – it was designed to provide tools to address specific behavioural problems on a piecemeal basis. But it is an important limitation, and one that has significant implications if social marketing techniques are used to promote systemic behavioural change and public engagement on an issue like climate change. ¶ 2. Be honest and forthright about the probable impacts of climate change, and the scale of the challenge we confront in avoiding these. But avoid deliberate attempts to provoke fear or guilt. ¶ There is no merit in ‘dumbing down’ the scientific evidence that the impacts of climate change are likely to be severe, and that some of these impacts are now almost certainly unavoidable. Accepting the impacts of climate change will be an important stage in motivating behavioural responses aimed at mitigating the problem. However, deliberate attempts to instil fear or guilt carry considerable risk. ¶ Studies on fear appeals confirm the potential for fear to change attitudes or verbal expressions of concern, but often not actions or behaviour (Ruiter et al., 2001). The impact of fear appeals is context - and audience - specific; for example, for those who do not yet realise the potentially ‘scary’ aspects of climate change, people need to first experience themselves as vulnerable to the risks in some way in order to feel moved or affected (Das et al, 2003; Hoog et al, 2005). As people move towards contemplating action, fear appeals can help form a behavioural intent, providing an impetus or spark to ‘move’ from; however such appeals must be coupled with constructive information and support to reduce the sense of danger (Moser, 2007). The danger is that fear can also be disempowering – producing feelings of helplessness, remoteness and lack of control (O’Neill and Nicholson-Cole, 2009). Fear is likely to trigger ‘barriers to engagement’, such as denial2 (Stoll-Kleemann et al., 2001; Weber, 2006; Moser and Dilling, 2007; Lorenzoni, Nicholson-Cole & Whitmarsh, 2007). The location of fear in a message is also relevant; it works better when placed first for those who are inclined to follow the advice, but better second for those who aren't (Bier, 2001).¶ Similarly, studies have shown that guilt can play a role in motivating people to take action but can also function to stimulate defensive mechanisms against the perceived threat or challenge to one’s sense of identity (as a good, moral person). In the latter case, behaviours may be left untouched (whether driving a SUV or taking a flight) as one defends against any feelings of guilt or complicity through deployment of a range of justifications for the behaviour (Ferguson & Branscombe, 2010). ¶ Overall, there is a need for emotionally balanced representations of the issues at hand. This will involve acknowledging the ‘affective reality’ of the situation, e.g. “We know this is scary and overwhelming, but many of us feel this way and we are doing something about it”.¶ 3. Be honest and forthright about the impacts of mitigating and adapting to climate change for current lifestyles, and the ‘loss’ - as well as the benefits - that these will entail. Narratives that focus exclusively on the ‘up-side’ of climate solutions are likely to be unconvincing. While narratives about the future impacts of climate change may highlight the loss of much that we currently hold to be dear, narratives about climate solutions frequently ignore the question of loss. If the two are not addressed concurrently, fear of loss may be ‘split off’ and projected into the future, where it is all too easily denied. This can be dangerous, because accepting loss is an important step towards working through the associated emotions, and emerging with the energy and creativity to respond positively to the new situation (Randall, 2009). However, there are plenty of benefits (besides the financial ones) of a low-carbon lifestyle e.g., health, community/social interaction - including the ‘intrinsic' goals mentioned below. It is important to be honest about both the losses and the benefits that may be associated with lifestyle change, and not to seek to separate out one from the other.¶ 3a. Avoid emphasis upon painless, easy steps. ¶ Be honest about the limitations of voluntary private-sphere behavioural change, and the need for ambitious new policy interventions that incentivise such changes, or that regulate for them. People know that the scope they have, as individuals, to help meet the challenge of climate change is extremely limited. For many people, it is perfectly sensible to continue to adopt high-carbon lifestyle choices whilst simultaneously being supportive of government interventions that would make these choices more difficult for everyone. ¶ The adoption of small-scale private sphere behavioural changes is sometimes assumed to lead people to adopt ever more difficult (and potentially significant) behavioural changes. The empirical evidence for this ‘foot-in-thedoor’ effect is highly equivocal. Some studies detect such an effect; others studies have found the reverse effect (whereby people tend to ‘rest on their laurels’ having adopted a few simple behavioural changes - Thogersen and Crompton, 2009). Where attention is drawn to simple and painless privatesphere behavioural changes, these should be urged in pursuit of a set of intrinsic goals (that is, as a response to people’s understanding about the contribution that such behavioural change may make to benefiting their friends and family, their community, the wider world, or in contributing to their growth and development as individuals) rather than as a means to achieve social status or greater financial success. Adopting behaviour in pursuit of intrinsic goals is more likely to lead to ‘spillover’ into other sustainable behaviours (De Young, 2000; Thogersen and Crompton, 2009).¶ People aren’t stupid: they know that if there are wholesale changes in the global climate underway, these will not be reversed merely through checking their tyre pressures or switching their TV off standby. An emphasis upon simple and painless steps suppresses debate about those necessary responses that are less palatable – that will cost people money, or that will infringe on cherished freedoms (such as to fly). Recognising this will be a key step in accepting the reality of loss of aspects of our current lifestyles, and in beginning to work through the powerful emotions that this will engender (Randall, 2009). ¶ 3b. Avoid over-emphasis on the economic opportunities that mitigating, and adapting to, climate change may provide. ¶ There will, undoubtedly, be economic benefits to be accrued through investment in new technologies, but there will also be instances where the economic imperative and the climate change adaptation or mitigation imperative diverge, and periods of economic uncertainty for many people as some sectors contract. It seems inevitable that some interventions will have negative economic impacts (Stern, 2007).¶ Undue emphasis upon economic imperatives serves to reinforce the dominance, in society, of a set of extrinsic goals (focussed, for example, on financial benefit). A large body of empirical research demonstrates that these extrinsic goals are antagonistic to the emergence of pro-social and proenvironmental concern (Crompton and Kasser, 2009).¶ 3c. Avoid emphasis upon the opportunities of ‘green consumerism’ as a response to climate change.¶ As mentioned above (3b), a large body of research points to the antagonism between goals directed towards the acquisition of material objects and the emergence of pro-environmental and pro-social concern (Crompton and Kasser, 2009). Campaigns to ‘buy green’ may be effective in driving up sales of particular products, but in conveying the impression that climate change can be addressed by ‘buying the right things’, they risk undermining more difficult and systemic changes. A recent study found that people in an experiment who purchased ‘green’ products acted less altruistically on subsequent tasks (Mazar & Zhong, 2010) – suggesting that small ethical acts may act as a ‘moral offset’ and licence undesirable behaviours in other domains. This does not mean that private-sphere behaviour changes will always lead to a reduction in subsequent pro-environmental behaviour, but it does suggest that the reasons used to motivate these changes are critically important. Better is to emphasise that ‘every little helps a little’ – but that these changes are only the beginning of a process that must also incorporate more ambitious private-sphere change and significant collective action at a political level.¶ 4. Empathise with the emotional responses that will be engendered by a forthright presentation of the probable impacts of climate change. ¶ Belief in climate change and support for low-carbon policies will remain fragile unless people are emotionally engaged. We should expect people to be sad or angry, to feel guilt or shame, to yearn for that which is lost or to search for more comforting answers (Randall, 2009). Providing support and empathy in working through the painful emotions of 'grief' for a society that must undergo changes is a prerequisite for subsequent adaptation to new circumstances.¶ Without such support and empathy, it is more likely that people will begin to deploy a range of maladaptive ‘coping strategies’, such as denial of personal responsibility, blaming others, or becoming apathetic (Lertzman, 2008). An audience should not be admonished for deploying such strategies – this would in itself be threatening, and could therefore harden resistance to positive behaviour change (Miller and Rolnick, 2002). The key is not to dismiss people who exhibit maladaptive coping strategies, but to understand how they can be made more adaptive. People who feel socially supported will be more likely to adopt adaptive emotional responses - so facilitating social support for proenvironmental behaviour is crucial.¶ 5. Promote pro-environmental social norms and harness the power of social networks¶ One way of bridging the gap between private-sphere behaviour changes and collective action is the promotion of pro-environmental social norms. Pictures and videos of ordinary people (‘like me’) engaging in significant proenvironmental actions are a simple and effective way of generating a sense of social normality around pro-environmental behaviour (Schultz, Nolan, Cialdini, Goldstein and Griskevicius, 2007). There are different reasons that people adopt social norms, and encouraging people to adopt a positive norm simply to ‘conform’, to avoid a feeling of guilt, or for fear of not ‘fitting in’ is likely to produce a relatively shallow level of motivation for behaviour change. Where social norms can be combined with ‘intrinsic’ motivations (e.g. a sense of social belonging), they are likely to be more effective and persistent.¶ Too often, environmental communications are directed to the individual as a single unit in the larger social system of consumption and political engagement. This can make the problems feel too overwhelming, and evoke unmanageable levels of anxiety. Through the enhanced awareness of what other people are doing, a strong sense of collective purpose can be engendered. One factor that is likely to influence whether adaptive or maladaptive coping strategies are selected in response to fear about climate change is whether people feel supported by a social network – that is, whether a sense of ‘sustainable citizenship’ is fostered. The efficacy of groupbased programmes at promoting pro-environmental behaviour change has been demonstrated on numerous occasions – and participants in these projects consistently point to a sense of mutual learning and support as a key reason for making and maintaining changes in behaviour (Nye and Burgess, 2008). There are few influences more powerful than an individual’s social network. Networks are instrumental not just in terms of providing social support, but also by creating specific content of social identity – defining what it means to be “us”. If environmental norms are incorporated at this level (become defining for the group) they can result in significant behavioural change (also reinforced through peer pressure).¶ Of course, for the majority of people, this is unlikely to be a network that has climate change at its core. But social networks – Trade Unions, Rugby Clubs, Mother & Toddler groups – still perform a critical role in spreading change through society. Encouraging and supporting pre-existing social networks to take ownership of climate change (rather than approach it as a problem for ‘green groups’) is a critical task. As well as representing a crucial bridge between individuals and broader society, peer-to-peer learning circumnavigates many of the problems associated with more ‘top down’ models of communication – not least that government representatives are perceived as untrustworthy (Poortinga & Pidgeon, 2003). Peer-to-peer learning is more easily achieved in group-based dialogue than in designing public information films: But public information films can nonetheless help to establish social norms around community-based responses to the challenges of climate change, through clear visual portrayals of people engaging collectively in the pro-environmental behaviour.¶ The discourse should be shifted increasingly from ‘you’ to ‘we’ and from ‘I’ to ‘us’. This is starting to take place in emerging forms of community-based activism, such as the Transition Movement and Cambridge Carbon Footprint’s ‘Carbon Conversations’ model – both of which recognize the power of groups to help support and maintain lifestyle and identity changes. A nationwide climate change engagement project using a group-based behaviour change model with members of Trade Union networks is currently underway, led by the Climate Outreach and Information Network. These projects represent a method of climate change communication and engagement radically different to that typically pursued by the government – and may offer a set of approaches that can go beyond the limited reach of social marketing techniques.¶ One potential risk with appeals based on social norms is that they often contain a hidden message. So, for example, a campaign that focuses on the fact that too many people take internal flights actually contains two messages – that taking internal flights is bad for the environment, and that lots of people are taking internal flights. This second message can give those who do not currently engage in that behaviour a perverse incentive to do so, and campaigns to promote behaviour change should be very careful to avoid this. The key is to ensure that information about what is happening (termed descriptive norms), does not overshadow information about what should be happening (termed injunctive norms). ¶ 6. Think about the language you use, but don’t rely on language alone¶ A number of recent publications have highlighted the results of focus group research and talk-back tests in order to ‘get the language right’ (Topos Partnership, 2009; Western Strategies & Lake Research Partners, 2009), culminating in a series of suggestions for framing climate-change communications. For example, these two studies led to the suggestions that communicators should use the term ‘global warming’ or ‘our deteriorating atmosphere’, respectively, rather than ‘climate change’. Other research has identified systematic differences in the way that people interpret the terms ‘climate change’ and ‘global warming’, with ‘global warming’ perceived as more emotionally engaging than ‘climate change’ (Whitmarsh, 2009).¶ Whilst ‘getting the language right’ is important, it can only play a small part in a communication strategy. More important than the language deployed (i.e. ‘conceptual frames') are what have been referred to by some cognitive linguists as 'deep frames'. Conceptual framing refers to catchy slogans and clever spin (which may or may not be honest). At a deeper level, framing refers to forging the connections between a debate or public policy and a set of deeper values or principles. Conceptual framing (crafting particular messages focussing on particular issues) cannot work unless these messages resonate with a set of long-term deep frames.¶ Policy proposals which may at the surface level seem similar (perhaps they both set out to achieve a reduction in environmental pollution) may differ importantly in terms of their deep framing. For example, putting a financial value on an endangered species, and building an economic case for their conservation ‘commodifies’ them, and makes them equivalent (at the level of deep frames) to other assets of the same value (a hotel chain, perhaps). This is a very different frame to one that attempts to achieve the same conservation goals through the ascription of intrinsic value to such species – as something that should be protected in its own right. Embedding particular deep frames requires concerted effort (Lakoff, 2009), but is the beginning of a process that can build a broad, coherent cross-departmental response to climate change from government.¶ 7. Encourage public demonstrations of frustration at the limited pace of government action¶ Private-sphere behavioural change is not enough, and may even at times become a diversion from the more important process of bringing political pressure to bear on policy-makers. The importance of public demonstrations of frustration at both the lack of political progress on climate change and the barriers presented by vested interests is widely recognised – including by government itself. Climate change communications, including government communication campaigns, should work to normalise public displays of frustration with the slow pace of political change. Ockwell et al (2009) argued that communications can play a role in fostering demand for - as well as acceptance of - policy change. Climate change communication could (and should) be used to encourage people to demonstrate (for example through public demonstrations) about how they would like structural barriers to behavioural/societal change to be removed.

