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**The United States federal government should provide initial funding for commercial Integral Fast Reactors in the United States.**

**Contention 1 is solvency**

**IFRs are ready for commercial application**

**Kirsh 11** (Steven T. Kirsh, Bachelor of Science and a Master of Science in electrical engineering and computer science from the Massachusetts Institute of Technology, “Why Obama should meet Till,” 9/28/11) <http://bravenewclimate.com/2011/09/28/why-obama-should-meet-till/>

I will tell you the story of an amazing clean power technology that can use nuclear waste for fuel and emit no long-lived nuclear waste; that can supply clean power at low cost for our planet, 24×7, for millions of years without running out of fuel. I will tell you why this technology is our best bet to reduce the impact of global warming on our planet. And finally, I will tell you why nobody is doing anything about it and why this needs to be corrected. If you act on this letter, you will save our country billions of dollars and allow us to become leaders in clean energy. If you delegate it downward, nothing will happen. I have no vested interest in this; I am writing because I care about the future of our planet First, since we met only briefly during the Obama campaign, let me provide a little background about myself. I am a high-tech entrepreneur and philanthropist based in Silicon Valley. I have received numerous awards for my philanthropy. For example, in 2003, I was honored to receive a National Caring Award presented by then Senator Clinton. The largest engineering auditorium at MIT is named in my honor. The first community college LEED platinum building in the nation is also named in my honor. I am also active in Democratic politics. In the 2000 election, for example, I was the single largest political donor in the United States, donating over $10 million dollars to help Al Gore get elected. Unfortunately, we lost that one by one vote (on the Supreme Court). I have no vested interest in nuclear power or anything else that is described below. I write only as someone who cares about our nation, the environment, and our planet. I am trying to do everything I can so my kids have a habitable world to live in. Nothing more. Dr. James Hansen first made me aware of fast reactors in his letter to Obama in 2009 As an environmentalist, I have been a fan of Jim Hansen’s work for nearly two decades. Many consider Dr. Hansen to be the world’s leading expert on global warming. For example, Hansen was the first person to make Congress aware of global warming in his Senate testimony in 1988. Hansen is also Al Gore’s science advisor. In 2009, Dr. Hansen wrote a letter to President Obama urging him to do just three things that are critical to stop global warming: 1) phase out coal plants, 2) impose a feebate on carbon emissions with a 100% rebate to consumers and 3) re-start fourth generation nuclear plants, which can use nuclear waste as fuel. Hansen’s letter to Obama is documented here: http://www.guardian.co.uk/environment/2009/jan/02/obama-climate-change-james-hansen Upon reading Hansen’s recommendations, I was fascinated by the last recommendation. The fourth-generation power plants Hansen advocated sounded too good to be true. If what Hansen was saying was true, then why wasn’t our nation jumping on that technology? It made no sense to me. Lack of knowledge, misinformation, and the complexity of nuclear technology have hampered efforts to get a fast reactor built in the US I spent the next two years finding out the answer to that question. The short answer is three-fold: (1) most people know absolutely nothing about the amazing fourth generation nuclear power plant that we safely ran for 30 years in the US and (2) there is a lot of misleading information being spread by seemingly respectable people (some of whom are in the White House) who never worked on a fourth generation reactor that is totally false. It’s not that they are misleading people deliberately; it’s just that they were either listening to the wrong sources or they are jumping to erroneous conclusions. For example, the most popular misconception is that “reprocessing is a proliferation risk.” That statement fails to distinguish between available reprocessing techniques. It is absolutely true for the French method but it is absolutely not true for the technology described in this letter! The third reason is that the technology is complicated. Most people don’t know the difference between oxide fuel and metal fuel. Most people don’t know what a fast reactor is. Most people can’t tell you the difference between PUREX, UREX, and pyroprocessing. So people with an agenda can happily trot out arguments that support their beliefs and it all sounds perfectly credible. They simply leave out the critical details. We don’t need more R&D. We already have a technology in hand to help us solve global warming and safely get rid of our nuclear waste at low cost. But we aren’t doing anything with it. That’s a serious mistake. Today, our nation faces many serious challenges such as: How can we avert global warming? How can we dispose of our existing nuclear waste safely? How can we generate base-load carbon-free power at very low cost? How can we avoid creating any additional long-lived nuclear waste? How can we grow our economy and create jobs? How can we become the world leader in clean energy? How can we do all of the above while at the same time spending billions less than we are now? The good news is that we already have a proven technology that can address all of these problems. It is a technology that has enjoyed over 30 years of bi-partisan Congressional and Presidential support. It is an advanced nuclear technology that was invented in 1951 by the legendary Walter Zinn and then refined and perfected over a 30 year period, from 1964 to 1994 by Dr. Charles Till who led a team of 1,200 people at the Argonne National Laboratory. Till’s reactor was known as the Integral Fast Reactor (IFR) because it both produced power and recycled its own waste back into the reactor. This is the technology that Hansen referenced in his letter to the President. The IFR is a fourth-generation nuclear design that has several unique and valuable characteristics: It can use our existing nuclear waste (from power plants and weapons) as fuel; we have over 1,000 years of power available by just using today’s nuclear waste. Instead of trying to bury that “waste” in Yucca Mountain, we could be using it for fuel in fast reactors. It generates no long-lived nuclear waste. It is safer than today’s light water reactor (LWR) nuclear power plants. Unlike the Fukushima LWR reactors (a second generation nuclear technology invented 50 years ago), the IFR does NOT require electricity to shut down safely. The IFR shuts down passively if a mishap occurs; no operator intervention or active safety systems are required. They ran the Three Mile Island and Chernobyl scenarios on a live reactor and the reactor shut itself down safely, no operator intervention required, just as predicted. In addition, unlike with LWRs, the IFR runs at low pressure which adds to the safety profile. It reduces the risk of nuclear proliferation because: (1) it eliminates the need for enrichment facilities (which can be used for making nuclear bomb material), (2) the nuclear material that is used in the IFR is not suitable for making bombs and (2) because the nuclear material in the reactor and in the reprocessing hot cell is too “hot” to be stolen or used in a weapon. Experts at General Electric (GE) believe that the IFR has the potential to produce power for less than the price of coal. Dr. Loewen can confirm that if you have any doubts. GE already has an IFR design on the table that they would like to build as soon as possible. Dr. Loewen can confirm that as well. The US Nuclear Regulatory Commission, in January 1994, issued a pre-application safety evaluation report in which they found no objections or impediments to licensing the IFR. You can see the NRC report in the 8 minute video. The design is proven. It produced electric power without mishap for 30 years before the project was abruptly cancelled. Dr Charles Till The IFR’s ability to solve the nuclear waste problem should not be underestimated. As respected nuclear experts have pointed out, a practical solution to the nuclear waste problem is required if we are to revive nuclear power in the United States. The Blue Ribbon Commission (BRC) on America’s Nuclear Future basically concluded this: “continue doing the same thing we are doing today and keep doing R&D.” That was predictable because it was a consensus report; everyone had to agree. So nothing happened. And because there was no consensus from the BRC , there is less money for nuclear because there is no solution to the waste problem. It’s a downward death spiral. Please pardon me for a second and allow me to rant about consensus reports. In my 30 year career as an entrepreneur, I’ve raised tens of millions of millions of dollars in investment capital from venture capitalists all over the world. I always ask them how they make investment decisions. They always tell me, “If we had to get all partners to agree on an investment, we’d never make any investments. If you can get two partners to champion your company, that is sufficient to drive an investment decision.” Therefore, if you want to get nothing done, ask for a consensus report. If you want to actually solve problems, you should listen to what the people most knowledgeable about the problem are saying. Dr Yoon I. Chang Had President Obama asked the Commissioners on the Nuclear Regulatory Commission (NRC) who have the most knowledge of fast reactors the same question that he tasked the BRC with, he would have gotten a completely different answer. They would have told President Obama that fast reactors and pyroprocessing are the way to go and we better get started immediately with something that we already know works because there is still a ten year time if we were to start the reactor building process today. Their advice leads to a viable solution that we know will work and it will make the US a leader in clean nuclear power. Following the BRC’s consensus advice will lead to decades of inaction. Totally predictable. If we put a national focus on developing and cost reducing the IFR, we’d have a killer product and lead the world in being a clean energy leader It would be great if we had a long-term strategy and vision for how we become energy independent and solve the global warming problem and help our economy at the same time. The IFR can play a key role in that vision. If we put a national focus on developing and commercializing the IFR technology we invented, we can create jobs, help our trade balance, mitigate global warming, become energy independent, show the world a safe way to get rid of nuclear waste, and become the leaders in clean power technology. Nuclear power is the elephant in the room. Even though we haven’t built a new nuclear plant in 30 years, nuclear still supplies 70% of the clean energy in America today. That feat was largely accomplished in a single ten year period. Renewables have had 3 decades to “catch up” and they aren’t anywhere close. Nuclear’s continued dominance shows that nuclear power is indeed the elephant in the room when it comes to being able to install clean energy quickly and affordably. The bad news is that President Clinton decided that this technology, which would have produced unlimited amounts of base-load carbon-free power for a price as low as anything else available today, was not needed and cancelled the project in 1994. Cancelling the IFR was a big mistake. It’s still the world’s best fast nuclear technology according to an independent study by the Gen IV International Forum. Many top scientists all over the world believe that President Clinton’s decision was a huge mistake. The Senate had voted to continue to fund it. The project had been supported by six US Presidents; Republicans and Democrats. In fact, the project’s biggest proponent was Republican President Richard Nixon who said in 1971, “Our best hope today for meeting the Nation’s growing demand for economical clean energy lies with the fast breeder reactor.” Republican Senator Kempthorne said of the IFR cancellation: Unfortunately, this program was canceled just 2 short years before the proof of concept. I assure my colleagues someday our Nation will regret and reverse this shortsighted decision. But complete or not, the concept and the work done to prove it remain genius and a great contribution to the world. While I am not a big fan of Senator Kempthorne, I couldn’t agree more with what he said in this particular case. The IFR remains the single best advanced nuclear power design ever invented. That fact was made clear when in 2002, over 240 leading nuclear scientists from all over the world (in a Gen IV International Forum sponsored study) independently evaluated all fourth-generation nuclear designs and ranked the IFR the #1 best overall advanced nuclear design. The IFR was cancelled in 1994 without so much as a phone call to anyone who worked on the project. They didn’t call then. They haven’t called since. They simply pulled the plug and told people not to talk about the technology. The US government invested over $5 billion dollars in the IFR. Fast reactor R&D is largest single technology investment DOE has ever made. According to a top DOE nuclear official (Ray Hunter, the former NE2 at DOE), the “IFR became the preferred path because of waste management, safety, and economics.” The reactor produced power for 30 years without incident. Despite that track record, before it was cancelled, nobody from the White House ever met with anyone who worked on the project to discuss whether it should be terminated or not. It was simply unilaterally terminated by the White House for political reasons. Technical experts were never consulted. To this day, no one from the White House has met with Dr. Till to understand the benefits of the project. The technical merits simply did not matter. I urge you to recommend to President Obama that he meet personally with Dr. Charles Till so that the President can hear first hand why it is so critical for the health of our nation and our planet that this project, known as the Integral Fast Reactor (IFR), be restarted. Dr. Till headed the project at Argonne National Laboratory until his retirement in 1997. He is, without a doubt, the world’s leading expert on IFR technology. Want to solve global warming? Easy. Just create a 24×7 clean power source that costs the same as coal. Prominent scientists believe that the IFR can achieve this. Dr. Hansen has pointed out many times that it is imperative to eliminate all coal plants worldwide since otherwise, we will never win the battle against global warming. But we know from experience that treaties and agreements do not work. Here’s a quote from an article (“The Most Important Investment that We Aren’t Making to Mitigate the Climate Crisis”) that I wrote in December 2009 published in the Huffington Post: If you want to get emissions reductions, you must make the alternatives for electric power generation cheaper than coal. It’s that simple. If you don’t do that, you lose. The billions we invest in R&D now in building a clean and cheaper alternative to coal power will pay off in spades later. We have a really great option now — the IFR is on the verge of commercial readiness — and potential competitors such as the Liquid Fluoride Thorium Reactor (LFTR) are in the wings. But the US government isn’t investing in developing any of these breakthrough new base-load power generation technologies. Not a single one. I found it really amazing that global leaders were promising billions, even hundreds of billions in Copenhagen for “fighting climate change” when they weren’t investing one cent in the nuclear technologies that can stop coal and replace it with something cheaper. [ Note: 6 days ago, on September 22, 2011, DOE agreed to give $7.5M to MIT to do R&D on a molten-salt reactor. That’s good, but we should be building the technology we already have proven in 30 years of operational experience before we invest in unproven new technologies. ] Dr. Loewen has personally looked at the costs for the building the IFR in detail and believes the IFR can generate power at a cost comparable to a coal plant. So it’s arguably our best shot at displacing coal plants. This is precisely why Dr. Hansen believes that the IFR should be a top priority if we want to save our planet. It isn’t just nuclear experts that support the IFR US Congressman John Garamendi (D-CA) is also a major IFR supporter. When he was Lt. Governor of California, Congressman Garamendi convened a panel of over a dozen our nation’s top scientists to discuss the IFR technology. As a result of that meeting, Garamendi became convinced that the IFR is critically important and he is currently trying very hard to get a bill passed in the House to restart it. Unfortunately, virtually everyone in Congress seems to have forgotten about this project even though in the 1970’s it was the President’s top energy priority. Nothing has changed since then. No other clean energy technology has been invented that is superior to the IFR for generating low-cost carbon-free base-load electric power. Bill Gates also found exactly the same thing when he looked at how to solve the global warming problem. As he explained in a recent TED talk, renewables will never solve the climate crisis. The only viable technology is fourth-generation nuclear power and the best advanced nuclear technology is the IFR. That is why this is Gate’s only clean energy investment. Gates’ TerraPower Travelling Wave Reactor (TWR) is a variant of the IFR design. When Gates approached DOE to try to build his reactor in the US, he was told to build it outside of the US. Nobel prize winner Hans Bethe (now deceased) was an enthusiastic supporter. Freeman Dyson called Bethe the “supreme problem solver of the 20th century. Chuck Till told me the following story of Bethe’s support for the IFR: A tale from the past: A year or two before the events I’ll describe, Hans Bethe had been contacted by the Argonne Lab Director for his recommendation on who to seek to replace the existing head of Argonne’s reactor program. Bethe told him the best choice was already there in the Lab, so it was in this way that I was put in charge. I had had quite a few sessions with him in the years leading up to it, as we were able to do a lot of calculations on the effects of reactor types on resources that he didn’t have the capability at his disposal to do himself. So when I wanted to initiate the IFR thrust, the first outside person I went to was Bethe at Cornell. After a full day of briefing from all the specialists I had taken with me, he suggested a brief private meeting with me. He was direct. He said “All the pieces fit. I am prepared to write a letter stating this. Who do you want me to address it to? I think the President’s Science Advisor, don’t you?” I said the obvious – that his opinion would be given great weight, and would give instant respectability. He went on, “I know him quite well. Who else?” I said I was sure that Senator McClure (who was chairman of Senate Energy and Resources at the time) would be relieved to hear from him. That the Senator would be inclined to support us, as we were fairly prominent in the economy of the state of Idaho, and for that reason I had easy access to him. But to know that Hans Bethe, a man renowned for his common sense in nuclear and all energy matters, supported such an effort would give him the Senator solid and quotable reason for his own support, not dismissible as parochial politics, that the Senator would want if he was to lead the congressional efforts. “Yes,” he said in that way he had, “I agree.” I’ve always thought that the President’s Science Advisor’s intervention with DOE, to give us a start, was not the result of our meeting him, but rather it was because of the gravitas Hans Bethe provided with a one page letter. How do we lead the world in clean energy if we put our most powerful clean energy technology on the shelf?!? President Obama has stated that he wants the US to be a leader in clean energy. I do not see how we achieve that if we allow our most advanced clean energy technology to sit on the shelf collecting dust and we tell one of America’s most respected businessmen that he should build his clean energy technology in another country. We have an opportunity here to export energy technology to China instead of importing it. But due to Clinton’s decision, we are allowing the Russians to sell similar fast reactor technology to the Chinese. It should have been us. Re-starting the IFR will allow us to cancel a $10 billion stupid expenditure. The IFR only costs $3B to build. We’d get more, pay less. On pure economics alone, it’s a no brainer. Finally, even if you find none of the arguments above to be compelling, there is one more reason to restart the IFR project: it will save billions of dollars. Today, we are contracting with the French to build a MOX reprocessing plant in Savannah River. The cost of that project is $10 billion dollars. We are doing it to meet our treaty obligations with the Russians. Former top DOE nuclear managers agree this is a huge waste of money because we can build an IFR which can reprocess 10 times at much weapons waste per year for a fraction of that cost. The Russians are laughing at our stupidity. They are going to be disposing of their weapons waste in fast reactors, just like we should be. The Russians are also exporting their fast reactors to the Chinese. Had the US not cancelled our fast reactor program, we would be the world leader in this technology because our technology remains better than any other fourth generation technology in the world. If you delegate this to someone else, nothing will happen. Here’s why. Delegating this letter downward from the White House to someone in DOE to evaluate will result in inaction and no follow up. I know this from past attempts that have been made. It just gets lost and there is no follow up. Every time. The guys at DOE want to do it, but they know that they will get completely stopped by OMB and OSTP. Both Carol Browner and Steven Chu asked former DOE nuclear management what to do about nuclear waste. They were told that using fast reactors and reprocessing was the way to go. But nothing happened. So Chu has given up trying. According to knowledgeable sources, the White House has told DOE in no uncertain terms, “do not build anything nuclear in the US.” It’s not clear who is making these decisions, but many people believe it is being driven by Steven Fetter in OSTP. Dr. Till knows all of this. He knows that unless he personally meets with the President to tell the story of this amazing technology, nothing will happen. I’ve discussed the IFR with Steve Fetter and he has his facts wrong. Fetter is basically a Frank von Hippel disciple: they have written at least 14 papers together! It was von Hippel who was largely responsible for killing the IFR under Clinton. So von Hippel’s misguided thought process is driving White House policy today. That’s a big mistake. Professor von Hippel twists the facts to support his point of view and fails to bring up compelling counter arguments that he knows are true but would not support his position. He’s not being intellectually honest. I’ve experienced this myself, firsthand. For example, von Hippel often writes that fast reactors are unreliable. When I pointed out to him that there are several examples of reliable fast reactors, including the EBR-II which ran for decades without incident, he said, that these were the “exceptions that prove the rule.” I was floored by that. That’s crazy. It only proves that it is complicated to build a fast reactor, but that it can easily be done very reliably if you know what you are doing. There is nothing inherent to the technology that makes it “unreliable.” You just have to figure out the secrets. When von Hippel heard that Congressman Garamendi was supporting the IFR, he demanded a meeting with Garamendi to “set him straight.” But what happened was just the opposite: Garamendi pointed out to von Hippel that von Hippel’s “facts” were wrong. Von Hippel left that meeting with Garamendi with his tail between his legs muttering something about that being the first time he’s ever spoken with anyone in Congress who knew anything about fast nuclear reactors. In short, if you watch a debate between von Hippel and Garamendi (who is not a scientist), Garamendi easily wins on the facts. If you put von Hippel up against someone who knows the technology like Till, Till would crush von Hippel on both the facts and the arguments. But the Clinton White House never invited Till to debate the arguments with von Hippel. They simply trusted what von Hippel told them. Big mistake. There are lots of problems with von Hippel’s arguments. For example, von Hippel ignores reality believing that if the USA doesn’t do something then it will not happen. That’s incredibly naieve and he’s been proven wrong. The USA invented a safe way to reprocess nuclear waste that isn’t a proliferation risk called pyroprocessing. The nuclear material is not suitable for making a bomb at any time in the process. But we never commercialized it because von Hippel convinced Clinton to cancel it. The French commercialized their reprocessing process (PUREX) which separates out pure plutonium and makes it trivial to make bomb material. So because countries need to reprocess, they pick the unsafe technology because they have no alternative. Similarly, because von Hippel had our fast reactor program cancelled, the Russians are the leaders in fast reactor technology. They’ve been using fast reactor technology for over 30 years to generate power commercially. But we know the Russians have a terrible nuclear safety record (e.g., Chernobyl). The fact is that the Chinese are buying fast reactors from the Russians because there is no US alternative. The problem with von Hippel’s arguments are that the genie is out of the bottle. We can either lead the world in showing how we can do this safely, or the world will choose the less safe alternatives. Today, von Hippel’s decisions have made the world less safe. I could go on and on about how bad von Hippel’s advice is, but this letter is already way too long. MIT was wrong in their report about “The Future of the Nuclear Fuel Cycle” The only other seemingly credible argument against building fast reactors now comes from MIT. The report’s recommendation that we have plenty of time to do R&D appears largely to be driven by one person, co-chair Ernie Moniz. Four world-famous experts on nuclear power and/or climate change and one Congressman challenged Moniz to a debate on the MIT campus on his report. Moniz declined. The report has several major problems. Here are a few of them. The MIT report is inconsistent. On the one hand it says, “To enable an expansion of nuclear power, it must overcome critical challenges in cost, waste disposal, and proliferation concerns while maintaining its currently excellent safety and reliability record.” We agree with that! But then it inexplicably says, “… there are many more viable fuel cycle options and that the optimum choice among them faces great uncertainty…. Greater clarity should emerge over the next few decades… A key message from our work is that we can and should preserve our options for fuel cycle choices by …[continuing doing what we are doing today] … and researching technology alternatives appropriate to a range of nuclear energy futures.” So even though we have a solution now that can be deployed so we can enable an expansion of nuclear power as soon as possible, MIT advises that we should spend a few more decades because we might find something better than the IFR. This is just about the dumbest thing I’ve ever heard coming from MIT. If you ask any scientist who knows anything about global warming, they will tell you we are decades late in deploying carbon-free power. Had we aggressively ramped fast nuclear closed-cycle reactors decades ago and promoted them worldwide, we wouldn’t be anywhere close to the disastrous situation we are in today. So we are decades too late in ramping up nuclear power, and Moniz wants us to spend decades doing more R&D to get a solution that might be lower cost than the IFR. That’s insane. The report looks at the market price of uranium, but the market price completely ignores the environmental impacts of uranium mining. Shouldn’t that be taken into account? It’s like the cost of gas is cheap because the market price doesn’t include the hidden costs: the impact on the environment and on our health. Do you really think that people are going to embrace expansion of uranium mining in the US? The MIT report is silent on that. So then we are back to being dependent on other countries for uranium. Wasn’t the whole point to be energy independent? The IFR provides that now. We wouldn’t have to do any uranium mining ever again. After a thousand years, when we’ve used all our existing nuclear waste as fuel, we can extract the additional fuel we need from seawater, making our seas less radioactive. We can do that for millions of years. The MIT report ignores what other countries are doing. Obama wants the US to be a leader in clean energy technology. You do that by building the most advanced nuclear designs and refining them. That’s the way you learn and improve. MIT would have us stuck on old LWR technology for a few decades. Does anyone seriously think that is the way to be the world leader? There is virtually no room for improvement in LWR technology. IFR technology is nearly 100 times more efficient, and it emits no long term nuclear waste. If you are a buyer of nuclear power in China, which nuclear reactor are you going to pick? The one that is 100 times more efficient and generates no waste? Or the one that is 100 times less efficient and generates waste that you better store for a million years? Wow. Now that’s a real tough question, isn’t it. Gotta ponder that one. I’m sure Apple Computer isn’t taking advice from Moniz. If they were, they’d still be building the Apple I. Ernie should get a clue. The reason Apple is a market leader is because they bring the latest technology to market before anyone else, not because they keep producing old stuff and spend decades doing R&D to see if they can come up with something better. Other countries are not hampered by MIT’s report. France and Japan recently entered into an agreement with the US DOE whereby we’re giving them the IFR technology for them to exploit. Even though we are stupid, they aren’t stupid. The Chinese are ordering inferior oxide fueled fast reactors from Russia. If the US were building metal-fueled fast reactors with pyroprocessing, it’s a good bet the Chinese would be buying from us instead of the Russians. But if we take Moniz’s advice to not build the world’s best advanced nuclear technology we already have, then there is no chance of that happening. By the time we get to market with a fast reactor, it will be all over. We’ll arrive to the market decades late. Another great American invention that we blew it on. There will always be new technologies that people will propose. But the IFR is a bird in the hand and we really need a solution now we can depend on. If something comes along later that is better, that’s great. But if it doesn’t, we will have a viable technology. We can’t afford to get this wrong. We have already run out of time. Any new nuclear designs are decades away from deployment. On September 22, 2011, DOE agreed to give MIT $7.5 millions of dollars on starting R&D on a fourth generation molten salt reactor design that have never been proven. While it might work, the very smart scientists at Oak Ridge National Laboratory spent well over a decade on this and were never able to make it work. So DOE is spending millions on an unproven design while spending nothing on the “sure thing” fourth generation reactor that we already know how to build and that ran flawlessly for 30 years. We are all scratching our heads on that one. It makes no sense. But the reason for this is clear: the mandate from the White House that nothing is to built means that DOE can only initiate research, and then cancel the project right before anything would be built. This is an excellent plan for demoralizing scientists and allowing other countries to lead the world in clean energy. Is that really what we want?? If so, then there are much less expensive ways to accomplish that. At a minimum we should be investing in commercializing our “bird in the hand.” That way, if the new molten salt reactor experiments don’t work out, we’ll still have a viable solution to the nuclear waste problem. If we keep cancelling successful projects right before they are done, hoping for the next big thing, we will forever be in R&D mode and get nothing done. That’s where we are today with fourth generation nuclear. I know this is an unusual request, but I also know that if the President is allowed to evaluate the facts first hand, I am absolutely convinced that he will come to the same conclusion as we all have. I urge you to view an 8 minute video narrated by former CBS Morning News anchor Bill Kurtis that explains all of this in a way that anyone can understand. This video can be found at: The video will amaze you. If you would like an independent assessment of what I wrote above from a neutral , trustworthy, and knowledgeable expert, Bill Magwood would be an excellent choice. Magwood was head of nuclear at DOE under Clinton and Bush, and was the longest serving head of nuclear at DOE in US history. He served under both Clinton and Bush administrations. Magwood is familiar with the IFR, but the IFR was cancelled before he was appointed to head civilian nuclear at DOE. So Magwood has no vested interest in the IFR at all. More recently, Magwood was appointed by President Obama to serve on the NRC and is currently serving in that role. Of the current five NRC Commissioners, Magwood is by far, the person most knowledgeable (PMK) about fast reactors. Thank you for your help in bringing this important matter to the President’s attention. Summary Nuclear power is needed. Renewables alone won’t do it. In order to revive nuclear in the US, you must have a viable solution to the nuclear waste problem. The French reprocess their nuclear waste, but their process is expensive, environmentally unfriendly, and has proliferation problems. The USA developed an inexpensive, environmentally friendly, and proliferation resistant method to reprocess our waste (the IFR), but we cancelled it. That decision was a mistake. We should restart the IFR in the US. It will cost $3B to build, but we can cancel the Areva MOX plant and save $10B to pay for it. So we’ll save money, save the planet from an environmental catastrophe, create jobs, get rid of our nuclear waste, and become the world leader in clean energy technology. President Obama should meet personally with Dr. Charles Till, the world’s leading expert on fast reactor technology. Dr. Till will not waste his time meeting with anyone other than the President because he knows that without personal support of the President, nothing will happen. He’s right. Supporters of this technology include Nobel prize winner Hans Bethe (now deceased), Steven Chu, Dr. James Hansen, Dr. Charles Till, Dr. Eric Loewen, Congressman John Garamendi, Bill Gates, and even the President of MIT. Even the board of directors of the historically anti-nuclear Sierra Club has agreed that they will not oppose building an IFR! Opposition is from OSTP and OMB. We don’t know who or why. It’s a mystery to all my sources. Frank von Hippel thinks you cannot make fast reactors cheaply or reliably and maintains that stance even when the facts show that not to be the case. Ernie Moniz at MIT thinks we shouldn’t build anything now, but do more R&D for the next several decades hoping we can find something better. Bill Magwood, an Obama appointee to the NRC, would be a reasonable choice to provide an objective assessment of the IFR. He has no vested interested in the IFR, but having been the longest serving head of DOE civilian nuclear in history, is familiar with the pros and cons of the technology. Should OSTP and OMB be making these key decisions behind closed doors? Is this really reflective of what the President wants? He’s stated publicly he wants the US to be a world leader in clean energy. Is putting our best technology on the shelf, but licensing the French and Japanese to build it (Joint Statement on Trilateral Cooperation in the area of Sodium-cooled Fast Reactors signed on October 4, 2010 by DOE), the best way for the US to achieve the leadership that Obama said he wanted? I am happy to provide you with additional information.