#### Micropolitics cedes the political

Wilckin 95—Patrick, Department of Anthropology, Goldsmiths’ College, University of London “The Intellectuals, the Media and the Gulf War” Critique of Anthropology 1995 15: 37

One effect of the cordoning off of intellectual discourse from the public sphere has been the growth of theoretical formulations that by their sheer complexity and inaccessibility tend to reinforce the divide. A practice such as the deconstruction of literary texts may operate at a level of obscurity which renders it incomprehensible to those not in the know and in so doing may reproduce a hierarchy of knowledge. Such theorizing is also (conveniently) immune to public criticism and can be performed endlessly. In this case, Gouldner’s characterization of the intelligentsia as a ’speech community’ consisting of numerous specialized ’sociolects’ which frame off the intellectual class from the public may be an accurate one (Gouldner, 1979 : 28) . &dquo;¶ There is, though, an even deeper level at which changes in institutional arrangements have affected dissident thought. The emergence of radically antihumanist theories like structuralism, post-Structuralism and postmodernism which have constrained critical thought can be seen to some extent as a product of the institutional arrangements in which they arose. Before tracing these links, a word of caution is necessary. The relationship between a philosophical position and the socio-political circumstances of its inception are highly complex and cannot simply read off the political implications of a given theoretical stance. Nevertheless, if a theoretical position that enjoys enduring popularity is clearly untenable, easily discredited and in any case unproductive, then one can assume that outside influences must be contributing to such a theory’s continued acceptance (Chomsky, 1979; Bracken, 1984). If institutional and theoretical upheaval also occur simultaneously, then there are good grounds on which to investigate correlations between the two.¶ France in the 1960s, for example, experienced not only social and institutional changes but a veritable theoretical overhaul in the humanities. There was a rapid turnover of theoretical positions with thinkers like Althusser, Foucault, Barthes and Derrida making radical and extravagant claims. The post-Structuralist movement that grew out of this period took Saussure’s linguistic theories which had been developed almost half a century earlier and in the specific context of linguistics and applied them to a wide variety of phenomena. The important point here is that this development occurred at precisely the same moment that Chomsky’s tranformational generative grammar, which grants little space to semiology, was proving to be a highly productive research programme, rapidly producing new findings which corroborated a rationalist theoretical approach (Pavel, 1989: 131). Foucault’s work, for example, which explored supposed epistemic ’ruptures’ in western thought, not only relied on assumptions that given Chomsky’s work were looking less and less sustainable, but used highly questionable data to back up his claims (Pavel, 1989: 93). 12¶ In a situation such as this, it is worth asking how such post-Saussurean work produced the impact that it did. As we saw earlier, this period was characterized by a collapse of critical standards brought about by the circumvention of traditional peer evaluation by the media. Pavel also suggests that the security of academic tenure and the rise in ’discretionary income’ produced a concomitant rise in ’discretionary intellectual behaviour’ which unleashed anarchistic theorizing. In short, security and affluence permitted intellectuals to laur ~h a theoretical ’potlatch’ of wasteful hedonistic research programmes (Pavel, 1989: 142).¶ Despite its shortcomings, this epoch of French theory has been hugely influential not only in France, but in Britain and the USA as well. The upshot of the success of post-Structuralism and postmodernism has been a serious weakening of critical standards. Post-Structuralism’s erasure of the human subject attacks two notions on which broad-ranging oppositional intellectual criticism relies. First, the idea of agency which is essential for opposing domination. Second, the concept of ideological mystification, a notion which is only meaningful with an acceptance of ideology’s ’other’ - i.e. a more accurate version of reality to which it can be compared (Jay, 1991). For post-Structuralists ideology loses its meaning, becoming a constitutive condition of all social relations (Althusser, 1984), or synonymous with power relations (Foucault, 1980). In each case, truth is constituted and there are no standards by which one can separate fact from fiction, or more concretely, factual documentary evidence from government propaganda (see Eagleton, 1991 and Norris, 1992 for a detailed discussion of these issues).¶ For quite some time in the USA, in parallel to the French experience, antihumanist, behaviourist theories have held sway over the human sciences. Again, the empiricist ’tabula rasa’ approach to human behaviour endures despite a series of devastating attacks launched against it (especially Chomsky, 1979) and despite the fact that as a theory it is circular and self-confirming and therefore lacks any explanatory power (Bracken, 1984 : 31). Chomsky’s own explanation for the endurance of behaviourist doctrines is that the empiricist position correlates with the modern intellectuals’ role as technocrats and social engineers. In other words, believing that humans are infinitely malleable, empty organisms sustains the positions of the ’experts’ whose job it is to manipulate, manage and control society and refutes the idea that individuals may have some essential desire to be self-determining (cf. Bracken, 1984: 31-2; Chomsky, 1979: 90--1).13 3¶ Chomsky’s own political work shows how the rationalist line provides a far stronger position from which to launch dissenting attacks. Chomsky uses similar arguments in his work on linguistics against behaviourists like Skinner as he does in his politics, vis-a-vis, for instance, Foucault. For Chomsky, intrinsic structures in the mind give humans an innate capacity to acquire and use language creatively; politically, fundamental human qualities - aspects of human nature - give humans an instinctive desire for autonomy and freedom from oppression, thus the ideology of State domination (when demystified) is at variance with this instinct and therefore inhumane.&dquo; In conversation with Michel Foucault, while both he and Chomsky reach a considerable degree of consensus (for example, on the desirability of exposing power relations and challenging their validity), they fall out on the fundamental point as far as the possibility of dissident action is concerned. Foucault baulks at the crucial moment when he refuses to concede that striving for a better system of justice is possible. For Foucault, such a struggle is an illusion for the concept of justice itself is arbitrary and entirely dependent on contemporary social relations (Elders, 1974) . <<<continued>>>¶ Foucault is therefore forced into a considerably less effective role of the ’specific intellectual’ - one who concentrates solely on specialized issues pointing out the weakness in dominant ideas and proposing counter discourses which, on his own formulation, are destined to be subsumed under more powerful discourses.&dquo; While Foucault may have had genuine radical political desires, this line of reasoning if taken to its logical limits leads to the conservative, neo-pragmatist theories in which community consensus, however gained, is all that can be hoped for - a sort of line-of-least-resistance philosophy, which blots out the role of the dissident. But one has to be careful not to make hard and fast correlations between philosophical and political positions. In economics and sociobiology, rationalist innatist theories are used to sustain political positions diametrically opposed to those of Chomsky.16 Some sociobiologists (e.g. Wilson, 1975) argue that current (western) social arrangements can be directly related to genetic predispositions, while classical economists like Friedman equate capitalism with man’s intrinsic urge to rationalize resources. Both positions act as a conservative apology for the status quo. But such theories lack any predictive power, work on a level of generality that they are not easily proved or disproved and rely on arbitrary definitions (such as Friedman’s constantly revised notion of the ’natural’ rate of unemployment (Herman, 1982)). These pseudoscientific theories are ideological in the sense that they use the authority of science to cover their manifest inadequacies.¶ But as we have seen, institutional arrangements, the circumventing power of the media, the rise of the specialist and the decline of the generalist have influenced both the form and the content of recent theory in the humanities. Highly specialized, largely agnostic theorizing is a product of an intellectual community that is both cut off from the outside world and at the same time beginning to realize its own interests as a class whose specialized knowledge sets it apart from the rest of society.¶ Theory in the Gulf¶ There are strong links between the theoretical meanderings described above and intellectuals’ response to an event like the Gulf War. The ’no comment’ approach was perhaps the most widespread in keeping with an indifferent critical climate, but for those who put their oar in, agnosticism was the order of the day. Baudrillard, for example, in his infamous article ’The Reality Gulf’ (1991a) written on the eve of hostilities, claimed that the war would not in fact take place. By this he meant that the media had created a ’hyper real scenario’ of fallacious commentary, empty predictions and reports of threats and counterthreats that were staged for the media in the first place. In Baudrillard’s opinion, the only real ’strategic cite is the TV screen from which we are daily bombarded’. There is no other reality; images and their referents are interchangeable. As a result we have on our hands, under the auspices of the UN as an ’extended contraceptive’, a ’Safe War’ (like safe sex) - ’a form of war which means never having to face up to war’ (1991a: 25).¶ Baudrillard’s piece as a description of the way the media worked during the crisis holds some validity,&dquo; but to go from there and suggest that taking any position on such an event by attempting to demystify the media ’simulacrum’ is simply mistaken - in effect just one more illusory exercise - is absurd to say the least. Baudrillard’s second article published in Lib6ration (1991b) entitled ’La guerre du Golfe n’a pas eu lieu’ (’The Gulf War Did Not Take Place’) goes even further in this direction. Baudrillard is willing to concede that in the event mass destruction did take place, but he goes on to argue that we must not be deceived into taking a moral stand on such an issue, but must instead engage in a sort of postmodern oneupmanship and reject all evidence so as to be ’more virtual than the events themselves’ (trans. in Norris, 1992: 194).¶ Baudrillard’s position is perhaps somewhat extreme, but its controversial avant-garde flavour assured it copy space. But similar sentiments dressed up differently begin to look disturbingly representative of the intellectual response in the media when one considers Michael Ignatieff’s article in the Observer (1991). ’The languages of moral concern hardly connect,’ writes Ignatieff. Some people decry the carnage on the road to Basra, others, like Ignatieff himself, support the war on the grounds that sanctions would have failed. But in the final analysis ’neither side has the slightest hope of convincing the other’ . What kind of critical commentary is this? Ignatieff’s relativist stance renders informed debate irrelevant and absolves him from having to defend his pro-war position.¶ On the other side of the Atlantic, Barbara Ehrenreich (one of Garafola’s new generation public intellectuals) in an article for Time magazine (1990), ’The Warrior Culture’, attributes the eagerness of the US to confront the Iraqis militarily to America’s culture of aggression. She starts off with a sort of Victorian anthropological chamber of horrors: dozens of ’pretechnological peoples’ including the Masai of East Africa and the North American Plains Indians rule that men cannot marry until they have killed in battle; in the Solomon Islands a chief’s status is reckoned by the number of skulls displayed around his door; Aztec kings use human hearts in religious rituals. America possesses just such a ’warrior culture’ with its unquenchable thirst for violence on television, its willingness to go to war on any pretext, and its warrior elite siphoning off nearly a third of the federal budget even in peace time. While left-wingers may blame this war on imperialism, Ehrenreich concludes, and right-wingers ’internationalism’ the real villain is in the culture itself.¶ Ehrenreich’s well-intentioned piece not only fails to convince ethnographically but, reducing international politics to culture, eliminates the possibility of dissent. Ehrenreich is arguing in effect, that Americans are unable to help themselves: their culture inculcates them with the urge to fight. Historical precedent, economic considerations and global power relations become irrelevant.¶ These three public intellectuals, highly visible in their respective countries, are unable to assess critically a major political event like the Gulf War. Baudrillard wants to live in ’virtual reality’, Ignatieff concludes that any adjudication is impossible and Ehrenreich reduces the conflict to specious cultural predispositions. Their lack of conviction, though, owes as much to the theoretical climate as to the requirements of the media. Baudrillard’s piece satisfies the market for the bizarre - the intellectual eccentric going over the top; Ignatieff encapsulates the views of the soft liberal readership of the Observer; while Ehrenreich’s article has obvious exotic appeal.¶ But even outside the requirements of the media, the Gulf War highlighted the general paralysis of the intellectual community worldwide. In the USA, Edward Said argues that intellectuals failed to join the debate because of their lack of ’affiliation with the public sphere’, provinciality and impotence (1991: 15). Even the editorial board of Dissent was divided over the issue, producing a wide spectrum of opinion. Todd Gitlin described the war as a ’catastrophe’ which was ’avoidable’, the late Irving Howe felt compelled to take a pro-war position but felt that the stance was ’uncomfortable’ for the Left, while Dennis Wrong concluded that because of the UN’s role this was a ’legal and just war’ (Morton et al., 1991:153-60). In France ex-radical ’soixante huitard’ Alaine Touraine gave the war his unequivocal support, while Pierre Bourdieu denounced it as ’drunken war-mongering’ (Zamiti, 1992 : 53 ; author’s trans.). In Britain, Christopher Norris comments that few intellectuals were able to resist the ’pressures of ideological recruitment’ (1992: 25) and The Times, in an article written during the conflict, described the ’old constituency of intellectual protest’ as ’in confusion’ (27 January 1991). But perhaps the most striking example of intellectual disarray was in Germany, where the issue of the war was the first event to break up decisively one of the most politically cohesive left-wing groups in Europe. Veterans of 1968 Enzensberger and Brumlik came out in support of the Allies as other intellectuals appeared to flounder in self-contradiction: Jurgen Habermas commented that the war was ’justified’ (as opposed to ’just’); Cohn-Bendit supported the war while at the same time condemned the hypocrisy of the intellectuals for ignoring the suffering of the Iraqi people (Rabinbach, 1991 : 462).