**Demonstrating commercial IFRs leads to global adoption in a fast time frame**

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

There are many compelling reasons to pursue the rapid demonstration of a full-scale IFR, as a lead-in to a subsequent global deployment of this technology within a relatively short time frame. Certainly the urgency of climate change can be a potent tool in winning over environmentalists to this idea. Yet political expediency—due to widespread skepticism of anthropogenic causes for climate change—suggests that the arguments for rolling out IFRs can be effectively tailored to their audience. Energy security—especially with favorable economics—is a primary interest of every nation. The impressive safety features of new nuclear power plant designs should encourage a rapid uptick in construction without concern for the spent fuel they will produce, for all of it will quickly be used up once IFRs begin to be deployed. It is certainly manageable until that time. Burying spent fuel in non-retrievable geologic depositories should be avoided, since it represents a valuable clean energy resource that can last for centuries even if used on a grand scale. Many countries are now beginning to pursue fast reactor technology without the cooperation of the United States, laboriously (and expensively) re-learning the lessons of what does and doesn’t work. If this continues, we will see a variety of different fast reactor designs, some of which will be less safe than others. Why are we forcing other nations to reinvent the wheel? Since the USA invested years of effort and billions of dollars to develop what is arguably the world’s safest and most efficient fast reactor system in the IFR, and since several nations have asked us to share this technology with them (Russia, China, South Korea, Japan, India), there is a golden opportunity here to develop a common goal—a standardized design, and a framework for international control of fast reactor technology and the fissile material that fuels them. This opportunity should be a top priority in the coming decade, if we are serious about replacing fossil fuels worldwide with sufficient pace to effectively mitigate climate change and other environmental and geopolitical crises of the 21st century.

**Contention 2 is warming**

**Warming is real and anthropogenic**

**Prothero 12** (Donald Prothero, Professor of Geology at Occidental College, Lecturer in Geobiology at CalTech, "How We Know Global Warming is Real and Human Caused," 3/1/12, EBSCO)