## Bookchin K 2AC

#### Extinction outweighs ontology – specifically true for the environment

Wapner 3 – Professor of Global Environmental Politics in School of Int'l Service, American U (Paul, Leftist Criticism of 'Nature', http://dissentmagazine.org/article/?article=539)

THE THIRD response to eco-criticism would require critics to acknowledge the ways in which they themselves silence nature and then to respect the sheer otherness of the nonhuman world. Postmodernism prides itself on criticizing the urge toward mastery that characterizes modernity. But isn't mastery exactly what postmodernism is exerting as it captures the nonhuman world within its own conceptual domain? Doesn't postmodern cultural criticism deepen the modernist urge toward mastery by eliminating the ontological weight of the nonhuman world? What else could it mean to assert that there is no such thing as nature? ¶ I have already suggested the postmodernist response: yes, recognizing the social construction of "nature" does deny the self-expression of the nonhuman world, but how would we know what such self-expression means? Indeed, nature doesn't speak; rather, some person always speaks on nature's behalf, and whatever that person says is, as we all know, a social construction. ¶ All attempts to listen to nature are social constructions-except one. Even the most radical postmodernist must acknowledge the distinction between physical existence and non-existence. As I have said, postmodernists accept that there is a physical substratum to the phenomenal world even if they argue about the different meanings we ascribe to it. This acknowledgment of physical existence is crucial. We can't ascribe meaning to that which doesn't appear. What doesn't exist can manifest no character. Put differently, yes, the postmodernist should rightly worry about interpreting nature's expressions. And all of us should be wary of those who claim to speak on nature's behalf (including environmentalists who do that). But we need not doubt the simple idea that a prerequisite of expression is existence. This in turn suggests that preserving the nonhuman world-in all its diverse embodiments-must be seen by eco-critics as a fundamental good. Eco-critics must be supporters, in some fashion, of environmental preservation.¶ Postmodernists reject the idea of a universal good. They rightly acknowledge the difficulty of identifying a common value given the multiple contexts of our value-producing activity. In fact, if there is one thing they vehemently scorn, it is the idea that there can be a value that stands above the individual contexts of human experience. Such a value would present itself as a metanarrative and, as Jean-François Lyotard has explained, postmodernism is characterized fundamentally by its "incredulity toward meta-narratives." ¶ Nonetheless, I can't see how postmodern critics can do otherwise than accept the value of preserving the nonhuman world. The nonhuman is the extreme "other"; it stands in contradistinction to humans as a species. In understanding the constructed quality of human experience and the dangers of reification, postmodernism inherently advances an ethic of respecting the "other." At the very least, respect must involve ensuring that the "other" actually continues to exist. In our day and age, this requires us to take responsibility for protecting the actuality of the nonhuman. Instead, however, we are running roughshod over the earth's diversity of plants, animals, and ecosystems. Postmodern critics should find this particularly disturbing. If they don't, they deny their own intellectual insights and compromise their fundamental moral commitment.¶ NOW, WHAT does this mean for politics and policy, and the future of the environmental movement? Society is constantly being asked to address questions of environmental quality for which there are no easy answers. As we wrestle with challenges of global climate change, ozone depletion, loss of biological diversity, and so forth, we need to consider the economic, political, cultural, and aesthetic values at stake. These considerations have traditionally marked the politics of environmental protection. A sensitivity to eco-criticism requires that we go further and include an ethic of otherness in our deliberations. That is, we need to be moved by our concern to make room for the "other" and hence fold a commitment to the nonhuman world into our policy discussions. I don't mean that this argument should drive all our actions or that respect for the "other" should always carry the day. But it must be a central part of our reflections and calculations. For example, as we estimate the number of people that a certain area can sustain, consider what to do about climate change, debate restrictions on ocean fishing, or otherwise assess the effects of a particular course of action, we must think about the lives of other creatures on the earth-and also the continued existence of the nonliving physical world. We must do so not because we wish to maintain what is "natural" but because we wish to act in a morally respectable manner.¶ I have been using postmodern cultural criticism against itself. Yes, the postmodernists are right: we can do what we want with the nonhuman world. There is nothing essential about the realm of rocks, trees, fish, and climate that calls for a certain type of action. But postmodernists are also right that the only ethical way to act in a world that is socially constructed is to respect the voices of the others-of those with whom we share the planet but with whom we may not share a common language or outlook. There is, in other words, a limit or guiding principle to our actions. As political theorist Leslie Thiele puts it, "One can't argue for the diversity of views of "nature" without taking a stand for the diversity of nature."