How do we know that global warming is real and primarily human caused? There are numerous lines of evidence that converge toward this conclusion. 1. Carbon Dioxide Increase Carbon dioxide in our atmosphere has increased at an unprecedented rate in the past 200 years. Not one data set collected over a long enough span of time shows otherwise. Mann et al. (1999) compiled the past 900 years' worth of temperature data from tree rings, ice cores, corals, and direct measurements in the past few centuries, and the sudden increase of temperature of the past century stands out like a sore thumb. This famous graph is now known as the "hockey stick" because it is long and straight through most of its length, then bends sharply upward at the end like the blade of a hockey stick. Other graphs show that climate was very stable within a narrow range of variation through the past 1000, 2000, or even 10,000 years since the end of the last Ice Age. There were minor warming events during the Climatic Optimum about 7000 years ago, the Medieval Warm Period, and the slight cooling of the Litde Ice Age in the 1700s and 1800s. But the magnitude and rapidity of the warming represented by the last 200 years is simply unmatched in all of human history. More revealing, the timing of this warming coincides with the Industrial Revolution, when humans first began massive deforestation and released carbon dioxide into the atmosphere by burning an unprecedented amount of coal, gas, and oil. 2. Melting Polar Ice Caps The polar icecaps are thinning and breaking up at an alarming rate. In 2000, my former graduate advisor Malcolm McKenna was one of the first humans to fly over the North Pole in summer time and see no ice, just open water. The Arctic ice cap has been frozen solid for at least the past 3 million years (and maybe longer),[ 4] but now the entire ice sheet is breaking up so fast that by 2030 (and possibly sooner) less than half of the Arctic will be ice covered in the summer.[ 5] As one can see from watching the news, this is an ecological disaster for everything that lives up there, from the polar bears to the seals and walruses to the animals they feed upon, to the 4 million people whose world is melting beneath their feet. The Antarctic is thawing even faster. In February-March 2002, the Larsen B ice shelf -- over 3000 square km (the size of Rhode Island) and 220 m (700 feet) thick -- broke up in just a few months, a story -typical of nearly all the ice shelves in Antarctica. The Larsen B shelf had survived all the previous ice ages and interglacial warming episodes over the past 3 million years, and even the warmest periods of the last 10,000 years -- yet it and nearly all the other thick ice sheets on the Arctic, Greenland, and Antarctic are vanishing at a rate never before seen in geologic history. 3. Melting Glaciers Glaciers are all retreating at the highest rates ever documented. Many of those glaciers, along with snow melt, especially in the Himalayas, Andes, Alps, and Sierras, provide most of the freshwater that the populations below the mountains depend upon -- yet this fresh water supply is vanishing. Just think about the percentage of world's population in southern Asia (especially India) that depend on Himalayan snowmelt for their fresh water. The implications are staggering. The permafrost that once remained solidly frozen even in the summer has now thawed, damaging the Inuit villages on the Arctic coast and threatening all our pipelines to the North Slope of Alaska. This is catastrophic not only for life on the permafrost, but as it thaws, the permafrost releases huge amounts of greenhouse gases which are one of the major contributors to global warming. Not only is the ice vanishing, but we have seen record heat waves over and over again, killing thousands of people, as each year joins the list of the hottest years on record. (2010 just topped that list as the hottest year, surpassing the previous record in 2009, and we shall know about 2011 soon enough). Natural animal and plant populations are being devastated all over the globe as their environments change.[ 6] Many animals respond by moving their ranges to formerly cold climates, so now places that once did not have to worry about disease-bearing mosquitoes are infested as the climate warms and allows them to breed further north. 4. Sea Level Rise All that melted ice eventually ends up in the ocean, causing sea levels to rise, as it has many times in the geologic past. At present, the sea level is rising about 3-4 mm per year, more than ten times the rate of 0.1-0.2 mm/year that has occurred over the past 3000 years. Geological data show that the sea level was virtually unchanged over the past 10,000 years since the present interglacial began. A few mm here or there doesn't impress people, until you consider that the rate is accelerating and that most scientists predict sea levels will rise 80-130 cm in just the next century. A sea level rise of 1.3 m (almost 4 feet) would drown many of the world's low-elevation cities, such as Venice and New Orleans, and low-lying countries such as the Netherlands or Bangladesh. A number of tiny island nations such as Vanuatu and the Maldives, which barely poke out above the ocean now, are already vanishing beneath the waves. Eventually their entire population will have to move someplace else.[ 7] Even a small sea level rise might not drown all these areas, but they are much more vulnerable to the large waves of a storm surge (as happened with Hurricane Katrina), which could do much more damage than sea level rise alone. If sea level rose by 6 m (20 feet), most of the world's coastal plains and low-lying areas (such as the Louisiana bayous, Florida, and most of the world's river deltas) would be drowned. Most of the world's population lives in low-elevation coastal cities such as New York, Boston, Philadelphia, Baltimore, Washington, D.C., Miami, and Shanghai. All of those cities would be partially or completely under water with such a sea level rise. If all the glacial ice caps melted completely (as they have several times before during past greenhouse episodes in the geologic past), sea level would rise by 65 m (215 feet)! The entire Mississippi Valley would flood, so you could dock an ocean liner in Cairo, Illinois. Such a sea level rise would drown nearly every coastal region under hundreds of feet of water, and inundate New York City, London and Paris. All that would remain would be the tall landmarks such as the Empire State Building, Big Ben, and the Eiffel Tower. You could tie your boats to these pinnacles, but the rest of these drowned cities would lie deep underwater. Climate Change Critic's Arguments and Scientists' Rebuttals Despite the overwhelming evidence there are many people who remain skeptical. One reason is that they have been fed distortions and misstatements by the global warming denialists who cloud or confuse the issue. Let's examine some of these claims in detail: \* "It's just natural climatic variability." No, it is not. As I detailed in my 2009 book, Greenhouse of the Dinosaurs, geologists and paleoclimatologists know a lot about past greenhouse worlds, and the icehouse planet that has existed for the past 33 million years. We have a good understanding of how and why the Antarctic ice sheet first appeared at that time, and how the Arctic froze over about 3.5 million years ago, beginning the 24 glacial and interglacial episodes of the "Ice Ages" that have occurred since then. We know how variations in the earth's orbit (the Milankovitch cycles) controls the amount of solar radiation the earth receives, triggering the shifts between glacial and interglacial periods. Our current warm interglacial has already lasted 10,000 years, the duration of most previous interglacials, so if it were not for global warming, we would be headed into the next glacial in the next 1000 years or so. Instead, our pumping greenhouse gases into our atmosphere after they were long trapped in the earth's crust has pushed the planet into a "super-interglacial," already warmer than any previous warming period. We can see the "big picture" of climate variability most clearly in ice cores from the EPICA (European Project for Ice Coring in Antarctica), which show the details of the last 650,000 years of glacial-inters glacial cycles (Fig. 2). At no time during any previous interglacial did the carbon dioxide levels exceed 300 ppm, even at their very warmest. Our atmospheric carbon dioxide levels are already close to 400 ppm today. The atmosphere is headed to 600 ppm within a few decades, even if we stopped releasing greenhouse gases immediately. This is decidedly not within the normal range of "climatic variability," but clearly unprecedented in human history. Anyone who says this is "normal variability" has never seen the huge amount of paleoclimatic data that show otherwise. \* "It's just another warming episode, like the Medieval Warm Period, or the Holocene Climatic Optimum or the end of the Little Ice Age." Untrue. There were numerous small fluctuations of warming and cooling over the last 10,000 years of the Holocene. But in the case of the Medieval Warm Period (about 950-1250 A.D.), the temperatures increased only 1°C, much less than we have seen in the current episode of global warming (Fig. 1). This episode was also only a local warming in the North Atlantic and northern Europe. Global temperatures over this interval did not warm at all, and actually cooled by more than 1°C. Likewise, the warmest period of the last 10,000 years was the Holocene Climatic Optimum ( 5,000-9,000 B.C.E.) when warmer and wetter conditions in Eurasia contributed to the rise of the first great civilizations in Egypt, Mesopotamia, the Indus Valley, and China. This was largely a Northern Hemisphere-Eurasian phenomenon, with 2-3°C warming in the Arctic and northern Europe. But there was almost no warming in the tropics, and cooling or no change in the Southern Hemisphere.[ 8] From a Eurocentric viewpoint, these warming events seemed important, but on a global scale the effect was negligible. In addition, neither of these warming episodes is related to increasing greenhouse gases. The Holocene Climatic Optimum, in fact, is predicted by the Milankovitch cycles, since at that time the axial tilt of the earth was 24°, its steepest value, meaning the Northern Hemisphere got more solar radiation than normal -- but the Southern Hemisphere less, so the two balanced. By contrast, not only is the warming observed in the last 200 years much greater than during these previous episodes, but it is also global and bipolar, so it is not a purely local effect. The warming that ended the Little Ice Age (from the mid-1700s to the late 1800s) was due to increased solar radiation prior to 1940. Since 1940, however, the amount of solar radiation has been dropping, so the only candidate remaining for the post-1940 warming is carbon dioxide.[ 9] "It's just the sun, or cosmic rays, or volcanic activity or methane." Nope, sorry. The amount of heat that the sun provides has been decreasing since 1940,[ 10] just the opposite of the critics' claims (Fig. 3). There is no evidence of an increase in cosmic ray particles during the past century.[ 11] Nor is there any clear evidence that large-scale volcanic events (such as the 1815 eruption of Tambora in Indonesia, which changed global climate for about a year) have any long-term effects that would explain 200 years of warming and carbon dioxide increase. Volcanoes erupt only 0.3 billion tonnes of carbon dioxide each year, but humans emit over 29 billion tonnes a year,[ 12] roughly 100 times as much. Clearly, we have a bigger effect. Methane is a more powerful greenhouse gas, but there is 200 times more carbon dioxide than methane, so carbon dioxide is still the most important agent.[ 13] Every other alternative has been looked at and can be ruled out. The only clear-cut relationship is between human-caused carbon dioxide increase and global warming. \* "The climate records since 1995 (or 1998) show cooling." That's simply untrue. The only way to support this argument is to cherry-pick the data.[ 14] Over the short term, there was a slight cooling trend from 1998-2000, but only because 1998 was a record-breaking El Nino year, so the next few years look cooler by comparison (Fig. 4). But since 2002, the overall long-term trend of warming is unequivocal. All of the 16 hottest years ever recorded on a global scale have occurred in the last 20 years. They are (in order of hottest first): 2010, 2009, 1998, 2005, 2003, 2002, 2004, 2006, 2007, 2001, 1997, 2008, 1995, 1999, 1990, and 2000.[ 15] In other words, every year since 2000 has been on the Top Ten hottest years list. The rest of the top 16 include 1995, 1997, 1998, 1999, and 2000. Only 1996 failed to make the list (because of the short-term cooling mentioned already). \* "We had record snows in the winter of 2009-2010, and also in 2010-2011." So what? This is nothing more than the difference between weather (short-term seasonal changes) and climate (the long-term average of weather over decades and centuries and longer). Our local weather tells us nothing about another continent, or the global average; it is only a local effect, determined by short-term atmospheric and oceano-graphic conditions.[ 16] In fact, warmer global temperatures mean more moisture in the atmosphere, which increases the intensity of normal winter snowstorms. In this particular case, the climate change critics forget that the early winter of November-December 2009 was actually very mild and warm, and then only later in January and February did it get cold and snow heavily. That warm spell in early winter helped bring more moisture into the system, so that when cold weather occurred, the snows were worse. In addition, the snows were unusually heavy only in North America; the rest of the world had different weather, and the global climate was warmer than average. Also, the summer of 2010 was the hottest on record, breaking the previous record set in 2009. \* "Carbon dioxide is good for plants, so the world will be better off." Who do they think they're kidding? The Competitive Enterprise Institute (funded by oil and coal companies and conservative foundations[ 17]) has run a series of shockingly stupid ads concluding with the tag line "Carbon dioxide: they call it pollution, we call it life." Anyone who knows the basic science of earth's atmosphere can spot the gross inaccuracies in this ad.[ 18] True, plants take in carbon dioxide that animals exhale, as they have for millions of years. But the whole point of the global warming evidence (as shown from ice cores) is that the delicate natural balance of carbon dioxide has been thrown off balance by our production of too much of it, way in excess of what plants or the oceans can handle. As a consequence, the oceans are warming[ 19, 20] and absorbing excess carbon dioxide making them more acidic. Already we are seeing a shocking decline in coral reefs ("bleaching") and extinctions in many marine ecosystems that can't handle too much of a good thing. Meanwhile, humans are busy cutting down huge areas of temperate and tropical forests, which not only means there are fewer plants to absorb the gas, but the slash and burn practices are releasing more carbon dioxide than plants can keep up with. There is much debate as to whether increased carbon dioxide might help agriculture in some parts of the world, but that has to be measured against the fact that other traditional "breadbasket" regions (such as the American Great Plains) are expected to get too hot to be as productive as they are today. The latest research[ 21] actually shows that increased carbon dioxide inhibits the absorption of nitrogen into plants, so plants (at least those that we depend upon today) are not going to flourish in a greenhouse world. It is difficult to know if those who tell the public otherwise are ignorant of basic atmospheric science and global geochemistry, or if they are being cynically disingenuous. \* "I agree that climate is changing, but I'm skeptical that humans are the main cause, so we shouldn't do anything." This is just fence sitting. A lot of reasonable skeptics deplore the right wing's rejection of the reality of climate change, but still want to be skeptical about the cause. If they want proof, they can examine the huge array of data that points directly to human caused global warming.[ 22] We can directly measure the amount of carbon dioxide humans are producing, and it tracks exactly with the amount of increase in atmospheric carbon dioxide. Through carbon isotope analysis, we can show that this carbon dioxide in the atmosphere is coming directly from our burning of fossil fuels, not from natural sources. We can also measure the drop in oxygen as it combines with the increased carbon levels to produce carbon dioxide. We have satellites in space that are measuring the heat released from the planet and can actually see the atmosphere getting warmer. The most crucial evidence emerged only within the past few years: climate models of the greenhouse effect predict that there should be cooling in the stratosphere (the upper layer of the atmosphere above 10 km or 6 miles in elevation), but warming in the troposphere (the bottom layer below 10 km or 6 miles), and that's exactly what our space probes have measured. Finally, we can rule out any other suspects (see above): solar heat is decreasing since 1940, not increasing, and there are no measurable increases in cosmic rays, methane, volcanic gases, or any other potential cause. Face it -- it's our problem. Why Do People Continue to Question the Reality of Climate Change? Thanks to all the noise and confusion over climate change, the general public has only a vague idea of what the debate is really about, and only about half of Americans think global warming is real or that we are to blame.[ 23] As in the evolution/creationism debate, the scientific community is virtually unanimous on what the data demonstrate about anthropogenic global warming. This has been true for over a decade. When science historian Naomi Oreskes[ 24] surveyed all peer-reviewed papers on climate change published between 1993 and 2003 in the world's leading scientific journal, Science, she found that there were 980 supporting the idea of human-induced global warming and none opposing it. In 2009, Doran and Kendall Zimmerman[ 25] surveyed all the climate scientists who were familiar with the data. They found that 95-99% agreed that global warming is real and human caused. In 2010, the prestigious Proceedings of the National Academy of Sciences published a study that showed that 98% of the scientists who actually do research in climate change are in agreement over anthropogenic global warming.[ 26] Every major scientific organization in the world has endorsed the conclusion of anthropogenic climate change as well. This is a rare degree of agreement within such an independent and cantankerous group as the world's top scientists. This is the same degree of scientific consensus that scientists have achieved over most major ideas, including gravity, evolution, and relativity. These and only a few other topics in science can claim this degree of agreement among nearly all the world's leading scientists, especially among everyone who is close to the scientific data and knows the problem intimately. If it were not such a controversial topic politically, there would be almost no interest in debating it since the evidence is so clear-cut. If the climate science community speaks with one voice (as in the 2007 IPCC report, and every report since then), why is there still any debate at all? The answer has been revealed by a number of investigations by diligent reporters who got past the PR machinery denying global warming, and uncovered the money trail. Originally, there were no real "dissenters" to the idea of global warming by scientists who are actually involved with climate research. Instead, the forces with vested interests in denying global climate change (the energy companies, and the "free-market" advocates) followed the strategy of tobacco companies: create a smokescreen of confusion and prevent the American public from recognizing scientific consensus. As the famous memo[ 27] from the tobacco lobbyists said "Doubt is our product." The denialists generated an anti-science movement entirely out of thin air and PR. The evidence for this PR conspiracy has been well documented in numerous sources. For example, Oreskes and Conway revealed from memos leaked to the press that in April 1998 the right-wing Marshall Institute, SEPP (Fred Seitz's lobby that aids tobacco companies and polluters), and ExxonMobil, met in secret at the American Petroleum Institute's headquarters in Washington, D.C. There they planned a $20 million campaign to get "respected scientists" to cast doubt on climate change, get major PR efforts going, and lobby Congress that global warming isn't real and is not a threat. The right-wing institutes and the energy lobby beat the bushes to find scientists -- any scientists -- who might disagree with the scientific consensus. As investigative journalists and scientists have documented over and over again,[ 28] the denialist conspiracy essentially paid for the testimony of anyone who could be useful to them. The day that the 2007 IPCC report was released (Feb. 2, 2007), the British newspaper The Guardian reported that the conservative American Enterprise Institute (funded largely by oil companies and conservative think tanks) had offered $10,000 plus travel expenses to scientists who would write negatively about the IPCC report.[ 29] In February 2012, leaks of documents from the denialist Heartland Institute revealed that they were trying to influence science education, suppress the work of scientists, and had paid off many prominent climate deniers, such as Anthony Watts, all in an effort to circumvent the scientific consensus by doing an "end run" of PR and political pressure. Other leaks have shown 9 out of 10 major climate deniers are paid by ExxonMobil.[ 30] We are accustomed to hired-gun "experts" paid by lawyers to muddy up the evidence in the case they are fighting, but this is extraordinary -- buying scientists outright to act as shills for organizations trying to deny scientific reality. With this kind of money, however, you can always find a fringe scientist or crank or someone with no relevant credentials who will do what they're paid to do. Fishing around to find anyone with some science background who will agree with you and dispute a scientific consensus is a tactic employed by the creationists to sound "scientific". The NCSE created a satirical "Project Steve,"[ 31] which demonstrated that there were more scientists who accept evolution named "Steve" than the total number of "scientists who dispute evolution". It may generate lots of PR and a smokescreen to confuse the public, but it doesn't change the fact that scientists who actually do research in climate change are unanimous in their insistence that anthropogenic global warming is a real threat. Most scientists I know and respect work very hard for little pay, yet they still cannot be paid to endorse some scientific idea they know to be false. The climate deniers have a lot of other things in common with creationists and other anti-science movements. They too like to quote someone out of context ("quote mining"), finding a short phrase in the work of legitimate scientists that seems to support their position. But when you read the full quote in context, it is obvious that they have used the quote inappropriately. The original author meant something that does not support their goals. The "Climategate scandal" is a classic case of this. It started with a few stolen emails from the Climate Research Unit of the University of East Anglia. If you read the complete text of the actual emails[ 32] and comprehend the scientific shorthand of climate scientists who are talking casually to each other, it is clear that there was no great "conspiracy" or that they were faking data. All six subsequent investigations have cleared Philip Jones and the other scientists of the University of East Anglia of any wrongdoing or conspiracy.[ 33] Even if there had been some conspiracy on the part of these few scientists, there is no reason to believe that the entire climate science community is secretly working together to generate false information and mislead the public. If there's one thing that is clear about science, it's about competition and criticism, not conspiracy and collusion. Most labs are competing with each other, not conspiring together. If one lab publishes a result that is not clearly defensible, other labs will quickly correct it. As James Lawrence Powell wrote: Scientists…show no evidence of being more interested in politics or ideology than the average American. Does it make sense to believe that tens of thousands of scientists would be so deeply and secretly committed to bringing down capitalism and the American way of life that they would spend years beyond their undergraduate degrees working to receive master's and Ph.D. degrees, then go to work in a government laboratory or university, plying the deep oceans, forbidding deserts, icy poles, and torrid jungles, all for far less money than they could have made in industry, all the while biding their time like a Russian sleeper agent in an old spy novel? Scientists tend to be independent and resist authority. That is why you are apt to find them in the laboratory or in the field, as far as possible from the prying eyes of a supervisor. Anyone who believes he could organize thousands of scientists into a conspiracy has never attended a single faculty meeting.[ 34] There are many more traits that the climate deniers share with the creationists and Holocaust deniers and others who distort the truth. They pick on small disagreements between different labs as if scientists can't get their story straight, when in reality there is always a fair amount of give and take between competing labs as they try to get the answer right before the other lab can do so. The key point here is that when all these competing labs around the world have reached a consensus and get the same answer, there is no longer any reason to doubt their common conclusion. The anti-scientists of climate denialism will also point to small errors by individuals in an effort to argue that the entire enterprise cannot be trusted. It is true that scientists are human, and do make mistakes, but the great power of the scientific method is that peer review weeds these out, so that when scientists speak with consensus, there is no doubt that their data are checked carefully Finally, a powerful line of evidence that this is a purely political controversy, rather than a scientific debate, is that the membership lists of the creationists and the climate deniers are highly overlapping. Both anti-scientific dogmas are fed to their overlapping audiences through right-wing media such as Fox News, Glenn Beck, and Rush Limbaugh. Just take a look at the "intelligent-design" cre-ationism website for the Discovery Institute. Most of the daily news items lately have nothing to do with creationism at all, but are focused on climate denial and other right-wing causes.[ 35] If the data about global climate change are indeed valid and robust, any qualified scientist should be able to look at them and see if the prevailing scientific interpretation holds up. Indeed, such a test took place. Starting in 2010, a group led by U.C. Berkeley physicist Richard Muller re-examined all the temperature data from the NOAA, East Anglia Hadley Climate Research Unit, and the Goddard Institute of Space Science sources. Even though Muller started out as a skeptic of the temperature data, and was funded by the Koch brothers and other oil company sources, he carefully checked and re-checked the research himself. When the GOP leaders called him to testify before the House Science and Technology Committee in spring 2011, they were expecting him to discredit the temperature data. Instead, Muller shocked his GOP sponsors by demonstrating his scientific integrity and telling the truth: the temperature increase is real, and the scientists who have demonstrated that the climate is changing are right (Fig. 5). In the fall of 2011, his study was published, and the conclusions were clear: global warming is real, even to a right-wing skeptical scientist. Unlike the hired-gun scientists who play political games, Muller did what a true scientist should do: if the data go against your biases and preconceptions, then do the right thing and admit it -- even if you've been paid by sponsors who want to discredit global warming. Muller is a shining example of a scientist whose integrity and honesty came first, and did not sell out to the highest bidder.[ 36] \* Science and Anti-Science The conclusion is clear: there's science, and then there's the anti-science of global warming denial. As we have seen, there is a nearly unanimous consensus among climate scientists that anthropogenic global warming is real and that we must do something about it. Yet the smokescreen, bluster and lies of the deniers has created enough doubt so that only half of the American public is convinced the problem requires action. Ironically, the U.S. is almost alone in questioning its scientific reality. International polls taken of 33,000 people in 33 nations in 2006 and 2007 show that 90% of their citizens regard climate change as a serious problem[ 37] and 80% realize that humans are the cause of it.[ 38] Just as in the case of creationism, the U.S. is out of step with much of the rest of the world in accepting scientific reality. It is not just the liberals and environmentalists who are taking climate change seriously. Historically conservative institutions (big corporations such as General Electric and many others such as insurance companies and the military) are already planning on how to deal with global warming. Many of my friends high in the oil companies tell me of the efforts by those companies to get into other forms of energy, because they know that cheap oil will be running out soon and that the effects of burning oil will make their business less popular. BP officially stands for "British Petroleum," but in one of their ad campaigns about 5 years ago, it stood for "Beyond Petroleum."[ 39] Although they still spend relatively little of their total budgets on alternative forms of energy, the oil companies still see the handwriting on the wall about the eventual exhaustion of oil -- and they are acting like any company that wants to survive by getting into a new business when the old one is dying. The Pentagon (normally not a left-wing institution) is also making contingency plans for how to fight wars in an era of global climate change, and analyzing what kinds of strategic threats might occur when climate change alters the kinds of enemies we might be fighting, and water becomes a scarce commodity. The New York Times reported[ 40] that in December 2008, the National Defense University outlined plans for military strategy in a greenhouse world. To the Pentagon, the big issue is global chaos and the potential of even nuclear conflict. The world must "prepare for the inevitable effects of abrupt climate change -- which will likely come [the only question is when] regardless of human activity." Insurance companies have no political axe to grind. If anything, they tend to be on the conservative side. They are simply in the business of assessing risk in a realistic fashion so they can accurately gauge their future insurance policies and what to charge for them. Yet they are all investing heavily in research on the disasters and risks posed by climatic change. In 2005, a study commissioned by the re-insurer Swiss Re said, "Climate change will significantly affect the health of humans and ecosystems and these impacts will have economic consequences."[ 41] Some people may still try to deny scientific reality, but big businesses like oil and insurance and conservative institutions like the military cannot afford to be blinded or deluded by ideology. They must plan for the real world that we will be seeing in the next few decades. They do not want to be caught unprepared and harmed by global climatic change when it threatens their survival. Neither can we as a society.