#### Sustainability’s critical to avert environmental crisis and reformulate being, which forms the foundation for a new relationship with nature

Leff 3 (Enrique, Ph.D, has been working with the United Nations Environment Programme, Coordinator of the United Nations Environment Program's (UNEP) Environmental Training Network for Latin America, Nature, Culture, Sustainability: The Social Construction of an Environmental Rationality, Ecological Threats and New Promises of Sustainability for the 21 Century, Queen Elizabeth House 50 Anniversary Conference, Oxford, 3-4 July, 2005, http://www.qeh.ox.ac.uk/dissemination/conference-papers/leff.pdf/

Environmental crisis is a crisis of civilization. It is the crisis of our modern times. **Sustainability emerges as a stop sign that signals a limit**. The discourse on sustainable development is deployed in a political field where alternative routes are debated to open ways to attain sustainability as an imperative for humanity. Political ecology is the space where different visions, meanings, interests and strategies are disputed for the re- appropriation of nature, of culture and of existential life. Environmental crisis is not an ecologic catastrophe, but the result of the thinking that has guided the construction and the destruction of the global world and our world-lives. This crisis appears as a limit to the global inertia and current trends triggered and fueled by the economic and technological rationalization of the world. **Sustainability is a signifier that reorients history towards a sustainable future**. This implies limiting economic and population growth, ecological decay and degradation of the environment; poverty and social inequity. It imposes the challenge of deconstructing the world economic order and imagining a new environmental rationality **Environmental crisis is the crisis of Western thinking**, from metaphysics that produced the disjunction between entities and beings opening the way to scientific and technological rationality of modernity, a departure from being that generated a fragmented and objectified world in its will to dominate and to control nature. Thus, environmental crisis comes to question the ontology and epistemology that have founded and established an **unsustainable way of understanding** things and beings in the course of Western civilization; of scientific and technological reason that has dominated nature and “economized” our modern world. Environmental crisis is above all a problem of knowledge. **It leads to rethinking being** and its ways towards complexity, to be able to open new paths in history and **to create an environmental savoir** 1, **capable of reorienting societies towards** the reconstruction of their life-worlds in **a new relationship with nature.**

#### Collapse is worse for all their impacts---causes extinction of every other species and then humans

Monbiot 9 – George Monbiot, columnist for The Guardian, has held visiting fellowships or professorships at the universities of Oxford (environmental policy), Bristol (philosophy), Keele (politics), Oxford Brookes (planning), and East London (environmental science, August 17, 2009, “Is there any point in fighting to stave off industrial apocalypse?,” online: http://www.guardian.co.uk/commentisfree/cif-green/2009/aug/17/environment-climate-change

The interesting question, and the one that probably divides us, is this: to what extent should we welcome the likely collapse of industrial civilisation? Or more precisely: to what extent do we believe that some good may come of it?

I detect in your writings, and in the conversations we have had, an attraction towards – almost a yearning for – this apocalypse, a sense that you see it as a cleansing fire that will rid the world of a diseased society. If this is your view, I do not share it. I'm sure we can agree that the immediate consequences of collapse would be hideous: the breakdown of the systems that keep most of us alive; mass starvation; war. These alone surely give us sufficient reason to fight on, however faint our chances appear. But even if we were somehow able to put this out of our minds, I believe that what is likely to come out on the other side will be worse than our current settlement.

Here are three observations: 1 Our species (unlike most of its members) is tough and resilient; 2 When civilisations collapse, psychopaths take over; 3 We seldom learn from others' mistakes.

From the first observation, this follows: even if you are hardened to the fate of humans, you can surely see that our species will not become extinct without causing the extinction of almost all others. However hard we fall, we will recover sufficiently to land another hammer blow on the biosphere. We will continue to do so until there is so little left that even Homo sapiens can no longer survive. This is the ecological destiny of a species possessed of outstanding intelligence, opposable thumbs and an ability to interpret and exploit almost every possible resource – in the absence of political restraint.

#### No mindset shift or decline of the squo

Mead 7-28 – PhD, Professor of Foreign Affairs and Humanities at Bard College

Walter Russell, “The Energy Revolution 4: Hot Planet?,” The American Interest, http://blogs.the-american-interest.com/wrm/2012/07/28/the-energy-revolution-4-hot-planet/

But those glory days are over now, and the smarter environmentalists are bowing to the inevitable. George Monbiot, whose cries of woe and pain in the Guardian newspaper have served as the Greek chorus at each stage of the precipitous decline of the global green movement, gave voice to green grief at the prospect of a wealthy and prosperous century to come: “We were wrong,” he wrote on July 2,”about peak oil. There’s enough to fry us all.” Monbiot now gets the politics as well: There is enough oil in the ground to deep-fry the lot of us, and no obvious means to prevail upon governments and industry to leave it in the ground. Twenty years of efforts to prevent climate breakdown through moral persuasion have failed, with the collapse of the multilateral process at Rio de Janeiro last month. The world’s most powerful nation is again becoming an oil state, and if the political transformation of its northern neighbour [a reference to Canada] is anything to go by, the results will not be pretty. In other words, a newly oil rich United States is going to fight even harder against global green carbon policies, and the new discoveries will tilt the American political system even farther in the direction of capitalist oil companies. Capitalism is not, Monbiot is forced to admit, a fragile system that will easily be replaced. Bolstered by huge supplies of oil, it is here to stay. Industrial civilization is, as far as he can now see, unstoppable. Gaia, that treacherous slut, has made so much oil and gas that her faithful acolytes today cannot protect her from the consequences of her own folly. Welcome to the New Green Doom: an overabundance of oil and gas is going to release so much greenhouse gas that the world is going to fry. The exploitation of the oil sands in Alberta, warn leading environmentalists, is a tipping point. William McKibben put it this way in an interview with Wired magazine in the fall of 2011: I think if we go whole-hog in the tar sands, we’re out of luck. Especially since that would doubtless mean we’re going whole-hog at all the other unconventional energy sources we can think of: Deepwater drilling, fracking every rock on the face of the Earth, and so forth. Here’s why the tar sands are important: It’s a decision point about whether, now that we’re running out of the easy stuff, we’re going to go after the hard stuff. The Saudi Arabian liquor store is running out of bottles. Do we sober up, or do we find another liquor store, full of really crappy booze, to break into? A year later, despite the success of environmentalists like McKibben at persuading the Obama administration to block a pipeline intended to ship this oil to refineries in the US, it’s clear (as it was crystal clear all along to anyone with eyes to see) that the world has every intention of making use of the “crappy liquor.” Again, for people who base their claim to world leadership on their superior understanding of the dynamics of complex systems, greens prove over and over again that they are surprisingly naive and crude in their ability to model and to shape the behavior of the political and economic systems they seek to control. If their understanding of the future of the earth’s climate is anything like as wish-driven, fact-averse and intellectually crude as their approach to international affairs, democratic politics and the energy market, the greens are in trouble indeed. And as I’ve written in the past, the contrast between green claims to understand climate and to be able to manage the largest and most complex set of policy changes ever undertaken, and the evident incompetence of greens at managing small (Solyndra) and large (Kyoto, EU cap and trade, global climate treaty) political projects today has more to do with climate skepticism than greens have yet understood. Many people aren’t rejecting science; they are rejecting green claims of policy competence. In doing so, they are entirely justified by the record. Nevertheless, the future of the environment is not nearly as dim as greens think. Despairing environmentalists like McKibben and Monbiot are as wrong about what the new era of abundance means as green energy analysts were about how much oil the planet had. The problem is the original sin of much environmental thought: Malthusianism. If greens weren’t so addicted to Malthusian horror narratives they would be able to see that the new era of abundance is going to make this a cleaner planet faster than if the new gas and oil had never been found. Let’s be honest. It has long been clear to students of history, and has more recently begun to dawn on many environmentalists, that all that happy-clappy carbon treaty stuff was a pipe dream and that nothing like that is going to happen. A humanity that hasn’t been able to ban the bomb despite the clear and present dangers that nuclear weapons pose isn’t going to ban or even seriously restrict the internal combustion engine and the generator. The political efforts of the green movement to limit greenhouse gasses have had very little effect so far, and it is highly unlikely that they will have more success in the future. The green movement has been more of a group hug than a curve bending exercise, and that is unlikely to change. If the climate curve bends, it will bend the way the population curve did: as the result of lots of small human decisions driven by short term interest calculations rather than as the result of a grand global plan. The shale boom hasn’t turned green success into green failure. It’s prevented green failure from turning into something much worse. Monbiot understands this better than McKibben; there was never any real doubt that we’d keep going to the liquor store. If we hadn’t found ways to use all this oil and gas, we wouldn’t have embraced the economics of less. True, as oil and gas prices rose, there would be more room for wind and solar power, but the real winner of an oil and gas shortage is… coal. To use McKibben’s metaphor, there is a much dirtier liquor store just down the road from the shale emporium, and it’s one we’ve been patronizing for centuries. The US and China have oodles of coal, and rather than walk to work from our cold and dark houses all winter, we’d use it. Furthermore, when and if the oil runs out, the technology exists to get liquid fuel out of coal. It isn’t cheap and it isn’t clean, but it works. The newly bright oil and gas future means that we aren’t entering a new Age of Coal. For this, every green on the planet should give thanks. The second reason why greens should give thanks for shale is that environmentalism is a luxury good. People must survive and they will survive by any means necessary. But they would much rather thrive than merely survive, and if they can arrange matters better, they will. A poor society near the edge of survival will dump the industrial waste in the river without a second thought. It will burn coal and choke in the resulting smog if it has nothing else to burn. Politics in an age of survival is ugly and practical. It has to be. The best leader is the one who can cut out all the fluff and the folderol and keep you alive through the winter. During the Battle of Leningrad, people burned priceless antiques to stay alive for just one more night. An age of energy shortages and high prices translates into an age of radical food and economic insecurity for billions of people. Those billions of hungry, frightened, angry people won’t fold their hands and meditate on the ineffable wonders of Gaia and her mystic web of life as they pass peacefully away. Nor will they vote George Monbiot and Bill McKibben into power. They will butcher every panda in the zoo before they see their children starve, they will torch every forest on earth before they freeze to death, and the cheaper and the meaner their lives are, the less energy or thought they will spare to the perishing world around them. But, thanks to shale and other unconventional energy sources, that isn’t where we are headed. We are heading into a world in which energy is abundant and horizons are open even as humanity’s grasp of science and technology grows more secure. A world where more and more basic human needs are met is a world that has time to think about other goals and the money to spend on them. As China gets richer, the Chinese want cleaner air, cleaner water, purer food — and they are ready and able to pay for them. A Brazil whose economic future is secure can afford to treasure and conserve its rain forests. A Central America where the people are doing all right is more willing and able to preserve its biodiversity. And a world in which people know where their next meal is coming from is a world that can and will take thought for things like the sustainability of the fisheries and the protection of the coral reefs. A world that is more relaxed about the security of its energy sources is going to be able to do more about improving the quality of those sources and about managing the impact of its energy consumption on the global commons. A rich, energy secure world is going to spend more money developing solar power and wind power and other sustainable sources than a poor, hardscrabble one. When human beings think their basic problems are solved, they start looking for more elegant solutions. Once Americans had an industrial and modern economy, we started wanting to clean up the rivers and the air. Once people aren’t worried about getting enough calories every day to survive, they start wanting healthier food more elegantly prepared. A world of abundant shale oil and gas is a world that will start imposing more environmental regulations on shale and gas producers. A prosperous world will set money aside for research and development for new technologies that conserve energy or find it in cleaner surroundings. A prosperous world facing climate change will be able to ameliorate the consequences and take thought for the future in ways that a world overwhelmed by energy insecurity and gripped in a permanent economic crisis of scarcity simply can’t and won’t do.