**Climate change risks catastrophe – slow feedbacks**

**Hansen 8** (James Hansen, directs the NASA Goddard Institute for Space Studies, adjunct professor in the Department of Earth and Environmental Sciences at Columbia University, “Tell Barack Obama the Truth – The Whole Truth,” Nov/Dec 2008, <http://www.columbia.edu/~jeh1/mailings/2008/20081121_Obama.pdf>)

Embers of election night elation will glow longer than any prior election. Glowing even in other nations, and for good reason. We are all tied together, more than ever, like it or not. Barack Obama’s measured words on election night, including eloquent recognition of historic progress, from the viewpoint of a 106-year-old lady, still stoke the embers. But he was already focusing on tasks ahead, without celebratory excess. Well he should. The challenge he faces is unprecedented. I refer not to the inherited economic morass, as threatening as it is. The human toll due to past failures and excesses may prove to be great, yet economic recessions, even depressions, come and go. Now our planet itself is in peril. Not simply the Earth, but the fate of all of its species, including humanity. The situation calls not for hand-wringing, but rather informed action. Optimism is fueled by expectation that decisions will be guided by reason and evidence, not ideology. The danger is that special interests will dilute and torque government policies, causing the climate to pass tipping points, with grave consequences for all life on the planet. The President-elect himself needs to be well-informed about the climate problem and its relation to energy needs and economic policies. He cannot rely on political systems to bring him solutions – the political systems provide too many opportunities for special interests. Here is a message I think should be delivered to Barack Obama. Criticisms are welcome. Climate threat. The world’s temperature has increased about 1°F over the past few decades, about 2°F over land areas. Further warming is “in the pipeline” due to gases already in the air (because of climate system inertia) and inevitable additional fossil fuel emissions (because of energy system inertia). Although global warming to date is smaller than day-to-day weather fluctuations, it has brought global temperature back to approximately the highest level of the Holocene, the past 10,000 years, the period during which civilization developed. Effects already evident include: 1. Mountain glaciers are receding worldwide and will be gone within 50 years if CO2 emissions continue to increase. This threatens the fresh water supply for billions of people, as rivers arising in the Himalayas, Andes and Rocky Mountains will begin to run dry in the summer and fall. 2. Coral reefs, home to a quarter of biological species in the ocean, could be destroyed by rising temperature and ocean acidification due to increasing CO2. 3. Dry subtropics are expanding poleward with warming, affecting the southern United States, the Mediterranean region, and Australia, with increasing drought and fires. 4. Arctic sea ice will disappear entirely in the summer, if CO2 continues to increase, with devastating effects on wildlife and indigenous people. 5. Intensity of hydrologic extremes, including heavy rains, storms and floods on the one hand, and droughts and fires on the other, are increasing. Some people say we must learn to live with these effects, because it is an almost godgiven fact that we must burn all fossil fuels. But now we understand, from the history of the Earth, that there would be two monstrous consequences of releasing the CO2 from all of the oil, gas and coal, consequences of an enormity that cannot be accepted. One effect would be extermination of a large fraction of the species on the planet. The other is initiation of ice sheet disintegration and sea level rise, out of humanity’s control, eventually eliminating coastal cities and historical sites, creating havoc, hundreds of millions of refugees, and impoverishing nations.2 Species extermination and ice sheet disintegration are both ‘non-linear’ problems with ‘tipping points’. If the process proceeds too far, amplifying feedbacks push the system dynamics to proceed without further human forcing. For example, species are interdependent – if a sufficient number are eliminated, ecosystems collapse. In the physical climate system, amplifying feedbacks include increased absorption of sunlight as sea and land ice areas are reduced and release of methane, a powerful greenhouse gas, as permafrost melts. The Earth’s history reveals examples of such non-linear collapses. Eventually, over tens and hundreds of thousands of years, new species evolve, and ice sheets return. But we will leave a devastated impoverished planet for all generations of humanity that we can imagine, if we are so foolish as to allow the climate tipping points to be passed. Urgency. Recent evidence reveals a situation more urgent than had been expected, even by those who were most attuned. The evidence is based on improving knowledge of Earth’s history – how the climate responded to past changes of atmospheric composition – and on observations of how the Earth is responding now to human-made atmospheric changes. The conclusion – at first startling, but in retrospect obvious – is that the human-made increase of atmospheric carbon dioxide (CO2), from the pre-industrial 280 parts per million (ppm) to today’s 385 ppm, has already raised the CO2 amount into the dangerous range. It will be necessary to take actions that return CO2 to a level of at most 350 ppm, but probably less, if we are to avert disastrous pressures on fellow species and large sea level rise. The good news is that such a result is still possible, if actions are prompt. Prompt action will do more than prevent irreversible extinctions and ice sheet disintegration: it can avert or reverse consequences that had begun to seem inevitable, including loss of Arctic ice, ocean acidification, expansion of the subtropics, increased intensity of droughts, floods, and storms. Principal implication. CO2 is not the only human-made gas that contributes to global warming, but it is the dominant gas with a lifetime that dwarfs that of the other major gases. Much of the CO2 increase caused by burning fossil fuels remains in the air more than 1000 years. So CO2 must be the focus of efforts to stop human-caused climate change. It would be easy to jump to the conclusion that solution of global warming is to phase down total fossil fuel emissions by some specified percentage. That approach will not work as a strategy. The reason for that conclusion and an outline of a better strategic approach follow immediately from geophysical boundary constraints. Figure 1a shows oil, gas and coal reserves, with the purple portion being the amount that has already been burned and emitted into the atmosphere. Despite uncertainty in the size of undiscovered resources, their amounts are certainly enough to yield atmospheric CO2 greater than 500 ppm. That amount would be disastrous, assuring unstable ice sheets, rising sea level out of humanity’s control, extermination of a large fraction of the species on Earth, and severe exacerbation of climate impacts discussed above. Oil is used primarily in vehicles, where it is impractical to capture CO2 emerging from tailpipes. The large pools of oil remaining in the ground are spread among many countries. The United States, which once had some of the large pools, has already exploited its largest recoverable reserves. Given this fact, it is unrealistic to think that Russia and Middle East countries will decide to leave their oil in the ground. A carbon cap that slows emissions of CO2 does not help, because of the long lifetime of atmospheric CO2. In fact, the cap exacerbates the problem if it allows coal emissions to continue. The only solution is to target a (large) portion of the fossil fuel reserves to be left in the ground or used in a way such that the CO2 can be captured and safely sequestered.3 Figure 1. (a) Fossil fuel and net land-use CO2 emissions (purple), and potential fossil fuel emissions (light blue). Fossil fuel reserve estimates of EIA, IPCC and WEC differ as shown. (b) Atmospheric CO2 if coal emissions are phased out linearly between 2010 and 2030, calculated using a version of the Bern carbon cycle model. References [EIA (Energy Information Administration), IPCC (Intergovernmental Panel on Climate Change), and WEC (World Energy Council)] are provided in the published paper. Coal is the obvious target. Figure 1b shows that if there were a prompt moratorium on construction of new coal plants, and if existing ones were phased out linearly over the period 2010-2030, then atmospheric CO2 would peak during the next few decades at an amount somewhere between 400 and 425 ppm. The peak value depends upon whose estimate of undiscovered reserves is more accurate. It also depends upon whether oil in the most extreme environments is exploited or left in the ground, and thus it depends on the carbon tax (see below). This coal-phase-out scenario yields the possibility of stabilizing climate. Overshoot of the safe CO2 level is sufficiently small that improved agricultural and forestry practices, including reforestation of marginal lands, could bring CO2 back below 350 ppm, perhaps by the middle of the century. But if construction of new coal plants continues for even another decade it is difficult to conceive a practical, natural way to return CO2 below 350 ppm. Outline of policy options. The imperative of near-term termination of coal emissions (but not necessarily coal use) requires fundamental advances in energy technologies. Such advances would be needed anyhow, as fossil fuel reserves dwindle, but the climate crisis demands that they be achieved rapidly. Fortunately, actions that solve the climate problem can be designed so as to also improve energy security and restore economic well-being. A workshop held in Washington, DC on 3 November 2008 outlined options (presentations are at http://www.mediafire.com/nov3workshop). The workshop focused on electrical energy, because that is the principal use of coal. Also electricity is more and more the energy carrier of choice, because it is clean, much desired in developing countries, and a likely replacement or partial replacement for oil in transportation. Workshop topics, in priority order, were: (1) energy efficiency, (2) renewable energies, (3) electric grid improvements, (4) nuclear power, (5) carbon capture and sequestration. Energy efficiency improvements have the potential to obviate the need for additional electric power in all parts of the country during the next few decades and allow retirement of some existing coal plants. Achievement of the efficiency potential requires both regulations and a carbon tax. National building codes are needed, and higher standards for appliances, especially electronics, where standby power has become a large unnecessary drain of energy. 4 Economic incentives for utilities must be changed so that profits increase with increased energy conservation, not in proportion to amount of energy sold. Renewable energies are gaining in economic competition with fossil fuels, but in the absence of wise policies there is the danger that declining prices for fossil fuels, and continuation of fossil fuel subsidies, could cause a major setback. The most effective and efficient way to support renewable energy is via a carbon tax (see below). The national electric grid can be made more reliable and “smarter” in a number of ways. Priority will be needed for constructing a low-loss grid from regions with plentiful renewable energy to other parts of the nation, if renewable energies are to be a replacement for coal. Energy efficiency, renewable energies, and an improved grid deserve priority and there is a hope that they could provide all of our electric power requirements. However, the greatest threat to the planet may be the potential gap between that presumption (100% “soft” energy) and reality, with the gap being filled by continued use of coal-fired power. Therefore we should undertake urgent focused R&D programs in both next generation nuclear power and carbon capture and sequestration. These programs could be carried out most rapidly and effectively in full cooperation with China and/or India, and other countries. Given appropriate priority and resources, the option of secure, low-waste 4 th generation nuclear power (see below) could be available within about a decade. If, by then, wind, solar, other renewables, and an improved grid prove to be capable of handling all of our electrical energy needs, there would be no imperative to construct nuclear plants in the United States. Many energy experts consider an all-renewable scenario to be implausible in the time-frame when coal emissions must be phased out, but it is not necessary to debate that matter. However, it would be dangerous to proceed under the presumption that we will soon have all-renewable electric power. Also it would be inappropriate to impose a similar presumption on China and India. Both countries project large increases in their energy needs, both countries have highly polluted atmospheres primarily due to excessive coal use, and both countries stand to suffer inordinately if global climate change continues. The entire world stands to gain if China and India have options to reduce their CO2 emissions and air pollution. Mercury emissions from their coal plants, for example, are polluting the global atmosphere and ocean and affecting the safety of foods, especially fish, on a near-global scale. And there is little hope of stabilizing climate unless China and India have low- and no-CO2 energy options.

**Extinction**

**Morgan 9** (Dennis Ray Morgan, Professor of Current Affairs at Hankuk University of Foreign Studies, “World on fire: two scenarios of the destruction of human civilization and possible extinction of the human race,” December 2009 Science Direct)

As horrifying as the scenario of human extinction by sudden, fast-burning nuclear fire may seem, the one consolation is that this future can be avoided within a relatively short period of time if responsible world leaders change Cold War thinking to move away from aggressive wars over natural resources and towards the eventual dismantlement of most if not all nuclear weapons. On the other hand, another scenario of human extinction by fire is one that may not so easily be reversed within a short period of time because it is not a fast-burning fire; rather, a slow burning fire is gradually heating up the planet as industrial civilization progresses and develops globally. This gradual process and course is long-lasting; thus it cannot easily be changed, even if responsible world leaders change their thinking about “progress” and industrial development based on the burning of fossil fuels. The way that global warming will impact humanity in the future has often been depicted through the analogy of the proverbial frog in a pot of water who does not realize that the temperature of the water is gradually rising. Instead of trying to escape, the frog tries to adjust to the gradual temperature change; finally, the heat of the water sneaks up on it until it is debilitated. Though it finally realizes its predicament and attempts to escape, it is too late; its feeble attempt is to no avail—and the frog dies. Whether this fable can actually be applied to frogs in heated water or not is irrelevant; it still serves as a comparable scenario of how the slow burning fire of global warming may eventually lead to a runaway condition and take humanity by surprise. Unfortunately, by the time the politicians finally all agree with the scientific consensus that global warming is indeed human caused, its development could be too advanced to arrest; the poor frog has become too weak and enfeebled to get himself out of hot water. The Intergovernmental Panel of Climate Change (IPCC) was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environmental Programme to “assess on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation.”[16]. Since then, it has given assessments and reports every six or seven years. Thus far, it has given four assessments.13 With all prior assessments came attacks from some parts of the scientific community, especially by industry scientists, to attempt to prove that the theory had no basis in planetary history and present-day reality; nevertheless, as more and more research continually provided concrete and empirical evidence to confirm the global warming hypothesis, that it is indeed human-caused, mostly due to the burning of fossil fuels, the scientific consensus grew stronger that human induced global warming is verifiable. As a matter of fact, according to Bill McKibben [17], 12 years of “impressive scientific research” strongly confirms the 1995 report “that humans had grown so large in numbers and especially in appetite for energy that they were now damaging the most basic of the earth's systems—the balance between incoming and outgoing solar energy”; “… their findings have essentially been complementary to the 1995 report -- a constant strengthening of the simple basic truth that humans were burning too much fossil fuel.” [17]. Indeed, 12 years later, the 2007 report not only confirms global warming, with a stronger scientific consensus that the slow burn is “very likely” human caused, but it also finds that the “amount of carbon in the atmosphere is now increasing at a faster rate even than before” and the temperature increases would be “considerably higher than they have been so far were it not for the blanket of soot and other pollution that is temporarily helping to cool the planet.” [17]. Furthermore, almost “everything frozen on earth is melting. Heavy rainfalls are becoming more common since the air is warmer and therefore holds more water than cold air, and ‘cold days, cold nights and frost have become less frequent, while hot days, hot nights, and heat waves have become more frequent.” [17]. Unless drastic action is taken soon, the average global temperature is predicted to rise about 5 degrees this century, but it could rise as much as 8 degrees. As has already been evidenced in recent years, the rise in global temperature is melting the Arctic sheets. This runaway polar melting will inflict great damage upon coastal areas, which could be much greater than what has been previously forecasted. However, what is missing in the IPCC report, as dire as it may seem, is sufficient emphasis on the less likely but still plausible worst case scenarios, which could prove to have the most devastating, catastrophic consequences for the long-term future of human civilization. In other words, the IPCC report places too much emphasis on a linear progression that does not take sufficient account of the dynamics of systems theory, which leads to a fundamentally different premise regarding the relationship between industrial civilization and nature. As a matter of fact, as early as the 1950s, Hannah Arendt [18] observed this radical shift of emphasis in the human-nature relationship, which starkly contrasts with previous times because the very distinction between nature and man as “Homo faber” has become blurred, as man no longer merely takes from nature what is needed for fabrication; instead, he now acts into nature to augment and transform natural processes, which are then directed into the evolution of human civilization itself such that we become a part of the very processes that we make. The more human civilization becomes an integral part of this dynamic system, the more difficult it becomes to extricate ourselves from it. As Arendt pointed out, this dynamism is dangerous because of its unpredictability. Acting into nature to transform natural processes brings about an … endless new change of happenings whose eventual outcome the actor is entirely incapable of knowing or controlling beforehand. The moment we started natural processes of our own - and the splitting of the atom is precisely such a man-made natural process - we not only increased our power over nature, or became more aggressive in our dealings with the given forces of the earth, but for the first time have taken nature into the human world as such and obliterated the defensive boundaries between natural elements and the human artifice by which all previous civilizations were hedged in” [18]. So, in as much as we act into nature, we carry our own unpredictability into our world; thus, Nature can no longer be thought of as having absolute or iron-clad laws. We no longer know what the laws of nature are because the unpredictability of Nature increases in proportion to the degree by which industrial civilization injects its own processes into it; through self-created, dynamic, transformative processes, we carry human unpredictability into the future with a precarious recklessness that may indeed end in human catastrophe or extinction, for elemental forces that we have yet to understand may be unleashed upon us by the very environment that we experiment with. Nature may yet have her revenge and the last word, as the Earth and its delicate ecosystems, environment, and atmosphere reach a tipping point, which could turn out to be a point of no return. This is exactly the conclusion reached by the scientist, inventor, and author, James Lovelock. The creator of the well-known yet controversial Gaia Theory, Lovelock has recently written that it may be already too late for humanity to change course since climate centers around the world, … which are the equivalent of the pathology lab of a hospital, have reported the Earth's physical condition, and the climate specialists see it as seriously ill, and soon to pass into a morbid fever that may last as long as 100,000 years. I have to tell you, as members of the Earth's family and an intimate part of it, that you and especially civilisation are in grave danger. It was ill luck that we started polluting at a time when the sun is too hot for comfort. We have given Gaia a fever and soon her condition will worsen to a state like a coma. She has been there before and recovered, but it took more than 100,000 years. We are responsible and will suffer the consequences: as the century progresses, the temperature will rise 8 degrees centigrade in temperate regions and 5 degrees in the tropics. Much of the tropical land mass will become scrub and desert, and will no longer serve for regulation; this adds to the 40 per cent of the Earth's surface we have depleted to feed ourselves. … Curiously, aerosol pollution of the northern hemisphere reduces global warming by reflecting sunlight back to space. This ‘global dimming’ is transient and could disappear in a few days like the smoke that it is, leaving us fully exposed to the heat of the global greenhouse. We are in a fool's climate, accidentally kept cool by smoke, and before this century is over billions of us will die and the few breeding pairs of people that survive will be in the Arctic where the climate remains tolerable. [19] Moreover, Lovelock states that the task of trying to correct our course is hopelessly impossible, for we are not in charge. It is foolish and arrogant to think that we can regulate the atmosphere, oceans and land surface in order to maintain the conditions right for life. It is as impossible as trying to regulate your own temperature and the composition of your blood, for those with “failing kidneys know the never-ending daily difficulty of adjusting water, salt and protein intake. The technological fix of dialysis helps, but is no replacement for living healthy kidneys” [19]. Lovelock concludes his analysis on the fate of human civilization and Gaia by saying that we will do “our best to survive, but sadly I cannot see the United States or the emerging economies of China and India cutting back in time, and they are the main source of emissions. The worst will happen and survivors will have to adapt to a hell of a climate” [19]. Lovelock's forecast for climate change is based on a systems dynamics analysis of the interaction between human-created processes and natural processes. It is a multidimensional model that appropriately reflects the dynamism of industrial civilization responsible for climate change. For one thing, it takes into account positive feedback loops that lead to “runaway” conditions. This mode of analysis is consistent with recent research on how ecosystems suddenly disappear. A 2001 article in Nature, based on a scientific study by an international consortium, reported that changes in ecosystems are not just gradual but are often sudden and catastrophic [20]. Thus, a scientific consensus is emerging (after repeated studies of ecological change) that “stressed ecosystems, given the right nudge, are capable of slipping rapidly from a seemingly steady state to something entirely different,” according to Stephen Carpenter, a limnologist at the University of Wisconsin-Madison (who is also a co-author of the report). Carpenter continues, “We realize that there is a common pattern we’re seeing in ecosystems around the world, … Gradual changes in vulnerability accumulate and eventually you get a shock to the system - a flood or a drought - and, boom, you’re over into another regime. It becomes a self-sustaining collapse.” [20]. If ecosystems are in fact mini-models of the system of the Earth, as Lovelock maintains, then we can expect the same kind of behavior. As Jonathon Foley, a UW-Madison climatologist and another co-author of the Nature report, puts it, “Nature isn’t linear. Sometimes you can push on a system and push on a system and, finally, you have the straw that breaks the camel's back.” Also, once the “flip” occurs, as Foley maintains, then the catastrophic change is “irreversible.” [20]. When we expand this analysis of ecosystems to the Earth itself, it's frightening. What could be the final push on a stressed system that could “break the camel's back?” Recently, another factor has been discovered in some areas of the arctic regions, which will surely compound the problem of global “heating” (as Lovelock calls it) in unpredictable and perhaps catastrophic ways. This disturbing development, also reported in Nature, concerns the permafrost that has locked up who knows how many tons of the greenhouse gasses, methane and carbon dioxide. Scientists are particularly worried about permafrost because, as it thaws, it releases these gases into the atmosphere, thus, contributing and accelerating global heating. It is a vicious positive feedback loop that compounds the prognosis of global warming in ways that could very well prove to be the tipping point of no return. Seth Borenstein of the Associated Press describes this disturbing positive feedback loop of permafrost greenhouse gasses, as when warming “. already under way thaws permafrost, soil that has been continuously frozen for thousands of years. Thawed permafrost releases methane and carbon dioxide. Those gases reach the atmosphere and help trap heat on Earth in the greenhouse effect. The trapped heat thaws more permafrost and so on.” [21]. The significance and severity of this problem cannot be understated since scientists have discovered that “the amount of carbon trapped in this type of permafrost called “yedoma” is much more prevalent than originally thought and may be 100 times [my emphasis] the amount of carbon released into the air each year by the burning of fossil fuels” [21]. Of course, it won’t come out all at once, at least by time as we commonly reckon it, but in terms of geological time, the “several decades” that scientists say it will probably take to come out can just as well be considered “all at once.” Surely, within the next 100 years, much of the world we live in will be quite hot and may be unlivable, as Lovelock has predicted. Professor Ted Schuur, a professor of ecosystem ecology at the University of Florida and co-author of the study that appeared in Science, describes it as a “slow motion time bomb.” [21]. Permafrost under lakes will be released as methane while that which is under dry ground will be released as carbon dioxide. Scientists aren’t sure which is worse. Whereas methane is a much more powerful agent to trap heat, it only lasts for about 10 years before it dissipates into carbon dioxide or other chemicals. The less powerful heat-trapping agent, carbon dioxide, lasts for 100 years [21]. Both of the greenhouse gasses present in permafrost represent a global dilemma and challenge that compounds the effects of global warming and runaway climate change. The scary thing about it, as one researcher put it, is that there are “lots of mechanisms that tend to be self-perpetuating and relatively few that tend to shut it off” [21].14 In an accompanying AP article, Katey Walters of the University of Alaska at Fairbanks describes the effects as “huge” and, unless we have a “major cooling,” - unstoppable [22]. Also, there's so much more that has not even been discovered yet, she writes: “It's coming out a lot and there's a lot more to come out.” [22]. 4. Is it the end of human civilization and possible extinction of humankind? What Jonathon Schell wrote concerning death by the fire of nuclear holocaust also applies to the slow burning death of global warming: Once we learn that a holocaust might lead to extinction, we have no right to gamble, because if we lose, the game will be over, and neither we nor anyone else will ever get another chance. Therefore, although, scientifically speaking, there is all the difference in the world between the mere possibility that a holocaust will bring about extinction and the certainty of it, morally they are the same, and we have no choice but to address the issue of nuclear weapons as though we knew for a certainty that their use would put an end to our species [23].15 When we consider that beyond the horror of nuclear war, another horror is set into motion to interact with the subsequent nuclear winter to produce a poisonous and super heated planet, the chances of human survival seem even smaller. Who knows, even if some small remnant does manage to survive, what the poisonous environmental conditions would have on human evolution in the future. A remnant of mutated, sub-human creatures might survive such harsh conditions, but for all purposes, human civilization has been destroyed, and the question concerning human extinction becomes moot.

**And there are systemic impacts - reliance on coal kills 50k in the US alone**

**Richardson 9**(John H. Richardson, “Meet the Man Who Could End Global Warming,” 11/17/9) <http://www.esquire.com/features/best-and-brightest-2009/nuclear-waste-disposal-1209>

Next, you must also consider the magnitude of the problem he's solving: a looming series of biblical disasters that include global warming, mass starvation, financial collapse, resource wars, and a long-term energy crisis that's much more desperate than most of us realize. Barring any spectacular new discoveries, assuming current trends in population and economic growth prevail, all the conventional oil in the world will be gone in about forty years. We can get maybe ten more if we suck dry oil sands and shale. We have enough natural gas to last about fifty years, enough coal to last between 150 and 300 years. But these fuels carry a heavy price. The emissions of coal plants alone carry, along with massive amounts of CO2, thousands of pounds of beryllium, manganese, selenium, lead, arsenic, and cadmium. They are 180 times more radioactive than the U. S. government's permissible level for the emissions ofnuclear power plants. If we were to burn enough coal to survive, the result would be acid rain and acidifying oceans andpollution that kills fifty thousand Americans each year through diseases like asthma, bronchitis, and emphysema

**Coal fired power plants perpetuate eco-racism– speaking out about the health consequences of coal is key**

Arriaga 11 – Greenpeace Volunteer and Local Chicagoan, Faces of Chicago's coal fight, August 5, 2011, This is a guest blog by Luis Arriaga, a Greenpeace volunteer leader in Chicago, http://www.greenpeace.org/usa/en/news-and-blogs/campaign-blog/faces-of-chicagos-coal-fight/blog/36253/
Growing up next to a state park was a blessing. I got to experience nature first hand, but there is something off about Silver Springs State Park. Giant power line towers went up through the park sometime in my childhood. Power lines that can most likely be traced back to one of Chicago's two coal power plants. While I got the benefit of relatively clean air, the children who live around where those power lines start didn't.¶ My name is Luis Arriaga. I grew up in the far southwest suburbs of Chicago. I am a 23-year-old journalism student at Columbia College entering my last semester. I chose to get involved with Greenpeace in Chicago to actively engage others in the fight against the dirty air every Chicagoan breathes. It's one thing to write about the battle for clean air and another to actually be at the forefront speaking to people one on one about the root causes of the dangerous quality of air entire communities in Chicago are forced to bear.¶ Being a first time volunteer for Greenpeace at such a crucial moment in the history of Chicago has left me thankful. Thankful for Greenpeace and the grassroots organizations in Chicago that have fought the Crawford and Fisk power plants for so long.¶ Last week, sitting through a city hall meeting with 150 people in support of the Clean Power Ordinance was inspiring. People in green tee shirts showed up in droves to show support for shutting down these dirty old coal plants and build a healthier future in Chicago.¶ I was inspired by people my age like Stephanie Dunn, who has committed to a five-day hunger strike for the ordinance. She was on day three of her strike in Chicago's Daley Plaza when I spoke with her for the first time.¶ She isn't out there representing any one organization; she's out on her own terms. She has set her own agenda. Dunn has lived in both Pilsen and Little Village; the two neighborhoods home to Chicago's Crawford and Fisk coal power plants. She knows just how severe the health consequences of having two coal-powered plants are for the communities they inhabit. She believes that allowing them to continue at full capacity would be to continue a form of eco-racism.

**The Anti-Coal movement is polycentric and coalitional – it brings together multiples agents of resistance by targeting specific Coal plants like those that poison each breath of air we take in Chicago AND by challenging the larger global system of fossil fuel powered injustice**

Russell 9 – Grassroots Action Organizer

Joshua Kahn Russell is the grassroots actions organizer at Rainforest Action Network and was an organizer on the Capitol Climate Action, May 2009, Z Magazine, <http://www.zcommunications.org/climate-justice-and-coals-funeral-procession-by-joshua-kahn-russell>

The pace of direct actions against coal has sharply increased since 2004. These campaigns have been organized and carried out by a polycentric global network of radical environmentalists, "frontline" communities (those most directly affected by injustice), student organizers, and traditional non-profits. In the United States, communities have been using non-violent direct action to confront coal at all stages of its lifecycle: finance, extraction, "cleaning" and transport, burning, and energy consumption. This trajectory began gaining momentum on November 10, 2004 with a blockade of Maryland's Dickerson Power Plant. It grew to 3 major direct actions in 2005, 2 more in 2006, 6 in 2007, 18 in 2008, and 15 in the first 3 months of 2009.¶ Similar to the anti-nuclear movement of the late 1970s and early 1980s, the anti-coal movement has targeted specific mines and plants while challenging the overall legitimacy of fossil fuel-based economies. This struggle has transcended single-issue organizing and the varied efforts to stop coal have brought together diverse stakeholders. Stemming from the people of color, working class, and women-led environmental justice movement, climate justice has become a political banner for intersecting racial justice, economic equity, community health, climate, and environmental quality struggles, of which elements of "no coal" struggles are a part. It is useful to think of campaigns against coal as one strand of a robust frontline-led climate justice movement.

**Allowing warming to continue perpetuates racist inequalities**

Hoerner 8**—**Former director of Research at the Center for a Sustainable Economy, Director of Tax Policy at the Center for Global Change at the University of Maryland College Park, and editor of Natural Resources Tax Review. He has done research on environmental economics and policy on behalf of the governments of Canada, France, Germany, the Netherlands, Switzerland, and the United States. Andrew received his B.A. in Economics from Cornell University and a J.D. from Case Western Reserve School of Law—AND—Nia Robins—former inaugural Climate Justice Corps Fellow in 2003, director of Environmental Justice and Climate Change Initiative (J. Andrew, “A Climate of Change African Americans, Global Warming, and a Just Climate Policy for the U.S.” July 2008, http://www.ejcc.org/climateofchange.pdf)

Everywhere we turn, the issues and impacts of climate change confront us. One of the most serious environmental threats facing the world today, climate change has moved from the minds of scientists and offices of environmentalists to the mainstream. Though the media is dominated by images of polar bears, melting glaciers, flooded lands, and arid desserts, there is a human face to this story as well. Climate change is not only an issue of the environment; it is also an issue of justice and human rights, one that dangerously intersects race and class. All over the world people of color, Indigenous Peoples and low-income communities bear disproportionate burdens from climate change itself, from ill-designed policies to prevent it, and from side effects of the energy systems that cause it. A Climate of Change explores the impacts of climate change on African Americans, from health to economics to community, and considers what policies would most harm or benefit African Americans—and the nation as a whole. African Americans are thirteen percent of the U.S. population and on average emit nearly twenty percent less greenhouse gases than non-Hispanic whites per capita. Though far less responsible for climate change, African Americans are significantly more vulnerable to its effects than non- Hispanic whites. Health, housing, economic well-being, culture, and social stability are harmed from such manifestations of climate change as storms, floods, and climate variability. African Americans are also more vulnerable to higher energy bills, unemployment, recessions caused by global energy price shocks, and a greater economic burden from military operations designed to protect the flow of oil to the U.S. Climate Justice: The Time Is Now Ultimately, accomplishing climate justice will require that new alliances are forged and traditional movements are transformed. An effective policy to address the challenges of global warming cannot be crafted until race and equity are part of the discussion from the outset and an integral part of the solution. This report finds that: Global warming amplifies nearly all existing inequalities. Under global warming, injustices that are already unsustainable become catastrophic. Thus it is essential to recognize that all justice is climate justice and that the struggle for racial and economic justice is an unavoidable part of the fight to halt global warming. Sound global warming policy is also economic and racial justice policy. Successfully adopting a sound global warming policy will do as much to strengthen the economies of low-income communities and communities of color as any other currently plausible stride toward economic justice. Climate policies that best serve African Americans also best serve a just and strong United States. This paper shows that policies well-designed to benefit African Americans also provide the most benefit to all people in the U.S. Climate policies that best serve African Americans and other disproportionately affected communities also best serve global economic and environmental justice. Domestic reductions in global warming pollution and support for such reductions in developing nations financed by polluter-pays principles provide the greatest benefit to African Americans, the peoples of Africa, and people across the Global South. A distinctive African American voice is critical for climate justice. Currently, legislation is being drafted, proposed, and considered without any significant input from the communities most affected. Special interests are represented by powerful lobbies, while traditional environmentalists often fail to engage people of color, Indigenous Peoples, and low-income communities until after the political playing field has been defined and limited to conventional environmental goals. A strong focus on equity is essential to the success of the environmental cause, but equity issues cannot be adequately addressed by isolating the voices of communities that are disproportionately impacted. Engagement in climate change policy must be moved from the White House and the halls of Congress to social circles, classrooms, kitchens, and congregations. The time is now for those disproportionately affected to assume leadership in the climate change debate, to speak truth to power, and to assert rights to social, environmental and economic justice. Taken together, these actions affirm a vital truth that will bring communities together: Climate Justice is Common Justice. African Americans and Vulnerability In this report, it is shown that African Americans are disproportionately affected by climate change. African Americans Are at Greater Risk from Climate Change and Global Warming Co-Pollutants ¶ • The six states with the highest African American population are all in the Atlantic hurricane zone, and are expected to experience more intense storms resembling Katrina and Rita in the future. ¶ • Global warming is expected to increase the frequency and intensity of heat waves or extreme heat events. African Americans suffer heat death at one hundred fifty to two hundred percent of the rate for non-Hispanic whites. ¶ • Seventy-one percent of African Americans live in counties in violation of federal air pollution standards, as compared to fifty-eight percent of the white population. Seventy-eight percent of African Americans live within thirty miles of a coal-fired power plant, as compared to fifty-six percent of non-Hispanic whites. ¶ • Asthma has strong associations with air pollution, and African Americans have a thirty-six percent higher rate of incidents of asthma than whites. Asthma is three times as likely to lead to emergency room visits or deaths for African Americans. ¶ • This study finds that a twenty-five percent reduction in greenhouse gases—similar to what passed in California and is proposed in major federal legislation—would reduce infant mortality by at least two percent, asthma by at least sixteen percent, and mortality from particulates by at least 6,000 to 12,000 deaths per year. Other estimates have run as high as 33,000 fewer deaths per year. A disproportionate number of the lives saved by these proposed reductions would be African American. African Americans Are Economically More Vulnerable to Disasters and Illnesses ¶ • In 2006, twenty percent of African Americans had no health insurance, including fourteen percent of African American children—nearly twice the rate of non-Hispanic whites. ¶ • In the absence of insurance, disasters and illness (which will increase with global warming) could be cushioned by income and accumulated wealth. However, the average income of African American households is fifty-seven percent that of non-Hispanic whites, and median wealth is only one-tenth that of non-Hispanic whites. ¶ • Racist stereotypes have been shown to reduce aid donations and impede service delivery to African Americans in the wake of hurricanes, floods, fires and other climate-related disasters as compared to non-Hispanic whites in similar circumstances. African Americans Are at Greater Risk from Energy Price Shocks ¶ • African Americans spend thirty percent more of their income on energy than non-Hispanic whites. • Energy price increases have contributed to seventy to eighty percent of recent recessions. The increase in unemployment of African Americans during energy caused recessions is twice that of non-Hispanic whites, costing the community an average of one percent of income every year. • Reducing economic dependence on energy will alleviate the frequency and severity of recessions and the economic disparities they generate. African Americans Pay a Heavy Price and a Disproportionate Share of the Cost of Wars for Oil • Oil company profits in excess of the normal rate of profit for U.S. industries cost the average household $611 in 2006 alone and are still rising. • The total cost of the war in Iraq borne by African Americans will be $29,000 per household if the resulting deficit is financed by tax increases, and $32,000 if the debt is repaid by spending cuts. This is more than three times the median assets of African American households. A Clean Energy Future Creates Far More Jobs for African Americans • Fossil fuel extraction industries employ a far lower proportion of African Americans on average compared to other industries. Conversely, renewable electricity generation employs three to five times as many people as comparable electricity generation from fossil fuels, a higher proportion of whom are African American. ¶ • Switching just one percent of total electricity generating capacity per year from conventional to renewable sources would result in an additional 61,000 to 84,000 jobs for African Americans by 2030. ¶ • A well-designed comprehensive climate plan achieving emission reductions comparable to the Kyoto Protocol would create over 430,000 jobs for African Americans by 2030, reducing the African American unemployment rate by 1.8 percentage points and raising the average African American income by 3 to 4 percent.