#### Global order won’t be restructured---movements just kill billions

Mead 9

2/4, Walter Russell, Henry A. Kissinger Senior Fellow in U.S. Foreign Policy at the Council on Foreign Relations, Only Makes You Stronger: Why the recession bolstered America, The New Republic

Even before the Panic of 2008 sent financial markets into turmoil and launched what looks like the worst global recession in decades, talk of American decline was omnipresent. In the long term, the United States faces the rise of Asia and the looming fiscal problems posed by Medicare and other entitlement programs. In the short term, there is a sense that, after eight years of George W. Bush, the world, full of disdain for our way of life, seems to be spinning out of our--and perhaps anybody's--control. The financial panic simply brought all that simmering anxiety to a boil, and the consensus now seems to be that the United States isn't just in danger of decline, but in the full throes of it--the beginning of a "post-American" world. Perhaps--but the long history of capitalism suggests another possibility. After all, capitalism has seen a steady procession of economic crises and panics, from the seventeenth-century Tulip Bubble in the Netherlands and the Stop of the Exchequer under Charles II in England through the Mississippi and South Sea bubbles of the early eighteenth century, on through the crises associated with the Napoleonic wars and the spectacular economic crashes that repeatedly wrought havoc and devastation to millions throughout the nineteenth century. The panics of 1837, 1857, 1873, 1893, and 1907 were especially severe, culminating in the Great Crash of 1929, which set off a depression that would not end until World War II. The series of crises continued after the war, and the last generation has seen the Penn Central bankruptcy in 1970, the first Arab oil crisis of 1973, the Third World debt crisis of 1982, the S&L crisis, the Asian crisis of 1997, the bursting of the dot-com bubble in 2001, and today's global financial meltdown. And yet, this relentless series of crises has not disrupted the rise of a global capitalist system, centered first on the power of the United Kingdom and then, since World War II, on the power of the United States. After more than 300 years, it seems reasonable to conclude that financial and economic crises do not, by themselves, threaten either the international capitalist system or the special role within it of leading capitalist powers like the United Kingdom and the United States. If anything, the opposite seems true--that financial crises in some way sustain Anglophone power and capitalist development.

#### Quick collapse kills billions and leads to far worse environmental destruction on a global scale

Rubin 8 – Dani Rubin, Earth Editor for PEJ News, January 8, 2008, “Beyond Post-Apocalyptic Eco-Anarchism,” online: http://www.pej.org/html/modules.php?op=modload&name=News&file=article&sid=7133&mode=thread&order=0&thold=0.]

Unlike twenty-five years ago, people are now publicly, saying that our global civilization is a disease and that mankind is a plague, a planetary scourge. I admit that I find these sorts of metaphors alluring. There is finality, a sense of epistemological certainty in the notion that our species is cancerous due to its avaricious proclivities. It does seem that we are busily destroying the Garden of Eden. But this metaphor is incomplete, as are many metaphors.

“What are we? Monsters, machines, animals, angels, humans...?” Of course, these are all possible answers, varied and complex patterns lurk in our self-definition. For me the best answer is, “We are the part of Nature that has forgotten that we are a part of nature.” (Some might say that we are in ‘complete denial’.)

 We fool ourselves. No matter how man-made our immediate environs, we are still a part of nature – deeply and richly so. We are a part of the pageant of life, and as I said at the start, I love life. We are part of an extraordinary flowering in the universe.

Unlike twenty-five years ago, increasingly, people are adopting the anarcho-apocalyptic, civilization-must-fall-to-save-the-world attitude. It is a fairly clean and tight worldview, zealously bulletproof, and it scares me. I want the natural world, the greater community of life beyond our species, with all its beautiful and terrifying manifestations, and its vibrant landscapes to survive intact – I think about this a lot.

A quick collapse of global civilization, will almost certainly lead to greater explosive damage to the biosphere, than a mediated slower meltdown.

When one envisions the collapse of global society, one is not discussing the demise of an ancient Greek city-state, or even the abandonment of an empire like the Mayans. The end of our global civilization would not only result in the death of six billion humans, just wiping nature’s slate clean. We also have something like 5,000 nuclear facilities spread across the planet’s surface. And this is just one obvious and straightforward fact cutting across new radical arguments in favor of a quick fall.

We have inserted ourselves into the web of life on planet Earth, into its interstitial fibers, over the last 500 years. We are now a big part of the world’s dynamic biological equation set – its checks and balances. If we get a “fever” and fall into social chaos, even just considering our non-nuclear toys laying about, the damage will be profound. It will be much more devastating than our new visionaries of post-apocalyptic paradise have prophesized.

If one expands upon current examples of social chaos that we already see, like Afghanistan or Darfur, extrapolating them across the globe, encompassing Europe, Asia, North and South America, and elsewhere, then one can easily imagine desperate outcomes where nature is sacrificed wholesale in vain attempts to rescue human life. The outcomes would be beyond “ugly”; they would be horrific and enduring.

That is why I cannot accept this new wave of puritanical anarcho-apocalyptic theology. The end-point of a quick collapse is quite likely to resemble the landscape of Mars, or even perhaps the Moon. I love life. I do not want the Earth turned barren.

I think that those who are dreaming of a world returned to its wilderness state are lovely, naive romantics – dangerous ones. Imagine 100 Chernobyl’s spewing indelible death. Imagine a landscape over-run with desperate and starving humans, wiping out one ecosystem after another. Imagine endless tribal wars where there are no restraints on the use of chemical and biological weapons. Imagine a failing industrial infrastructure seeping massive quantities of deadly toxins into the air, water and soil.

This is not a picture of primitive liberation, of happy post-civilized life working the organic farm on Salt Spring Island.

I agree that we must change our ways. We desperately need to change our ways. Our global society is exploitative, unsustainable, and abuses the biosphere. We are in big trouble. However, coping out by calling for a hastened end to civilization is suicidal, and like all suicides, it does not fully consider what comes after – it is marked by a surplus of self-absorbed willfulness and a short-fall of thoughtful consideration.

There is, however, a more reasonable sub-strain of eco-apocalyptic anarchism that makes a truly heartfelt argument: “The End is coming anyway. If we hasten it, we may save species ’x’ that is currently on the verge of extinction. We should accept that our species is doomed. Must we take everything down with us in a long, slow death?”

I find this rhetoric particularly appealing because it awakens deep personal notions of romantic heroism in me. These are noble, caring thoughts.

Unfortunately, life just isn’t quite so simple. Sure a quick crash might save a couple of emblematic species from extinction, for a while, but the near certain trade-off would be the desertification of whole continental areas of the planet, wiping out thousands of complete ecosystems.

#### The move to tribal localism kills the majority of the world’s population

**Barton 8** (Tim, Social Ecology Institute, “Book Review: Twilight of the Machines”, February, http://www.bluegreenearth.us/archive/reviews/2008/barton-2-2008.html)

A conflation of his anti-virtuality and pro-'way of life' embedded **tribal localism** indicates his 'way forward'. These are the only clues he offers, bar destruction of everything else, and so he inevitably will be judged in this review on the basis of them. I find it ironic that he has spent so much time railing against all of civilisation, including presumably the plough, the wheel, fire, medical knowledge..., and acknowledging that the civilisation we have at present is driving us to a crash (and a possible extinction) that he avowedly deplores - yet, at the same time he **gestures at 'solutions' that would be viable only for the tiniest minority of those alive today.** The survivalist subtext is worrying, and frankly renders his misapplication of blame in our societies problems all the more dangerous.

#### No root cause

Larrivee 10— PF ECONOMICS AT MOUNT ST MARY’S UNIVERSITY – MASTERS FROM THE HARVARD KENNEDY SCHOOL AND PHD IN ECONOMICS FROM WISCONSIN, 10 [JOHN, A FRAMEWORK FOR THE MORAL ANALYSIS OF MARKETS, 10/1, <http://www.teacheconomicfreedom.org/files/larrivee-paper-1.pdf>]

 The Second Focal Point: Moral, Social, and Cultural Issues of Capitalism Logical errors abound in critical commentary on capitalism. Some critics observe a problem and conclude: “I see X in our society. We have a capitalist economy. Therefore capitalism causes X.” They draw their conclusion by looking at a phenomenon as it appears only in one system. Others merely follow a host of popular theories according to which capitalism is particularly bad. 6 The solution to such flawed reasoning is to be comprehensive, to look at the good and bad, in market and non-market systems. Thus the following section considers a number of issues—greed, selfishness and human relationships, honesty and truth, alienation and work satisfaction, moral decay, and religious participation—that have often been associated with capitalism, but have also been problematic in other systems and usually in more extreme form. I conclude with some evidence for the view that markets foster (at least some) virtues rather than undermining them. My purpose is not to smear communism or to make the simplistic argument that “capitalism isn’t so bad because other systems have problems too.” The critical point is that certain people thought various social ills resulted from capitalism, and on this basis they took action to establish alternative economic systems to solve the problems they had identified. That they failed to solve the problems, and in fact exacerbated them while also creating new problems, implies that capitalism itself wasn’t the cause of the problems in the first place, at least not to the degree theorized.

#### Ending cap just causes tech stagnation---people will use the cheapest, dirtiest tech

Bailey 2 – Ronald Bailey, science correspondent for Reason magazine and Reason.com, member of the Society of Environmental Journalists and the American Society for Bioethics and Humanities, November 20, 2002, “Ethical Poverty: Staying Poor to Save the Planet,” online: http://www.reason.com/news/show/34913.html

With regard to using physical resources, no less an environmental alarmist than Al Gore noted in 1999 that "throughout our economy, skills, intelligence, and creativity are replacing mass and money—which is why, in the past 50 years, the value of our economy has tripled, while the physical weight of our economy as a whole has barely increased at all." In other words, we got richer not just by using more stuff but by using it more intelligently. Forests are expanding, and water use per capita in the United States has been going down for two decades.