**The IFR supplies enough clean energy to solve warming**

**Blees et al 11** (Charles Archambeau , Randolph Ware, Cooperative Institute for Research in Environmental Sciences, Tom Blees, National Center for Atmospheric Research, Barry Brook, Yoon Chang, University of Colorado, Jerry Peterson, Argonne National Laboratory, Robert Serafin Joseph Shuster Tom Wigley, “IFR: An optimized approach to meeting global energy needs (Part I)” 2/1/11) http://bravenewclimate.com/2011/02/01/ifr-optimized-source-for-global-energy-needs-part-i/)

Fossil fuels currently supply about 80% of humankind’s primary energy. Given the imperatives of climate change, pollution, energy security and dwindling supplies, and enormous technical, logistical and economic challenges of scaling up coal or gas power plants with carbon capture and storage to sequester all that carbon, we are faced with the necessity of a nearly complete transformation of the world’s energy systems. Objective analyses of the inherent constraints on wind, solar, and other less-mature renewable energy technologies inevitably demonstrate that they will fall far short of meeting today’s energy demands, let alone the certain increased demands of the future. Nuclear power, however, is capable of providing all the carbon-free energy that mankind requires, although the prospect of such a massive deployment raises questions of uranium shortages, increased energy and environmental impacts from mining and fuel enrichment, and so on. These potential roadblocks can all be dispensed with, however, through the use of fast neutron reactors and fuel recycling. The Integral Fast Reactor (IFR), developed at U.S. national laboratories in the latter years of the last century, can economically and cleanly supply all the energy the world needs without any further mining or enrichment of uranium. Instead of utilizing a mere 0.6% of the potential energy in uranium, IFRs capture all of it. Capable of utilizing troublesome waste products already at hand, IFRs can solve the thorny spent fuel problem while powering the planet with carbon-free energy for nearly a millennium before any more uranium mining would even have to be considered. Designed from the outset for unparalleled safety and proliferation resistance, with all major features proven out at the engineering scale, this technology is unrivaled in its ability to solve the most difficult energy problems facing humanity in the 21st century. Our objectives in the conference paper and poster are to describe how the new Generation IV nuclear power reactor, the IFR, can provide the required power to rapidly replace coal burning power plants and thereby sharply reduce greenhouse gas emissions, while also replacing all fossil fuel sources within 30 years. Our conclusion is that this can be done with a combination of renewable energy sources, IFR nuclear power and ordinary conservation measures. Here we focus on a discussion of the design and functionality of the primary component of this mix of sources, namely the IFR nuclear system, since its exposure to both the scientific community and the public at large has been so limited. However, we do consider the costs of replacing all fossil fuels while utilizing all renewable and nuclear sources in generating electrical energy, as well as the costs of meeting the increasing national and global requirements for electrical power. The IFR to be described relates to the following basic features of the IFR design: • IFR systems are closed-cycle nuclear reactors that extract 99% of the available energy from the Uranium fuel, whereas the current reactors only extract about 1% of the available energy. • The waste produced by an IFR consists of a relatively small mass of fission products, consisting of short half-life isotopes which produce a relatively brief toxicity period for the waste (less than 300 years) while current nuclear systems produce much larger amounts of waste with very long toxicity periods (300,000 years). • An electrochemical processor (called the “pyroprocessor”) can be integrated with a fast reactor (FR) unit to process Uranium fuel in a closed cycling process in which the “spent” nuclear fuel from the FR unit is separated into “fission product” waste and the new isotope fuel to be cycled back into the FR. This recycling process can be repeated until 99% of the original Uranium isotope energy is converted to electrical power. The pyroprocessing unit can also be used in a stand-alone mode to process large amounts of existing nuclear reactor (LWR) waste to provide fuel for IFR reactors. The amount of IFR fuel available is very large and sufficient to supply all world-wide needs for many hundreds of years without Uranium mining. • The pyroprocessing operations do not separate the mix of isotopes that are produced during the recycling of IFR fuel. Since this mixture is always highly radioactive it is not possible to separate out Uranium or Plutonium isotopes that can be used in weapons development. • The IFR reactor uses metal fuel rather than the oxide fuels that are used now. If overheating of the reactor core occurs for any reason, the metal fuel reacts by expanding, so its density drops, which causes fast neutron “leakage”, leading to termination of the chain reaction and automatic shut-down of the reactor. This serves as an important passive safety feature.

**Only the IFR creates an economic incentive to get off coal in time**

**Kirsch 9** (Steve Kirsch, Bachelor of Science and a Master of Science in electrical engineering and computer science from the Massachusetts Institute of Technology, American serial entrepreneur who has started six companies: Mouse Systems, Frame Technology, Infoseek, Propel, Abaca, and OneID, “Why We Should Build an Integral Fast Reactor Now,” 11/25/9) <http://skirsch.wordpress.com/2009/11/25/ifr/>

To prevent a climate disaster, we must eliminate virtually all coal plant emissions worldwide in 25 years. The best way and, for all practical purposes, the only way to get all countries off of coal is not with coercion; it is to make them want to replace their coal burners by giving them a plug-compatible technology that is less expensive. The IFR can do this. It is plug-compatible with the burners in a coal plant (see Nuclear Power: Going Fast). No other technology can upgrade a coal plant so it is greenhouse gas free while reducing operating costs at the same time. In fact, no other technology can achieve either of these goals. The IFR can achieve both. The bottom line is that without the IFR (or a yet-to-be-invented technology with similar ability to replace the coal burner with a cheaper alternative), it is unlikely that we’ll be able to keep CO2 under 450 ppm. Today, the IFR is the only technology with the potential to displace the coal burner. That is why restarting the IFR is so critical and why Jim Hansen has listed it as one of the top five things we must do to avert a climate disaster.[4] Without eliminating virtually all coal emissions by 2030, the sum total of all of our other climate mitigation efforts will be inconsequential. Hansen often refers to the near complete phase-out of carbon emissions from coal plants worldwide by 2030 as the sine qua non for climate stabilization (see for example, the top of page 6 in his August 4, 2008 trip report). To stay under 450ppm, we would have to install about 13,000 GWe of new carbon-free power over the next 25 years. That number was calculated by Nathan Lewis of Caltech for the Atlantic, but others such as Saul Griffith have independently derived a very similar number and White House Science Advisor John Holdren used 5,600 GWe to 7,200 GWe in his presentation to the Energy Bar Association Annual Meeting on April 23, 2009. That means that if we want to save the planet, we must install more than 1 GWe per day of clean power every single day for the next 25 years. That is a very, very tough goal. It is equivalent to building one large nuclear reactor per day, or 1,500 huge wind turbines per day, or 80,000 37 foot diameter solar dishes covering 100 square miles every day, or some linear combination of these or other carbon free power generation technologies. Note that the required rate is actually higher than this because Hansen and Rajendra Pachauri, the chair of the IPCC, now both agree that 350ppm is a more realistic “not to exceed” number (and we’ve already exceeded it). Today, we are nowhere close to that installation rate with renewables alone. For example, in 2008, the average power delivered by solar worldwide was only 2 GWe (which is to be distinguished from the peak solar capacity of 13.4GWe). That is why every renewable expert at the 2009 Aspen Institute Environment Forum agreed that nuclear must be part of the solution. Al Gore also acknowledges that nuclear must play an important role. Nuclear has always been the world’s largest source of carbon free power. In the US, for example, even though we haven’t built a new nuclear plant in the US for 30 years, nuclear still supplies 70% of our clean power! Nuclear can be installed very rapidly; much more rapidly than renewables. For example, about two thirds of the currently operating 440 reactors around the world came online during a 10 year period between 1980 and 1990. So our best chance of meeting the required installation of new power goal and saving the planet is with an aggressive nuclear program. Unlike renewables, nuclear generates base load power, reliably, regardless of weather. Nuclear also uses very little land area. It does not require the installation of new power lines since it can be installed where the power is needed. However, even with a very aggressive plan involving nuclear, it will still be extremely difficult to install clean power fast enough. Unfortunately, even in the US, we have no plan to install the clean power we need fast enough to save the planet. Even if every country were to agree tomorrow to completely eliminate their coal plant emissions by 2030, how do we think they are actually going to achieve that? There is no White House plan that explains this. There is no DOE plan. There is no plan or strategy. The deadlines will come and go and most countries will profusely apologize for not meeting their goals, just like we have with most of the signers of the Kyoto Protocol today. Apologies are nice, but they will not restore the environment. We need a strategy that is believable, practical, and affordable for countries to adopt. The IFR offers our best hope of being a centerpiece in such a strategy because it the only technology we know of that can provide an economically compelling reason to change. At a speech at MIT on October 23, 2009, President Obama said “And that’s why the world is now engaged in a peaceful competition to determine the technologies that will power the 21st century. … The nation that wins this competition will be the nation that leads the global economy. I am convinced of that. And I want America to be that nation, it’s that simple.” Nuclear is our best clean power technology and the IFR is our best nuclear technology. The Gen IV International Forum (GIF) did a study in 2001-2002 of 19 different reactor designs on 15 different criteria and 24 metrics. The IFR ranked #1 overall. Over 242 experts from around the world participated in the study. It was the most comprehensive evaluation of competitive nuclear designs ever done. Top DOE nuclear management ignored the study because it didn’t endorse the design the Bush administration wanted. The IFR has been sitting on the shelf for 15 years and the DOE currently has no plans to change that. How does the US expect to be a leader in clean energy by ignoring our best nuclear technology? Nobody I’ve talked to has been able to answer that question. We have the technology (it was running for 30 years before we were ordered to tear it down). And we have the money: The Recovery Act has $80 billion dollars. Why aren’t we building a demo plant? IFRs are better than conventional nuclear in every dimension. Here are a few: Efficiency: IFRs are over 100 times more efficient than conventional nuclear. It extracts nearly 100% of the energy from nuclear material. Today’s nuclear reactors extract less than 1%. So you need only 1 ton of actinides each year to feed an IFR (we can use existing nuclear waste for this), whereas you need 100 tons of freshly mined uranium each year to extract enough material to feed a conventional nuclear plant. Unlimited power forever: IFRs can use virtually any actinide for fuel. Fast reactors with reprocessing are so efficient that even if we restrict ourselves to just our existing uranium resources, we can power the entire planet forever (the Sun will consume the Earth before we run out of material to fuel fast reactors). If we limited ourselves to using just our DU “waste” currently in storage, then using the IFR we can power the US for over 1,500 years without doing any new mining of uranium.[5] Exploits our largest energy resource: In the US, there is 10 times as much energy in the depleted uranium (DU) that is just sitting there as there is coal in the ground. This DU waste is our largest natural energy resource…but only if we have fast reactors. Otherwise, it is just waste. With fast reactors, virtually all our nuclear waste (from nuclear power plants, leftover from enrichment, and from decommissioned nuclear weapons)[6] becomes an energy asset worth about $30 trillion dollars…that’s not a typo…$30 trillion, not billion.[7] An 11 year old child was able to determine this from publicly available information in 2004.

**Science is the best method of getting an approximate grasp on warming**

Jean **Bricmont 1**, professor of theoretical physics at the University of Louvain, “Defense of a Modest Scientific Realism”, September 23, <http://www.physics.nyu.edu/faculty/sokal/bielefeld_final.pdf>

Given that instrumentalism is not defensible when it is formulated as a rigid doctrine, and since redefining truth leads us from bad to worse, what should one do? A hint of one sensible response is provided by the following comment of Einstein: Science without epistemology is insofar as it is thinkable at all primitive and muddled. However, no sooner has the epistemologist, who is seeking a clear system, fought his way through such a system, than he is inclined to interpret the thought-content of science in the sense of his system and to reject whatever does not fit into his system. The scientist, however, cannot afford to carry his striving epistemological systematic that far. ... He therefore must appeal to the systematic epistemologist as an unscrupulous opportunist.'1'1 So let us try epistemological opportunism. We are, in some sense, "screened'' from reality (we have no immediate access to it, radical skepticism cannot be refuted, etc.). There are no absolutely secure foundations on which to base our knowledge. Nevertheless, we all assume implicitly that we can obtain some reasonably reliable knowledge of reality, at least in everyday life. Let us try to go farther, putting to work all the resources of our fallible and finite minds: observations, experiments, reasoning. And then let us see how far we can go. In fact, the most surprising thing, shown by the development of modern science, is how far we seem to be able to go. Unless one is a solipsism or a radical skeptic which nobody really is one has to be a realist about something: about objects in everyday life, or about the past, dinosaurs, stars, viruses, whatever. But there is no natural border where one could somehow radically change one's basic attitude and become thoroughly instrumentalist or pragmatist (say. about atoms or quarks or whatever). There are many differences between quarks and chairs, both in the nature of the evidence supporting their existence and in the way we give meaning to those words, but they are basically differences of degree. Instrumentalists are right to point out that the meaning of statements involving unobservable entities (like "quark'') is in part related to the implications of such statements for direct observations. But only in part: though it is difficult to say exactly how we give meaning to scientific expressions, it seems plausible that we do it by combining direct observations with mental pictures and mathematical formulations, and there is no good reason to restrict oneself to only one of these. Likewise, conventionalists like Poincare are right to observe that some scientific "choices", like the preference for inertial over noninertial reference frames, are made for pragmatic rather than objective reasons. In all these senses, we have to be epistemological "opportunists". But a problem worse than the disease arises when any of these ideas are taken as rigid doctrines replacing 'realism". A friend of ours once said: "I am a naive realist. But I admit that knowledge is difficult." This is the root of the problem. Knowing how things really are is the goal of science; this goal is difficult to reach, but not impossible (at least for some parts of reality and to some degrees of approximation). If we change the goal if, for example, we seek instead a consensus, or (less radically) aim only at empirical adequacy then of course things become much easier; but as Bert rand Russell observed in a similar context, this has all the advantages of theft over honest toil. Moreover, the underdetermination thesis, far from undermining scientific objectivity, actually makes the success of science all the more remarkable. Indeed, what is difficult is not to find a story that "fits the data'\*, but to find even one non-crazy such story. How does one know that it is non-crazy7 A combination of factors: its predictive power, its explanatory value, its breadth and simplicity, etc. Nothing in the (Quinean) underdetermiiiation thesis tells us how to find inequivalent theories with some or all of these properties. In fact, there are vast domains in physics, chemistry and biology where there is only one"18 known non-crazy theory that accounts for Unknown facts and where many alternative theories have been tried and failed because their predictions contradicted experiments. In those domains, one can reasonably think that our present-day theories are at least approximately true, in some sense or other. An important (and difficult) problem for the philosophy of science is to clarify the meaning of “approximately true'" and its implications for the ontological status of unobservable theoretical entities. We do not claim to have a solution to this problem, but we would like to offer a few ideas that might prove useful.