Economic growth is what has paid for both the technological improvements and the compliance with regulations that have made environmental improvements possible. To consider just how wrongheaded Elliott and Lamm are, think how polluted the United States would be if the economy hadn't grown at all since the 1950s. People would still be using technologically backward cars spewing pollutants. There would be very few municipal sewage treatment plants on rivers, no filters on coal-fired electric plants, few controls on industrial dumping, and no modern landfills. Forests would have been chopped down to accommodate low-productivity farms.

#### Collapse causes existing tech to atrophy which causes extinction---the only way to prevent global death is to continue growth so we can effectively manage hazards

Atkisson 1 – Alan Atkisson, President and CEO of The AtKisson Group, an international sustainability consultancy to business and government, October 18, 2001, “Sustainability is Dead – Long Live Sustainability,” online: http://www.rrcap.unep.org/uneptg06/course/Robert/SustainabilityManifesto2001.pdf

AT THE DAWN of the Third Millennium, human civilization finds itself in a seeming paradox of gargantuan proportions. On the one hand, industrial and technological growth is destroying much of Nature, endangering ourselves, and threatening our descendants. On the other hand, we must accelerate our industrial and technological development, or the forces we have already unleashed will wreak even greater havoc on the world for generations to come.

We cannot go on, and we cannot stop. We must transform.

Facing a Great Paradox

At precisely the moment when humanity’s science, technology, and economy has grown to the point that we can monitor and evaluate all the major systems that support life, all over the Earth, we have discovered that most of these systems are being systematically degraded and destroyed . . . by our science, technology, and economy.

The evidence that we are beyond the limits to growth is by now overwhelming: the alarms include climatic change, disappearing biodiversity, falling human sperm counts, troubling slow-downs in food production after decades of rapid expansion, the beginning of serious international tensions over basic needs like water. Wild storms and floods and eerie changes in weather patterns are but a first visible harbinger of more serious trouble to come, trouble for which we are not adequately prepared.

Indeed, change of all kinds—in the Biosphere (nature as a whole), the Technosphere (the entirety of human manipulation of nature), and the Noösphere (the collective field of human consciousness)—is happening so rapidly that it exceeds our capacity to understand it, control it, or respond to it adequately in corrective ways. Humanity is simultaneously entranced by its own power, overwhelmed by the problems created by progress, and continuing to steer itself over a cliff.

Our economies and technologies are changing certain basic structures of planetary life, such as the balance of carbon in the atmosphere, genetic codes, the amount of forest cover, species variety and distribution, and the foundations of cultural identity.

Unless we make technological advances of the highest order, many of the destructive changes we are causing to nature are irreversible. Extinct species cannot (yet) be brought back to life. No credible strategy for controlling or reducing carbon dioxide levels in the atmosphere has been put forward. We do not know how to fix what we’re breaking. At the same time, some of the very products of our technology— plutonium, for instance—require of us that we maintain a very high degree of cultural continuity, economic and political stability, and technological capacity and sophistication, far into the future. To ensure our safety and the safety of all forms of life, we must always be able to store, clean up, and contain poisons like plutonium and persistent organic toxins. Eventually we must be able to eliminate them safely. At all times, we must be able to contain the actions of evil or unethical elements in our societies who do not care about the consequences to life of unleashing our most dangerous creations. In the case of certain creations, like nuclear materials and some artificially constructed or genetically modified organisms, our secure custodianship must be maintained for thousands of years.

We are, in effect, committed to a high-technology future. Any slip in our mastery over the forces now under our command could doom our descendants—including not just human descendants, but also those wild species still remaining in the oceans and wilderness areas—to unspeakable suffering. We must continue down an intensely scientific and technological path, and we can never stop.

Sustaining such high levels of complex civilization and continuous development has never before happened in the history of humanity, so far as we know. From the evidence in hand, ancient civilizations have generally done no better than a few hundred years of highly variable progress and regress, at comparatively low levels of technology, with relatively minor risks to the greater whole associated with their inevitable collapse.

The only institutions that have demonstrated continuity over millennia are religions and spiritual traditions and institutions. So, while we must be intensely scientific, our future is also in need of a renewed sense of spirituality and the sacred. Given our diversity and historic circumstances, no one religion is likely to be able, now or in the future, to sustain us or unite us.We need a new sense of spirituality that is inclusive of believers, nonbelievers, and those for whom belief itself is not the core of spiritual experience. We need a sense of the sacred that is inclusive of the scientific quest and the technological imperative. We need a common sense of high purpose that connects, bridges, and uplifts all of our religious traditions to their highest levels of wisdom and compassion, while sustaining and honoring their unique historical gifts. We need, especially, all the inspiration and solace they can offer, because the task ahead of us is enormous beyond compare.

Our generation is charged with an unprecedented responsibility: to lay secure foundations for a global civilization that can last for thousands of years. To accomplish this task, we must, in the coming decades, maintain and greatly enhance our technical capacities and cultural stability, while simultaneously changing almost every technological system on which we now depend so that it causes no harm to people or the natural world, now or in the future.

# 1AR

### Perm Card

#### Perm solves and resolves links---net-benefit is extinction in the short term from warming

Revington 98--volunteer with the Rainforest Information Centre. masters degree in social ecology and edited an international journal on rainforests for ten years(John, Deep Ecology is not Enough, www.rainforestinfo.org.au/deep-eco/deep.htm)

True, humanity's underlying problems are not political. True, working on a purely political level is futile in the long run. But that does not mean that looking for political solutions is futile; in fact, it is essential in the short run. If we fail to find political solutions in the short run, there isn't going to be any long run.

The Terania Creek rainforests are a few kilometres from where I live. They wouldn't be there, had it not been for the hundreds of people who protested their planned logging in the early 1980s. Those protests were clearly political, and they resulted in a political solution to the threat posed by the timber industry to NSW rainforests. Interestingly, this political action was for many of the protesters a deeply spiritual experience which has provided the impetus for further political action in defence of forests.

There are countless examples of natural places all over the world that would no longer exist, had human beings not engaged in political action to save them from other human beings. Without political action, there would be no more natural world to be Ecologically Deep about. And the example of Terania Creek shows that political action and a sense of reverence for the natural world can go together. They don't exclude each other; they complement each other. Political action is essential, and in many cases, it is the insights of Deep Ecology which inspire political action.

The Need for Political Understanding

Of course, many, if not most, Deep Ecologists would agree with the idea that political action is necessary. But there is a further point here: not only is political action essential, political understanding is also needed. It seems to me that many green activists assume that Deep Ecology provides a complete intellectual framework, adequate to guide their actions. It doesn't. Deep Ecology is not enough.

Here's why:

Firstly, if we undertake political action with no understanding of how power structures work in our culture, then we will not operate in the most effective way. In fact, we may unwittingly alienate those whose support we need most. And environmental struggles are seldom won by lying in front of bulldozers. That kind of protest is almost invariably just part of a wider, more protracted struggle. That wider struggle requires determination and an understanding of the affairs of human beings.

To remark, as Tom Robbins does, that the Holocaust would have been avoided if Hitler had been jeered and pelted with sausage skins, is simply not good enough. The holocaust of the Earth is now in progress. Jeers and sausage skins will not rid us of those who are presiding over the slaughter. We need to look a little more deeply than that. We need to understand how our decision makers got to be there, and what to do about it.

Secondly, it is not enough to say "no" to what is happening in our world. An alternative vision of a sustainable society is needed, and Deep Ecology cannot provide that vision. Perhaps it can provide the spiritual and ethical basis for such a vision, but it will not provide us with all the guidance we need, any more than a knowledge of Christian dogma is guidance enough to build a nuclear power station or run the World Bank.

Elites and Exploitation

In an interesting counterpoint to Margaret Mead's oft-quoted statement about small groups of committed individuals changing the world, Larry Lohmann warns: "never underestimate the ability of modern elites to work out ways of coming through a crisis with their power intact"(Lohmann p.40). The power of modern elites is based on exploitation, both of environment and people. So long as their power remains intact, they will continue to exploit, no matter how deep the ecology of the people who try to oppose them.

Look at the recent forest fires in Indonesia. Everyone knows that logging companies are largely to blame. Everyone knows that President Suharto is part of the elite which profits from the exploitation of Indonesia's dwindling forests. Everyone knows that Indonesia's ruling elite will come through the current crisis with its power intact, and by itself, no amount of Deep Ecology will change that. The only hope for change is through political action, and political action will not succeed unless it is born out of an understanding of political power and how to wield it.

At the very least, an understanding of social structures is essential if protest is to be effective. Without such an understanding, environmentalists risk alienating those who are their natural allies. When green groups align themselves with oppressed minorities, they make allies of those who are desperate for change, who are driven by the hunger in their bellies. When they ignore such groups, or view their cause as being somehow less noble than their own, then they fail to recognise the forces at work in the exploitation of the Earth. Because almost without exception, exploitation of the Earth goes hand in hand with the exploitation of those who live closest to the Earth.

Different Theories for Different Queries

As I have said, I think Deep Ecology is misused by those who appear to believe it can be employed as a yardstick to make moral and practical judgements in all situations. Part of the problem here is a failure to make distinctions about the kinds of knowledge we are dealing with. Deep Ecology and the analysis of human society are concerned with fundamentally different spheres. When the thinking used in one sphere is used to make decisions in the other, then problems arise. We need different ears for different spheres.

Deep Ecology is about values, about fundamental beliefs and ways of looking at the world. It does what religion tries -- and, for more and more people, fails -- to do. It touches the heart rather than the intellect. It offers answers to questions like "Who am I?" and "What matters?". It offers a way of understanding the world which gives human beings a sense of purpose beyond themselves and connection with the all the other species in the world..

Social and political analysis, on the other hand, is primarily about how to operate in the world. It has basic values as well, usually about social justice and the betterment of people's lives, but mostly it is not about values. It tells us "this is how people operate" rather than "this is what matters".

So if I use the tenets of Deep Ecology as the sole basis on which to run a campaign to protect a forest against logging, I won't do a very good job. I would be using the wrong tool, like using a violin to sweep the floor. Deep Ecology may be the inspiration for my campaign, and it may be used as a source of arguments to inspire others, but it won't tell me how to issue a press release, promote social justice, form alliances with other groups or run a meeting on strategies.

So it is inappropriate to use theories about ethical value as one's only guide in practical situations. It is also inappropriate to use ostensibly "factual" and "value free" analysis as the sole basis for practical decision making. This is also a case of using the wrong tool for the job. Economic rationalism, with its pseudo-scientific approach, and its failure to acknowledge its own implicit values, is an example of this. But that's another story.

### No Transition

#### Capitalism is natural and inevitable

Wood 2 (Ellen M., Ph.D in political science from UCLA, The Origin of Capitalism, pg. 4-6)

These question-begging explanations have their origina in classical political economy and Enlightenment conceptions of progress. Together, they give an account of historical development in which the mergence and growth to maturity of capitalism are already prefigured in the earliest manifestations of human rationality, in the technological advances that began when Homo Sapiens first wielded a tool, and in the acts of exchange human beings have practised since time immemorial. History’s journey to that final destination, to ‘commercial society’ or capitalism, has, to be sure, been long and arduous, and many obstacles hace stood in its way. But its progress has nonetheless been natural and inevitable. Nothing more is required, then, to explain the ‘rise of capitalism’ than an account of how many obstacles to its forward movement have been lifted- sometimes gradually, sometimes suddenly, with revolutionary violence. In more accounts of capitalism and its origin, there really *is* no origin. Capitalism seems always to be there, somewhere; and it only needs to be released from its chains- for instance, from the fetters of feudalism- to be allowed to grow and mature. Typically, these fetters are political: the parasitic powers of lordship, or the restrictions of an autocratic state. Sometimes they are cultural or ideological: perhaps the wrong religion. These contraints confine the free movement of ‘economic’ actors, the free expression of econmic rationality. The ‘economic’ in these formulations is identified with exchange or markets; and it is here that we can detect the assumption that the seeds of capitalism are contained in the most primitive acts of exchange, in any form of trade or market activity. That assumption is typically connected With the other presupposition: that history has been an almost natural process of technological development. One way or another, capitalism more or less naturally appears when and where expanding markets and technological development reach the right level, allowing sufficient wealth to be accumulated so that is can be profitably reinvested. Many Marxist explanations are fundamentally the same- with the addition of bourgeois revolutions to help break the fetters. The effect of these explanation is to stress the continuity between non-capitalist and capitalist societies, and to deny the disguise of the specificity of capitalism. Exchange has existed more or less forever, and it seems that the capitalist market is just more of the same. In this kind of argument, because capitalism’s specific and unique need constantly to revolutionize the forces of production is just an extension and an acceleration of universal and transhistorical, almost natural, tendencies, industrialization is the inevitable outcome of humanity’s most basic inclinations. So the lineage of capitalism passes naturally from the earliest Babylonian merchant through the medieval burgher to the early modern bourgeois and finally to the industrial capitalist. There is similar logic in certain Marxist versions of this story, even though the narrative in more recent version often shifts from the town to the countryside, and merchants are replaced by rural commodity producers, small or ‘middling’ farmers waiting for the opportunity to blossom into full-blown capitalists. In this kind of narrative, petty commodity production, released from the bonds of feudalism, grows more or less naturally into capitalism, and petty commodity producers, just given the chance, will take the capitalist road. Central to these conventional accounts of history are certain assumptions, explicit or implicit, about human nature and about how human beings will behave, if only given the chance. They will, so the story goes, always avail themselves of the opportunity to maximize profits through acts of exchange, and in order to realize that natural inclination, they will always find ways of improving the organization and instruments of work in order to enhance the productivity of labor.

#### No shift to small-scale communities

Barnhizer 6 – Professor of Law, Cleveland State University. (David, Waking from Sustainability's "Impossible Dream": The Decisionmaking Realities of Business and Government, 18 Geo. Int'l Envtl. L. Rev. 595, Lexis)

"Small is beautiful" has become an impossible dream for all but a few communities. The process of impossibility is driven by population growth, the breakdown of local communities through migration, the infusion of multicultural diversity, and a materialistic ethos that has altered our sense of what constitutes [\*619] quality of life. The most obvious driving forces include increasing urban densities and coastal development requiring massive infrastructures and supportive supply systems, overall population levels, and the distortions of population distribution and age demographics. To these can be added quality of life demands caused by people in economically impoverished countries who can see how material life is led in richer countries and the spread of interdependent economic systems that allow global production and distribution systems to penetrate what had been largely closed economic and cultural systems. These conditions are not reversible.

#### No political will – the alt requires authoritarianism to work

Barnhizer 6 – Professor of Law, Cleveland State University. (David, Waking from Sustainability's "Impossible Dream": The Decisionmaking Realities of Business and Government, 18 Geo. Int'l Envtl. L. Rev. 595, Lexis)

Our failure to be effective in protecting our critical ecological and social systems while making economic and political decisions is not only a problem of corruption, callousness, greed, and wrong intentions. It is also a reflection of our hubris and limited cognitive and perceptual capacities. Sustainability is an impossible dream not only due to its extraordinary complexity and the fact that it does not fit how we think and organize, but also because we lack the political will to implement the systems that would be needed. Even if we somehow developed the capacity to master the complexity implied in the omniscient concept of sustainable development, we will never have the willingness to do so. Neither would we want to if we understood the centralized power structures, enormous national and transnational bureaucracies, and inevitable use of unrelenting power and force that would be required to compel compliance from the recalcitrant "malingerers" who resisted the imposition of such a political system.¶ My point should not be taken as a lack of concern with the kinds of conditions described by those who warn about impending catastrophes. We face a wrenching future, just as billions of people have been forced to deal with a wrenching past in terms of the tenuous quality of life they endure on a daily basis. The concern of this essay is with how we can best deal with what is within our power to influence or change and how to achieve the best possible outcomes within the context of the existing systems available to us. Because the perspectives of our leaders are short-term, and conditions appear relatively normal almost to the moment at which the so-called "chaos effects" manifest and the systems on which we rely fall apart, it is difficult to the point of improbability to mobilize the political power to make changes at an early enough point where the consequences of our actions can be avoided entirely or at least mitigated significantly. n53 This situation is made more difficult by the fact that many key figures and institutions are benefiting from the existing arrangements. Even though their actions are ultimately responsible for harm to others, they refuse to surrender what they consider their rightful gains. Not only do they seek to reap their economic and political profits, they undermine others' efforts to avoid the impending harm. Those who warn of collapse and disaster are accused of being doomsayers and Cassandras.¶ Prophetic Malthusian analyses as provided by Hardin, Brown, and the Club of Rome are replete with warnings of systemic collapse, exhaustion of resources, resource-based wars over water, food, and energy, and societal degradation. While there have been overstatements and misstatements, there are important truths contained in the "doomsday" declarations. We will increasingly face [\*617] serious problems without adequate preparation and without adaptive strategies to buffer the severe effects our selfish actions will impose on those who lack the ability or resources to protect themselves. n54 The fact that the timing of our modern "prophets of doom" has been off and that new technologies and natural events may have delayed or ameliorated some of the effects does not mean the trends they describe related to energy depletion, global warming, population growth, pollution, desertification, urban decay, poverty, and species loss are not serious. Some will prove catastrophic for large segments of the planet's population. It is axiomatic that those holding wealth and power are nearly always able to escape the consequences of their actions, while others are left behind to suffer the effects. Yet it is those holding that wealth and power who are setting the policies and making the political, legal, and economic decisions that affect the lives of others.¶ Many of the solutions that are being suggested to deal with the problems ignore or fail to understand the reality of human systems. The "solutions" far too frequently depend on achieving fundamental changes in institutional and personal behaviors of the kind that simply are not going to occur--if at all--without us experiencing some substantial degree of crisis and collapse that actually impacts on decisionmakers to the extent they come to fear for their jobs or worse. Even when crises do occur in sufficient intensity and on a scale where people demand responses, any changes will be grudging at best, always partial, and will require a significant amount of governmentally-mandated and enforced compulsion to be even partially effective. Because we operate in the short-term in the political sphere, the point at which action is taken will be sufficiently far along in the process of harm and systemic degradation that for many of the sufferers it will be "too little, too late." n55

### Too Late

#### Returning to a pre-technological state causes extinction---deep-ecology causes environmental collapse in the interim

Zimmerman 89--Philosophy Professor, Tulane (Michael, Interviewed byAlan Atkisson, Introduction To Deep Ecology, http://www.context.org/iclib/ic22/zimmrman/)

Alan: A critique I hear often is that deep ecologists want to return to a way of life that’s totally tied to the rhythms of the Earth, but at this point we have so disturbed those rhythms that we can’t even consider going back. To retreat to a pre-technological state would in fact be dooming the Earth to destruction, whereas what we need now is to be more engaged in trying to repair the damage. How would a deep ecologist respond?

Michael: I think deep ecologists have mixed emotions about that, but I would agree with that critique. For example, if we stopped our development at the current level, it would be a catastrophe, because our production methods are so dirty and inefficient and destructive that if we keep this up, we’re really in trouble.

Some deep ecologists say that it would be all for the best if the industrial world were just to collapse, despite all the human suffering that would entail. If such a thing ever occurs, some people have suggested, we could never revive industrialization again because the raw materials are no longer easily accessible. I hope that doesn’t happen, and yet it may happen.

Now, social ecologists say that deep ecologists flirt with fascism when they talk about returning to an "organic" social system that is "attuned to nature." They note that reactionary thinkers often contrast the supposedly "natural" way of life – which to them means social Darwinism and authoritarian social systems – with "modernity," which in politial terms means progressive social movements like liberalism and Marxism. But deep ecologists recognize this danger. They call not for a regression to collective authoritarianism, but for the evolution of a mode of awareness that doesn’t lend itself to authoritarianism of any kind.

So I think the only thing we can do is to move forward. We need to develop our efficiency and production methods so that we’ll be able to take some of the pressure off the environment. We also need to develop increasing wealth for the highly populated countries so their populations will go down. [Ed. Note: See Lappé and Schurman, "The Population Puzzle," in IC #21.]

There’s a necessity for new technology. The question is, can it be made consistent with our growing awareness that the planet is really hurting?

### Kuznets

#### Sustained growth causes warming to peak and then decline rapidly---it’s the only way to phase-out emissions-intensive industries and spread low-carbon tech

Montgomery and Bate 5 – W. David Montgomery, Vice President of Charles River Associates, Ph.D. in Economics from Harvard, principal lead author on the Second Assessment Report of the IPCC, and Roger Bate, Founder and Director of the Environmental Unit at the Institute of Economic Affairs, February 2005, “A (MOSTLY) PAINLESS PATH FORWARD: REDUCING GREENHOUSE GASES THROUGH ECONOMIC FREEDOM,” in CLIMATE CHANGE POLICY AND ECONOMIC GROWTH: A WAY FORWARD TO ENSURE BOTH, online: http://www.iccfglobal.org/pdf/MasterDocPolicyBook2.pdf

There are several causal routes through which greater economic freedom could lead to lower energy use and emission per dollar of output. Some researchers have concluded that this is achieved by improving economic well-being per se. Others have addressed the question of wealth and GHG emissions by analyzing the relationship between per-capita income and GHG emissions per dollar of output. Schmalensee et al. (1998) find that there is a relationship, and that emissions per dollar of output increase until a middle level of per-capita income is reached, and then begin to decline. The “inverted U” pattern often referred to as the environmental Kuznets curve is based on Simon Kuznets’ studies of how demand for various goods changes as income increases. Schmalensee and his colleagues find evidence for an environmental Kuznets curve in the existence of a within-sample peak in carbon dioxide emissions per capita as per-capita income continues to rise over time.