**“science” isn’t some special definable category, its just basic induction carried out systematically**

Jean **Bricmont 1**, professor of theoretical physics at the University of Louvain, “Defense of a Modest Scientific Realism”, September 23, <http://www.physics.nyu.edu/faculty/sokal/bielefeld_final.pdf>

So, how does one obtain evidence concerning the truth or falsity of scientific assertions? By the same imperfect methods that we use to obtain evidence about empirical assertions generally. Modern science, in our view, is nothing more or less than the deepest (to date) refinement of the rational attitude toward investigating any question about the world, be it atomic spectra, the etiology of smallpox, or the Bielefeld bus routes. Historians, detectives and plumbers indeed, all human beings use the same basic methods of induction, deduction and assessment of evidence as do physicists or biochemists.18 Modern science tries to carry out these operations in a more careful and systematic way, by using controls and statistical tests, insisting on replication, and so forth. Moreover, scientific measurements are often much more precise than everyday observations; they allow us to discover hitherto unknown phenomena; and scientific theories often conflict with "common sense'\*. But [he con f I id is al the level of conclusions, nol (he basic approach. As Susan Haack lucidly observes: Our standards of what constitutes good, honest, thorough inquiry and what constitutes good, strong, supportive evidence are not internal to science. In judging where science has succeeded and where it has failed, in what areas and at what times it has done better and in what worse, we are appealing to the standards by which we judge the solidity of empirical beliefs, or the rigor and thoroughness of empirical inquiry, generally.1'1 Scientists' spontaneous epistemology the one that animates their work, regardless of what they may say when philosophizing is thus a rough-and-ready realism: the goal of science is to discover (some aspects of) how things really are. More The aim of science is to give a true (or approximately true) description of reality. I'll is goal is realizable, because: 1. Scientific theories are either true or false. Their truth (or falsity) is literal, not metaphorical; it does not depend in any way on us, or on how we test those theories, or on the structure of our minds, or on the society within which we live, and so on. 2. It is possible to have evidence for the truth (or falsity) of a theory. (Tt remains possible, however, that all the evidence supports some theory T, yet T is false.)20 Tin- most powerful objections to the viability of scientific realism consist in various theses showing that theories are underdetermined by data.21 In its most common formulation, the underdetermination thesis says that, for any finite (or even infinite) set of data, there are infinitely many mutually incompatible theories that are "compatible'' with those data. This thesis, if not properly understood22, can easily lead to radical conclusions. The biologist who believes that a disease is caused by a virus presumably does so on the basis of some "evidence" or some "data'\*. Saying that a disease is caused by a virus presumably counts as a "theory'' (e.g. it involves, implicitly, many counlerfactual statements). But if there are really infinitely many distinct theories that are compatible with those "data", then we may legitimately wonder on what basis one can rationally choose between those theories. In order to clarify the situation, it is important to understand how the underdetermination thesis is established; then its meaning and its limitations become much clearer. Here are some examples of how underdeterminatiou works; one may claim that: The past did not exist: the universe was created five minutes ago along with all the documents and all our memories referring to the alleged past in their present state. Alternatively, it could have been created 100 or 1000 years ago. The stars do not exist: instead, there are spots on a distant sky that emit exactly the same signals as those we receive. All criminals ever put in jail were innocent. For each alleged criminal, explain away all testimony by a deliberate desire to harm the accused; declare that all evidence was fabricated by the police and that all confessions were obtained bv force.2'1 Of course, all these "theses'1 may have to be elaborated, but the basic idea is clear: given any set of facts, just make up a story, no matter how ad hoc, to "account" for the facts without running into contradictions.2,1 It is important to realize that this is all there is to the general (Quinean) underdetermination thesis. Moreover, this thesis, although it played an important role in the refutation of the most extreme versions of logical positivism, is not very different from the observation that radical skepticism or even solipsism cannot be refuted: all our knowledge about the world is based on some sort of inference from the observed to the unobserved, and no such inference can be justified by deductive logic alone. However, it is clear that, in practice, nobody ever takes seriously such "theories" as those mentioned above, any more than they take seriously solipsism or radical skepticism. Let us call these "crazy theories'\*2'1 (of course, it is not easy to say exactly what it means for a theory to be non-crazy). Xote that these theories require no work: they can be formulated entirely a priori. On the other hand, the difficult problem, given some set of data, is to find even one non-crazy theory that accounts for them. Consider, for example, a police enquiry about some crime: it is easy enough to invent a story that "accounts for the facts'" in an ad hoc fashion (sometimes lawyers do just that); what is hard is to discover who really committed the crime and to obtain evidence demonstrating that beyond a reasonable doubt. Reflecting on this elementary example clarifies the meaning of the underdelermination thesis. Despite the existence of innumerable "crazy theories'\* concerning any given crime, it sometimes happens in practice that there is a unique theory (i.e. a unique story about who committed the crime and how) that is plausible and compatible with the known facts; in that case, one will say that the criminal has been discovered (with a high degree of confidence, albeit not with certainty). It may also happen that no plausible theory is found, or that we are unable to decide which one among several suspects is really guilty: in these cases, the underdetermination is real.-'' One might next ask whether there exist more subtle forms of underdetermination than the one revealed by a Duhem Quine type of argument. In order to analyze this question, let us consider the example of classical electromagnetism. This is a theory that describes how particles possessing a quantifiable property called "electric charge" produce "electromagnetic fields" that "propagate in vacuum" in a certain precise fashion and then "guide" the motion of charged particles when they encounter them.2' Of course, no one ever "sees" directly an electromagnetic field or an electric charge. So, should one interpret this theory "realistically'', and if so, what should it be taken to mean? Classical electromagnetic theory is immensely well supported by precise experiments and forms the basis for a large part of modern technology. It is "confirmed'' every time one of us switches on his or her computer and finds that it works as designed.'8 Does this overwhelming empirical support imply that there are "really"' electric and magnetic fields propagating in vacuum? In support of the idea that thenare, one could argue that electromagnetic theory postulates the existence of those fields and that there is no known non-crazy theory that accounts equally well for the same data; therefore it is reasonable to believe that electric and magnetic fields really exist. But is it in fact true that there are no alternative non-crazy theories? Here is one possibility: Let us claim that there are no fields propagating "in vacuum", but that, rather, there are only "forces" acting directly between charged particles.29 Of course, in order to preserve the empirical adequacy of the theory, one lias to use exactly the same Maxwell Lorentz system of equations as before (or a mathematically equivalent system). But one may interpret the fields as a mere "calculational device" allowing us to compute more easily the net effect of the "real" forces acting between charged particles.30 Almost every physicist reading these lines will say that this is some kind of metaphysics or maybe even a play on words that this "alternative theory" is really just standard electromagnetic theory in disguise. Xow, although the precise meaning of "metaphysics" is hard to pin down 31, there is a vague sense in which, if we use exactly the same equations (or a mathematically equivalent set of equations) and make exactly the same predictions in the two theories, then they are really the same theory as far as "physics" is concerned, and the distinction between the two if any lies outside of its scope. The same kind of observation can be made about most physical theories: In classical mechanics, are there really forces acting on particles, or are the particles instead following trajectories defined by variational principles? In general relativity, is space-time really curved, or are there, rather, fields that cause particles to move as if space-time were curved?'2 Let us call this kind of underdetermination "genuine'\*, as opposed to the "crazy" underdeterminations of the usual Duhem Quine thesis. By "genuine'\*, we do not mean that these underdeterminations are necessarily worth losing sleep over, but simply that there is no rational way to choose (at least on empirical grounds alone) between the alternative theories if indeed they should be regarded as different theories.

**Yes science is socially influenced – but using that to discount its claims makes environmental engagement impossible**

David Demerritt, '6 (Dept of Geography, King's College London, "The Construction of Global warming and the Politics of Science", www.unc.edu/courses/2006spring/geog/203/001/demerritt.pdf)

In this article, 1 reconsider the relationships between the science and the politics of climate change. Although commonly thought of as separate domains, the two are linked in some important ways. Not only has the science of climate change largely driven the national and international politics of climate change, the politics in turn have also influenced the practice of that science. It is my contention that the demand for and expectation of policy relevance has subtly shaped the formulation of research questions, choice of methods, standards of proof, and the definition of other aspects of "good" scientific practice. This pattern of reciprocal influence belies the categorical distinction so often made between science, based purely on objective fact, and politics, which involves value-laden decision making that is separable from and downstream of science.

The permeability of this divide between science and politics is perhaps most clear in the hybrid, trans-scientific realm of applied regulatory science, for which questions about acceptable risks can be asked of science but not answered definitively by it (Weinberg 1972; Jasanoff 1990; Funtowici and Ravetz 1993). Recent work in science studies suggests that all science, even the very "hardest" varieties, involves contingent social relations (Collins and Pinch 1993; Hess 1997; Golinski 1998). Hem-to conduct this experiment or measurement? Whether to trust that datum or result? Whose interpretation to believe? Such questions are the stuff of everyday scientific practice, and they depend on trust and professional judgment. Try as we may to be scrupulously impartial and open-minded, these decisions remain socially saturated. To insist, therefore, that science is also political, in the broadest sense of that word, is not to say that science is only political and thereby collapse entirely the distinction between the two. It is to recognize how problematic this distinction is. The social relations that science involves necessarily influence both the character of scientific understandings upstream and the particular political outcomes that may result from them downstream in legislation or administrative law rulings.

Unfortunately, public representations of science seldom acknowledge the irreducibly social dimension of scientific knowledge and practice. As a result, disclosure of the social relations through which scientific knowledge is constructed and conceived has become grounds for discrediting both that knowledge and any public policy decisions based upon it. This political strategy of social construction as refutation has been pursued by the so-called climate skeptics and other opponents of the Kyoto Protocol. It is premised upon an idealized vision of scientific truth as the God's-eye view from nowhere. Rather than accepting this premise and being forced to deny that scientific knowledge is socially situated and contingent, the proper response to it is to develop a more reflexive understanding of science as a situated and ongoing social practice, as the basis for a more balanced assessment of its knowledge.

A richer appreciation for the social processes of scientific knowledge construction is as important for scientists themselves as it is for wider public credibility of their knowledge. In the particular case of climate change, heavy reliance upon diverse, highly specialized, and multi-disciplinary bodies of scientific knowledge highlights the problem of trust in knowledge and the expert systems that produce it. As phenomena, the global climate and anthropogenic changes to it would be difficult even to conceive of without sophisticated computer simulations of the global climate system. Although satellite monitor-ing systems as well as instrumental records and paleocli-matic evidence have also been important, particularly in the identification of historic changes in the climate to date, it is these powerful computer models that have been decisive in identifying the problem of future anthropogenic climate change and making it real for policy makers and the public.2 Ordinary senses struggle in the face of phenomena so extensive in space and time and incalculable in their potential impacts. For the social theorist Ulrich Beck (1992), this dependence upon science to make tangible otherwise invisible environmental risks is characteristic of what he calls the modern risk society.

Although Beck may exaggerate the inability of nonexperts and lay publics to make sense of climate change and other risks for themselves, it is undeniable that science and in particular the practice of climate modeling have figured centrally in the emergence of global climate change as perhaps the leading environmental problem of our time. Although their underlying technical details are understood only by the modelers themselves, these complicated computer models provide the basis not just for sweeping public policies but also for impact assessments and other scientific research.\* Thus, most scientists stand in a similar downstream relation to climate models as those of policy makers and the lay public: they are forced to put their faith in technical expertise that they do not fully understand. The extension of their trust greatly magnifies the political stakes of the microsocial relations involved in constructing and interpreting the models.

**Positive normative visions of the state that engage in specific policies are the only way to produce lasting change**

Robyn Eckersley, ‘4 (Professor and Head of Political Science in the School of Social and Political Sciences, University of Melbourne, Australia, “The Green State: Rethinking Democracy and Sovereignty”, 5.4)

Those who attack the feasibility of deliberative democracy tend to mis-understand the role of a counterfactual ideal in providing an alternative and critical vantage from which to evaluate and seek to reconstruct polit-ical institutions. As a counterfactual ideal, deliberative democracy is nec-essarily something that is juxtaposed to, and therefore at some distance from, the “real.” The point is to highlight what could happen if certain conditions prevail. As a device for exposing what could be otherwise, the discourse ethic provides a potent critical vantage point from which to unmask unequal power relations and the political actors who sanc-tify them, identify issues and social groups that are excluded from public dialogue, and sift out genuinely public interests from merely vested private interests. However else one wishes to defend deliberative democ-racy, I take this “critical vantage point” argument to constitute its unim-peachable core.

Indeed, this same critical vantage point is invoked by critics who seek to impugn the desirability of the deliberative ideal on the grounds that it is too dispassionate, rationalist, and Eurocentric. 24 In pointing to different modes of political communication, such as greeting, rhetoric, storytelling/testimony, and satire, that appear to be excluded from overly rationalistic ideals of deliberative democracy, such criticisms presuppose at least a structurally similar evaluative standpoint to that of delibera-tive democrats. That is, critics of deliberative democracy effectively join with defenders of deliberative democracy in enlisting the ideal of free and equal human subjects determining their own individual and common destinies in circumstances that are free from explicit or implicit coercion. Without this ideal, there would be no basis upon which to mount such a critique of the status quo. While there is certainly room to argue for a widening of what should count as valid or appropriate political argu-ment or communication, this is still an immanent critique that does not in itself impeach the critical normative orientation of deliberative democ-racy, which is essentially the aspiration to autonomy, understood nega-tively as not being subjected to arbitrary rule, and positively by having the opportunity to shape the norms that govern collective life.

In any event, deliberative democracy seems well capable of absorbing Young’s arguments as well as those who continue to insist that deliber-ative democracy is impractical. As James Bohman has put it, delibera-tive democracy cannot ignore different styles of political communication “without threatening social co-operation in deliberation itself.” 25 More-over, if we adopt Dryzek’s pithy formulation of deliberation as commu-nication that induces reflection on preferences in a noncoercive fashion, then we leave room for a wide variety of modes of political communi-cation. 26 The ambit claim for ecological democracy effectively employs and extends deliberative democracy in exactly this way—as a regulative ideal of free communication against which we may impugn the legiti-macy of the outcomes of real world communication because such communication is unfairly constrained. Here “unfairly constrained” can include insufficiently inclusive in those circumstances where affected 128 Chapter 5 parties are not given a voice in the deliberations. This, then, is one (crit-ical) sense in which deliberative democracy is able to serve the ambit claim for ecological democracy.

However, it would be politically unsatisfactory to rest the argument here. In the move from regulative ideals and political critique, on the one hand, to practical institutional reform, on the other hand, many prob-lems still have to be negotiated. These problems arise because, as James Johnson has noted, it is foolhardy to make “heroic assumptions” about the motivations of political actors in democratic deliberation. 27 That is, in a world where power disparities are ever present, it is naïve to expect policy makers always to be so virtuous and patient as to put the public good ahead of their own interests, concerns, and identities and genuinely listen to, and accommodate, all opposing viewpoints in the course of political dialogue and decision making. As Edward Said, in a spirited critique of the discourse ethic, notes: the “scrubbed, disinfected inter-locutor is a laboratory creation,” which bears no relationship to real political discourse. 28 Moreover the idealizing force of the deliberative model must confront the limitations and practical exigencies of real world political decision making where time, information, and knowledge constraints abound. Clearly, if we are to do justice to the marginal and dispossessed (including those who cannot represent themselves), and if we are to also achieve feasible outcomes, then political procedures and institutions must not be formulated in the philosophical laboratory (where power disparities are absent) but in the real world where power disparities, distortions in communication, and other pressures are ever present.

Moreover, if it is accepted that there is a multiplicity of genres of speech and argument, which may be traced to (among other things) dif-ferent linguistic and cultural backgrounds, then one might also challenge the normative presupposition of a shared, implicit telos toward mutual understanding in political dialogue, especially in multicultural polities. In such complex and diverse polities, we can expect disagreement to be the rule rather than the exception, and we can also expect that such dis-agreement will not necessarily always be reasoned or reasonable. Indeed, on many moral, religious and philosophical questions (e.g., the abortion debate), we can expect intractable disagreement.

**However, such observations do not render the regulative ideal inef-fectual, since without an ideal there would be no normative basis upon which to impugn any political communication or decision**. Moreover this regulative ideal can still work not only as a criticalvantage point but also as a constructivevantage point, serving as the source of inspi-ration for ongoing renovations to democratic institutions. As it happens, recent work on deliberative democracy has been increasingly preoccu-pied with practical concerns about disagreement, feasibility, social com-plexity, and institutionalisation. 29 Indeed, after an extensive survey of such work, James Bohman has declared that “Tempered with consider-ations of feasibility, disagreement and empirical limits, deliberative democracy has now ‘come of age’ as a practical ideal.” 30 Many advo-cates of deliberative democracy have turned their attention away from the counterfactual ideal of deliberation and toward the actual processes of deliberation in an effort to develop a more dynamic understanding of the relationship between ideals and practices. While all deliberative democrats may prize consensus, it is clear that they neither assume nor expect it in every case; instead, they have offered a framework for under-standing and dealing with difference and disagreement. For example, Amy Guttman and Dennis Thompson have argued that the fact of per-sistent disagreement is hardly a reason for abandoning deliberative democracy. Rather, they suggest that it highlights its great virtue, since its procedural requirements (which they identify as reciprocity, publicity and accountability) still make it superior to other methods for resolving political conflicts. 31 It can, for example, better facilitate the search for “an economy of moral disagreement.” 32 Similarly John Dryzek has defended “workable agreements,” which also resonate with Cass Sun-stein’s “incompletely theorised agreements,” which Sunstein argues “rep-resent a distinctive solution to social pluralism” and “a crucial aspect of the exercise of reason in deliberative democracies.” 33 Such agreements are agreements on outcomes and narrow or low-level principles on which people can converge from diverse foundations; they are concerned with particulars, not abstractions. Sunstein also suggests that agreements of this kind are well suited to the need for moral evolution. A turn toward practical, problem solving in the context of cultural pluralism is also the hallmark of the new school of environmental pragmatism.

**Engagement with the nuclear technocracy is key**

Nordhaus 11, chairman – Breakthrough Instiute, and Shellenberger, president – Breakthrough Insitute, MA cultural anthropology – University of California, Santa Cruz, 2/25/‘11

(Ted and Michael, <http://thebreakthrough.org/archive/the_long_death_of_environmenta>)

Tenth, we are going to have to get over our suspicion of technology, especially nuclear power. There is **no credible path** to reducing global carbon emissions without an enormous expansion of nuclear power. It is the only low carbon technology we have today with the demonstrated capability to generate large quantities of centrally generated electrtic power. It is the low carbon of technology of choice for much of the rest of the world. Even uber-green nations, like Germany and Sweden, have reversed plans to phase out nuclear power as they have begun to reconcile their energy needs with their climate commitments. Eleventh, we will need to embrace again the role of the state as a direct provider of public goods. The modern environmental movement, borne of the new left rejection of social authority of all sorts, has embraced the notion of state regulation and even creation of private markets while largely rejecting the generative role of the state. In the modern environmental imagination, government promotion of technology - whether nuclear power, the green revolution, synfuels, or ethanol - almost always ends badly. Never mind that virtually the entire history of American industrialization and technological innovation is the story of government investments in the development and commercialization of new technologies. Think of a transformative technology over the last century - computers, the Internet, pharmaceutical drugs, jet turbines, cellular telephones, nuclear power - and what you will find is government investing in those technologies at a scale that private firms simply cannot replicate. Twelveth, big is beautiful. The rising economies of the developing world will continue to develop whether we want them to or not. The solution to the ecological crises wrought by modernity, technology, and progress will be more modernity, technology, and progress. The solutions to the ecological challenges faced by a planet of 6 billion going on 9 billion will not be decentralized energy technologies like solar panels, small scale organic agriculture, and a drawing of unenforceable boundaries around what remains of our ecological inheritance, be it the rainforests of the Amazon or the chemical composition of the atmosphere. Rather, these solutions will be: large central station power technologies that can meet the energy needs of billions of people increasingly living in the dense mega-cities of the global south without emitting carbon dioxide, further intensification of industrial scale agriculture to meet the nutritional needs of a population that is not only growing but eating higher up the food chain, and a whole suite of new agricultural, desalinization and other technologies for gardening planet Earth that might allow us not only to pull back from forests and other threatened ecosystems but also to create new ones. The New Ecological Politics The great ecological challenges that our generation faces demands an ecological politics that is **generative, not restrictive.** An ecological politics capable of addressing global warming will require us to reexamine virtually every prominent strand of post-war green ideology. From Paul Erlich's warnings of a population bomb to The Club of Rome's "Limits to Growth," contemporary ecological politics have consistently embraced green Malthusianism despite the fact that the Malthusian premise has persistently failed for the better part of three centuries. Indeed, the green revolution was exponentially increasing agricultural yields at the very moment that Erlich was predicting mass starvation and the serial predictions of peak oil and various others resource collapses that have followed have continue to fail. This does not mean that Malthusian outcomes are impossible, but neither are they inevitable. **We do have a choice** in the matter, but it is not the choice that greens have long imagined. The choice that humanity faces is not whether to constrain our growth, development, and aspirations or die. It is whether we will continue to innovate and accelerate technological progress in order to thrive. Human technology and ingenuity have repeatedly confounded Malthusian predictions yet green ideology continues to cast a suspect eye towards the very technologies that have allowed us to avoid resource and ecological catastrophes. But such solutions will require environmentalists to abandon the "small is beautiful" ethic that has also characterized environmental thought since the 1960's. We, the most secure, affluent, and thoroughly modern human beings to have ever lived upon the planet, must abandon both the dark, zero-sum Malthusian visions and the idealized and nostalgic fantasies for a simpler, more bucolic past in which humans lived in harmony with Nature.