Developing countries with low levels of income tend to display accelerating growth of emissions, while developed countries generally have an emissions growth trend that is relatively flat or may even be decreasing. None of these studies included indicators of economic freedom as explanatory variables. The relationship identified by Schmalensee et al. suggests that increasing per-capita income is associated with economic changes that increase energy and emissions intensity in the short run for developing countries. Rising per-capita income thus works in the opposite direction to the relationship found between economic freedom and energy or emissions intensity.

The adoption of technology is also a specific process of supply and demand. Countries that are successful in growing rapidly also benefit from the diffusion of energy production and emission control technology throughout their economies and from the establishment of modern business and production techniques that displace traditional practices and outdated equipment. All countries start with a legacy of plant, equipment and infrastructure from pre-market, preindustrial or centrally planned eras. More rapid investment speeds the process of replacing this legacy with more efficient capital equipment.

Economic freedom promotes and accelerates all these processes. Market imperfections that hinder investment – particularly foreign direct investment or FDI – discourage outside investors from transferring their best technologies. Imperfections that protect domestic industries from competition likewise frustrate the economic changes that lead to lower energy use and carbon emissions.

### Sustainable

#### Innovation and adaptation make growth sustainable---green tech investment solves warming and poverty

Harte and Harte 12 John, Professor of Ecosystem Sciences at the University of California, Berkeley and Mary Ellen, biologist and columnist who writes on climate change and population, “Alarmism Is Justified”, Foreign Affairs, 00157120, Sep/Oct 2012, Vol. 91, Issue 5

The Limits to Growth predicted catastrophe: humanity would deplete natural resources and pollute itself to death. Its solution was less economic growth, more recycling, and organic farming. My essay documented how the book's predictions were wildly off, mainly because its authors ignored how innovation would help people overcome environmental challenges.¶ Because the book's goal was so dramatic -- averting the end of the world -- its recommendation was for society to simultaneously do everything in its power to forestall that outcome. Today, much of the environmental movement continues to evince such alarmism and, consequently, is unable to prioritize. Developed countries focus as much on recycling, which achieves precious little at a high cost, as they do on attaining the much larger benefits from tackling air pollution, a massive, if declining, threat. Meanwhile, some environmentalists' demands are simply counterproductive. Avoiding pesticides, for example, means farming more land less efficiently, which leads to higher prices, more hunger, more disease (because of a lower intake of fruits and vegetables), and less biodiversity.¶ My essay argued that although the The Limits to Growth's analysis has been proved wrong, much of its doomsaying and policy advice still pervades the environmental debate 40 years later. These four critiques, instead of refuting my argument, in fact vindicate it.¶ First, only Dennis Meadows really tries to defend The Limits to Growth's predictions of collapse, and he does so with little conviction. Second, at least some of the responses accept in principle that society needs to prioritize among its different environmental goals and that economic growth will make achieving them easier -- in Frances Beinecke's words, "prosperity often leads to greater environmental protection." Third, all four of the critiques of my essay rely on the language of doom to motivate action, which, to the detriment of the environment, convinces society that it must pursue all its environmental goals at once, regardless of the costs and benefits. Finally, by focusing on the threats of economic growth to the environment, the authors generally neglect that growth has lifted billions of people out of grinding poverty and that others may remain poor because of the developed world's environmental concerns, real or imagined.¶ WRONG AGAIN¶ Defending The Limits to Growth, Meadows curiously complains that I address only the original book, which is "long out of print." He then posits that my case rests on one table from that book, on resource depletion, which he says I misrepresent. That is incorrect on several counts.¶ First, it is patently false to claim, as Meadows does by way of a quotation from Matthew Simmons, that "nowhere in the book was there any mention about running out of anything by 2000." (Jørgen Randers makes a similar point.) The Limits to Growth quoted approvingly the first annual report by the U.S. government's Council on Environmental Quality, in 1970: "It would appear at present that the quantities of platinum, gold, zinc and lead are not sufficient to meet demands. At the present rate of expansion … silver, tin and uranium may be in short supply even at higher prices by the turn of the century." Meadows' own table publicized "the number of years known global reserves will last at current global consumption," showing that gold, lead, mercury, silver, tin, and zinc would not last to the year 2000. The instances go on.¶ According to the book's model, the main driver of the global system's so-called collapse would be the depletion of resources, and averting that outcome was the book's widely publicized rallying cry. So focusing on that aspect of the book can hardly be called a misrepresentation. What is more, claiming that this is my only critique ignores that I also showed how the book got pollution wrong and how its analysis of collapse simply did not follow.¶ Meadows and Randers both claim that in their model, pollution consisted of long-lived toxics, not air pollution. In fact, they were much more vague on this question in 1972. In the best case for their predictions of deadly pollution, they meant air pollution, which today accounts for about 62 percent of all environmental deaths, according to the World Bank and the World Health Organization. But if they indeed meant long-lived toxics, their prediction that "pollution rises very rapidly, causing an immediate increase in the death rate" has been clearly disproven by the declining global death rate and the massive reductions in persistent pollutants.¶ John Harte and Mary Ellen Harte put forth a similarly weak defense of The Limits to Growth, as they do not challenge my data. They quote an article by the ecologists Charles Hall and John Day to say that The Limits to Growth's results were "almost exactly on course some 35 years later in 2008." This is simply wrong when it comes to resource levels, as the data in my original article shows, and indeed the cited article contains not a single reference for its claims about oil and copper resource reductions.¶ Harte and Harte further argue that the increase in the cost of resources during the last ten years is evidence of "the limitations on the human enterprise." Meadows claims that this uptick may "herald a permanent shift in the trend." Yet neither carries through the argument, because the empirical data from the past 150 years overwhelmingly undermine it. The reason is that a temporary increase in the scarcity of a resource causes its price to rise, which in turn encourages more exploration, substitution, and innovation across the entire chain of production, thereby negating any increase in scarcity.¶ Harte and Harte demonstrate the unpleasant arrogance that accompanies the true faith, claiming that I "deny" knowledge, promote "scientific misconceptions," and display "scientific ignorance." They take particular issue with my assertion that DDT is a cheap solution to malaria, stating that I overlooked the issue of biological resistance. In fact, all malarial treatments face this problem, but DDT less so than the others. Whereas many malarial treatments, such as dieldrin, work only by killing insects, DDT also repels and irritates them. Dieldrin strongly selects for resistance, whereas DDT works in three ways and even repels 60 percent of DDT-resistant mosquitoes.¶ FALSE ALARM¶ All four critiques contain grand dollops of doom. Beinecke invokes "alarming" environmental problems from overfishing to the destruction of the rain forests and global warming. These are real issues, but they, too, deserve practical thinking and careful prioritization. Fish and rain forests, like other resources subject to political control, tend to be overused. By contrast, when resources are controlled by individuals and private groups, their owners are forced to weigh long-term sustainability.¶ Indeed, Beinecke's response reflects the most unfortunate legacy of The Limits to Growth: because of its persistent belief that the planet is in crisis, the environmental movement suggests tackling all environmental problems at once. This is impossible, of course, so society ends up focusing mainly on what catches the public's attention. Beinecke acknowledges that campaigns to enact environmental policy "emerged from what people saw with their own eyes: raw sewage in the Great Lakes, smog so thick that it obscured the George Washington Bridge, oil despoiling Santa Barbara's pristine beaches." Yet the smog killed more than 300,000 Americans annually, whereas the effects of the oil spills, although serious, were of a much lower order of magnitude.¶ She claims that the U.S. Clean Air Act somehow contradicts my argument, when I in fact emphasized that society should have focused much more on cleaner air. Today, roughly 135,000 Americans still die from outdoor air pollution each year, and two million people, mostly in the developing world, die from indoor air pollution. Instead of focusing on the many negligible environmental problems that catch the public's attention, as the U.S. Environmental Protection Agency did when it focused so heavily on pesticides in the 1970s and 1980s, government should tackle the most important environmental problems, air quality chief among them. Beinecke misses this tradeoff entirely.¶ Harte and Harte demonstrate a similar lack of proportion and priority. In response to my claim that a slightly larger portion of the world's arable land -- roughly five percent -- will need to be tapped in order to feed humanity, they offer an unsubstantiated fear that such an expansion would undermine "giant planetary ecosystems." Yet when they fret about pesticides, they seem impervious to the fact that eschewing them would require society to increase the acreage of land it farms by more than ten times that amount.¶ COOL DOWN¶ If The Limits to Growth erred in some of its quantitative projections, then perhaps, as Harte and Harte put it, its "qualitative insights [are] still valid today." Randers cites global warming as the new reason the book was right. Discussing his predictions for high carbon dioxide emissions, Randers writes, "This future is unpleasantly similar to the 'persistent pollution scenario' from The Limits to Growth."¶ But the comparison is unfounded and leads to poor judgment. In The Limits to Growth's, original formulation, pollution led to civilizational decline and death. Although many environmentalists discuss global warming in similarly cataclysmic terms, the scenarios from the Intergovernmental Panel on Climate Change project instead a gradually worsening drag on development. Standard analyses show a reduction of zero to five percent of global GDP by 2100, in a world where the average person in the developing world will be 23 times as rich as he or she is today.¶ Moreover, although the responses to my essay invoke global warming as a new rallying cry for environmental activism, they fail to suggest specific actions to avert it. Harte and Harte claim that "the scientific community knows how to transition to renewable clean energy." Sure, developed countries have the technical know-how to adopt clean energy, but they have not done so because it would still be phenomenally expensive. Policies aimed at stopping climate change have failed for the last two decades because much of the environmental movement, clutching dearly to The Limits to Growth's alarmism and confident sense of purpose, has refused to weigh the costs and benefits and has demanded that countries immediately abandon all polluting sources of energy.¶ Many economists, including the 27 climate economists involved in the 2009 Copenhagen Consensus on Climate conference, have pointed out smarter ways forward. The best means of tackling global warming would be to make substantial investments in green energy research and development, in order to find a way to produce clean energy at a lower cost than fossil fuels. As one of the leading advocates of this approach, I cannot comprehend how Harte and Harte could claim that I do not support clean-energy innovation.¶ Unfortunately, the world will be hard-pressed to focus on smarter environmental policies until it has expunged the dreadful doom of The Limits to Growth. And unless the environmental movement can overcome its fear of economic growth, it will also too easily forget the plight of the billions of poor people who require, above all, more and faster growth.