**Idealistic promotion of new technology is vital to reforming environmental politics**

**ROBERTSON 2007** (Ross, Senior Editor at EnlightenNext, former NRDC member, “A Brighter Shade of Green,” What is Enlightenment, Oct-Dec, http://www.enlightennext.org/magazine/j38/bright-green.asp?page=1)

This brings me to Worldchanging, the book that arrived last spring bearing news of an environ-mental paradigm so shamelessly up to the minute, it almost blew out all my green circuits before I could even get it out of its stylish slipcover. Worldchanging: A User’s Guide for the 21st Century. It’s also the name of the group blog, found at Worldchanging.com, where the material in the book originally came from. Run by a future-savvy environmental journalist named Alex Steffen, Worldchanging is one of the central hubs in a fast-growing network of thinkers defining an ultramodern green agenda that closes the gap between nature and society—big time. After a good solid century of well-meaning efforts to restrain, reduce, and otherwise mitigate our presence here on planet Earth, they’re saying it’s time for environmentalism to do a one-eighty. They’re ditching the long-held tenets of classical greenitude and harnessing the engines of capitalism, high technology, and human ingenuity to jump-start the manufacture of a dramatically sustainable future. They call themselves “bright green,” and if you’re at all steeped in the old-school “dark green” worldview (their term), they’re guaranteed to make you squirm. The good news is, they just might free you to think completely differently as well.

Worldchanging takes its inspiration from a series of speeches given by sci-fi author, futurist, and cyberguru Bruce Sterling in the years leading up to the turn of the millennium—and from the so-called Viridian design movement he gave birth to. Known more in those days as one of the fathers of cyberpunk than as the prophet of a new twenty-first-century environmentalism, Ster-ling nevertheless began issuing a self-styled “prophecy” to the design world announcing the launch of a cutting-edge green design program that would embrace consumerism rather than reject it. Its mission: to take on climate change as the planet’s most burning aesthetic challenge. “Why is this an aesthetic issue?” he asked his first audience in 1998 at San Francisco’s Yerba Buena Center for the Arts near my old office at the Natural Resources Defense Council. “Well, because it’s a severe breach of taste to bake and sweat half to death in your own trash, that’s why. To boil and roast the entire physical world, just so you can pursue your cheap addiction to carbon dioxide.”

Explaining the logic of the bright green platform, Sterling writes:

 It’s a question of tactics. Civil society does not respond at all well to moralistic scolding. There are small minority groups here and there who are perfectly aware that it is immoral to harm the lives of coming generations by massive consumption now: deep Greens, Amish, people practicing voluntary simplicity, Gandhian ashrams and so forth. These public-spirited voluntarists are not the problem. But they’re not the solution either, because most human beings won’t volunteer to live like they do. . . . However, contemporary civil society can be led anywhere that looks attractive, glamorous and seductive. The task at hand is therefore basically an act of social engineering. Society must become Green, and it must be a variety of Green that society will eagerly consume. What is required is not a natural Green, or a spiritual Green, or a primitivist Green, or a blood-and-soil romantic Green. These flavors of Green have been tried and have proven to have insufficient appeal. . . . The world needs a new, unnatural, seductive, mediated, glamorous Green. A Viridian Green, if you will.

Sterling elaborates in a speech given to the Industrial Designers Society of America in Chicago in 1999:

 This can’t be one of these diffuse, anything-goes, eclectic, postmodern things. Forget about that, that’s over, that’s yesterday. It’s got to be a narrow, doctrinaire, high-velocity movement. Inventive, not eclectic. New, not cut-and-pasted from the debris of past trends. Forward-looking and high-tech, not William Morris medieval arts-and-craftsy. About abundance of clean power and clean goods and clean products, not conservative of dirty power and dirty goods and dirty products. Explosive, not thrifty. Expansive, not niggling. Mainstream, not underground. Creative of a new order, not subversive of an old order. Making a new cultural narrative, not calling the old narrative into question. . . .

 Twentieth-century design is over now. Anything can look like anything now. You can put a pixel of any color anywhere you like on a screen, you can put a precise dot of ink anywhere on any paper, you can stuff any amount of functionality into chips. The limits aren’t to be found in the technology anymore. The limits are behind your own eyes, people. They are limits of habit, things you’ve accepted, things you’ve been told, realities you’re ignoring. Stop being afraid. Wake up. It’s yours if you want it. It’s yours if you’re bold enough.

It was a philosophy that completely reversed the fulcrum of environmental thinking, shifting its focus from the flaws inherent in the human soul to the failures inherent in the world we’ve designed—designed, Sterling emphasized. Things are the way they are today, he seemed to be saying, for no greater or lesser reason than that we made them that way—and there’s no good reason for them to stay the same. His suggestion that it’s time to hang up our hats as caretakers of the earth and embrace our role as its masters is profoundly unnerving to the dark green environmentalist in me. But at this point in history, is it any more than a question of semantics? With PCBs in the flesh of Antarctic penguins, there isn’t a square inch of the planet’s surface that is “unmanaged” anymore; there is no more untouched “natural” state. We hold the strings of global destiny in our fingertips, and the easy luxury of cynicism regarding our creative potential to re-solve things is starting to look catastrophically expensive. Our less-than-admirable track record gives us every reason to be cautious and every excuse to be pessimists. But is the risk of being optimistic anyway a risk that, in good conscience, we can really afford not to take?

Sterling’s belief in the fundamental promise of human creativity is reminiscent of earlier de-sign visionaries such as Buckminster Fuller. “I am convinced that creativity is a priori to the integrity of the universe and that life is regenerative and conformity meaningless,” Fuller wrote in I Seem to Be a Verb in 1970, the same year we had our first Earth Day. “I seek,” he declared simply, “to reform the environment instead of trying to reform man.” Fuller’s ideas influenced many of the twentieth century’s brightest environmental lights, including Stewart Brand, founder of the Whole Earth Catalog and the online community The WELL, an early precursor of the internet. Brand took Fuller’s approach and ran with it in the sixties and seventies, helping to spearhead a tech-friendly green counterculture that worked to pull environmentalism out of the wilderness and into the realms of sustainable technology and social justice. “We are as gods, and might as well get good at it,” he wrote in the original 1968 edition of the Whole Earth Catalog, and he’s managed to keep himself on the evolving edge of progressive thought ever since. Brand went on to found the Point Foundation, CoEvolution Quarterly (which became Whole Earth Review), the Hackers Conference, the Global Business Network, and the Long Now Foundation. As he gets older, he recently told the New York Times, he continues to become “more rational and less romantic. . . . I keep seeing the harm done by religious romanticism, the terrible conservatism of romanticism, the ingrained pessimism of romanticism. It builds in a certain immunity to the scientific frame of mind.”

Bright Green

Many remember the Whole Earth Catalog with a fondness reserved for only the closest of personal guiding lights. “It was sort of like Google in paperback form, thirty-five years before Google came along,” recalls Apple cofounder Steve Jobs. “It was idealistic, and overflowing with neat tools and great notions.” For Alex Steffen, it’s the place “where a whole generation of young commune-kid geeks like myself learned to dream weird.” And at Worldchanging, those unorthodox green dreams have grown into a high-speed Whole Earth Catalog for the internet generation, every bit as inventive, idealistic, and brazenly ambitious as its predecessor: “We need, in the next twenty-five years or so, to do something never before done,” Steffen writes in his introduction to Worldchanging. “We need to consciously redesign the entire material basis of our civilization. The model we replace it with must be dramatically more ecologically sustainable, offer large increases in prosperity for everyone on the planet, and not only function in areas of chaos and corruption, but also help transform them. That alone is a task of heroic magnitude, but there’s an additional complication: we only get one shot. Change takes time, and time is what we don’t have. . . . Fail to act boldly enough and we may fail completely.”

Another world is possible,” goes the popular slogan of the World Social Forum, a yearly gathering of antiglobalization activists from around the world. No, counters Worldchanging in a conscious riff on that motto: “Another world is here.” Indeed, bright green environmentalism is less about the problems and limitations we need to overcome than the “tools, models, and ideas” that already exist for overcoming them. It forgoes the bleakness of protest and dissent for the energizing confidence of constructive solutions. As Sterling said in his first Viridian design speech, paying homage to William Gibson: “The future is already here, it’s just not well distributed yet.”

Of course, nobody knows exactly what a bright green future will look like; it’s only going to become visible in the process of building it. Worldchanging: A User’s Guide is six hundred pages long, and no sin-gle recipe in the whole cornucopia takes up more than a few of them. It’s an inspired wealth of information I can’t even begin to do justice to here, but it also presents a surprisingly integrated platform for immediate creative action, a sort of bright green rule set based on the best of today’s knowledge and innovation—and perpetually open to improvement.

**Technical debates about warming inform activism and are necessary to change policy**

Hager 92 Carol J, Professor of political science at Bryn Mawr College, “Democratizing Technology: Citizen & State in West German Energy Politics, 1974-1990” Polity, Vol. 25, No. 1, p. 45-70

During this phase, the citizen initiative attempted to overcome its defensive posture and implement an alternative politics. The strategy of legal and technical challenge might delay or even prevent plant construction, but it would not by itself accomplish the broader goal on the legitimation dimension, i.e., democratization. Indeed, it worked against broad participation. The activists had to find a viable means of achieving change. Citizens had proved they could contribute to a substantive policy discussion. Now, some activists turned to the parliamentary arena as a possible forum for an energy dialogue. Until now, parliament had been conspicuously absent as a relevant policy maker, but if parliament could be reshaped and activated, citizens would have a forum in which to address the broad questions of policy-making goals and forms. They would also have an institutional lever with which to pry apart the bureaucracy and utility. None of the established political parties could offer an alternative program. Thus, local activists met to discuss forming their own voting list. These discussions provoked internal dissent. Many citizen initiative members objected to the idea of forming a political party. If the problem lay in the role of parliament itself, another political party would not solve it. On the contrary, parliamentary participation was likely to destroy what political innovations the extraparliamentary movement had made. Others argued that a political party would give the movement an institutional platform from which to introduce some of the grassroots democratic political forms the groups had developed. Founding a party as the parliamentary arm of the citizen movement would allow these groups to play an active, critical role in institutionalized politics, participating in the policy debates while retaining their outside perspective. Despite the disagreements, the Alternative List for Democracy and Environmental Protection Berlin (AL) was formed in 1978 and first won seats in the Land parliament with 7.2 percent of the vote in 1981.43 The founders of the AL were encouraged by the success of newly formed local green parties in Lower Saxony and Hamburg,44 whose evolution had been very similar to that of the West Berlin citizen move-ment. Throughout the FRG, unpopular administrative decisions affect-ing local environments, generally in the form of state-sponsored indus-trial projects, prompted the development of the citizen initiative and ecology movements. The groups in turn focused constant attention on state planning "errors," calling into question not only the decisions themselves, but also the conventional forms of political decision making that produced them.45 Disgruntled citizens increasingly aimed their critique at the established political parties, in particular the federal SPD/ FDP coalition, which seemed unable to cope with the economic, social, and political problems of the 1970s. Fanned by publications such as the Club of Rome's report, "The Limits to Growth," the view spread among activists that the crisis phenomena were not merely a passing phase, but indicated instead "a long-term structural crisis, whose cause lies in the industrial-technocratic growth society itself."46 As they broadened their critique to include the political system as a whole, many grassroots groups found the extraparliamentary arena too restrictive. Like many in the West Berlin group, they reasoned that the necessary change would require a degree of political restructuring that could only be accomplished through their direct participation in parliamentary politics. Green/alternative parties and voting lists sprang up nationwide and began to win seats in local assemblies. The West Berlin Alternative List saw itself not as a party, but as the parliamentary arm of the citizen initiative movement. One member explains: "the starting point for alternative electoral participation was simply the notion of achieving a greater audience for [our] own ideas and thus to work in support of the extraparliamentary movements and initia-tives,"47 including non-environmentally oriented groups. The AL wanted to avoid developing structures and functions autonomous from the citizen initiative movement. Members adhered to a list of principles, such as rotation and the imperative mandate, designed to keep parliamentarians attached to the grassroots. Although their insistence on grassroots democracy often resulted in interminable heated discussions, the participants recognized the importance of experimenting with new forms of decision making, of not succumbing to the same hierarchical forms they were challenging. Some argued that the proper role of citizen initiative groups was not to represent the public in government, but to mobilize other citizens to participate directly in politics themselves; self-determination was the aim of their activity.48 Once in parliament, the AL proposed establishmento f a temporary parliamentaryco mmissiont o studye nergyp olicy,w hichf or the first time would draw all concernedp articipantst ogetheri n a discussiono f both short-termc hoicesa nd long-termg oals of energyp olicy. With help from the SPD faction, which had been forced into the opposition by its defeat in the 1981 elections, two such commissions were created, one in 1982-83 and the other in 1984-85.49T hese commissionsg ave the citizen activists the forum they sought to push for modernizationa nd technicali nnovation in energy policy. Although it had scaled down the proposed new plant, the utility had produced no plan to upgrade its older, more polluting facilities or to install desulfurizationd evices. With proddingf rom the energyc ommission, Land and utility experts began to formulate such a plan, as did the citizen initiative. By exposing administrative failings in a public setting, and by producing a modernization plan itself, the combined citizen initiative and AL forced bureaucratic authorities to push the utility for improvements. They also forced the authorities to consider different technological solutions to West Berlin's energy and environmental problems. In this way, the activists served as technological innovators. In 1983, the first energy commission submitted a list of recommendations to the Land parliament which reflected the influence of the citizen protest movement. It emphasized goals of demand reduction and efficiency, noted the value of expanded citizen participation and urged authorities to "investigate more closely the positive role citizen participation can play in achieving policy goals."50 The second energy commission was created in 1984 to discuss the possibilities for modernization and shutdown of old plants and use of new, environmentally friendlier and cheaper technologies for electricity and heat generation. Its recommendations strengthened those of the first commission.51 Despite the non-binding nature of the commissions' recommendations, the public discussion of energy policy motivated policy makers to take stronger positions in favor of environmental protection. III. Conclusion The West Berlin energy project eventually cleared all planning hurdles, and construction began in the early 1980s. The new plant now conforms to the increasingly stringent environmental protection requirements of the law. The project was delayed, scaled down from 1200 to 600 MW, moved to a neutral location and, unlike other BEWAG plants, equipped with modern desulfurization devices. That the new plant, which opened in winter 1988-89, is the technologically most advanced and environmen-tally sound of BEWAG's plants is due entirely to the long legal battle with the citizen initiative group, during which nearly every aspect of the original plans was changed. In addition, through the efforts of the Alter-native List (AL) in parliament, the Land government and BEWAG formulated a long sought modernization and environmental protection plan for all of the city's plants. The AL prompted the other parliamentary parties to take pollution control seriously. Throughout the FRG, energy politics evolved in a similar fashion. As Habermas claimed, underlying the objections against particular projects was a reaction against the administrative-economic system in general. One author, for example, describes the emergence of two-dimensional protest against nuclear energy: The resistance against a concrete project became understood simul-taneously as resistance against the entire atomic program. Questions of energy planning, of economic growth, of understanding of democracy entered the picture. . . . Besides concern for human health, for security of conditions for human existence and protec-tion of nature arose critique of what was perceived as undemocratic planning, the "shock" of the delayed public announcement of pro-ject plans and the fear of political decision errors that would aggra-vate the problem.52 This passage supports a West Berliner's statement that the citizen initiative began with a project critique and arrived at *Systemkritik*.53 I have labeled these two aspects of the problem the public policy and legitima-tion dimensions. In the course of these conflicts, the legitimation dimen-sion emergd as the more important and in many ways the more prob-lematic. Parliamentary Politics In the 1970s, energy politics began to develop in the direction Offe de-scribed, with bureaucrats and protesters avoiding the parliamentary channels through which they should interact. The citizen groups them-selves, however, have to a degree reversed the slide into irrelevance of parliamentary politics. Grassroots groups overcame their defensive posture enough to begin to formulate an alternative politics, based upon concepts such as decision making through mutual understanding rather than technical criteria or bargaining. This new politics required new modes of interaction which the old corporatist or pluralist forms could not provide. Through the formation of green/alternative parties and voting lists and through new parliamentary commissions such as the two described in the case study, some members of grassroots groups attempted to both operate within the political system and fundamentally change it, to restore the link between bureaucracy and citizenry. Parliamentary politics was partially revived in the eyes of West German grassroots groups as a legitimate realm of citizen participation, an outcome the theory would not predict. It is not clear, however, that strengthening the parliamentary system would be a desirable outcome for everyone. Many remain skeptical that institutions that operate as part of the "system" can offer the kind of substantive participation that grass-roots groups want. The constant tension between institutionalized politics and grassroots action emerged clearly in the recent internal debate between "fundamentalist" and "realist" wings of the Greens. Fundis wanted to keep a firm footing outside the realm of institutionalized politics. They refused to bargain with the more established parties or to join coalition governments. Realos favored participating in institutionalized politics while pressing their grassroots agenda. Only this way, they claimed, would they have a chance to implement at least some parts of their program. This internal debate, which has never been resolved, can be interpreted in different ways. On one hand, the tension limits the appeal of green and alternative parties to the broader public, as the Greens' poor showing in the December 1990 all-German elections attests. The failure to come to agreement on basic issues can be viewed as a hazard of grass-roots democracy. The Greens, like the West Berlin citizen initiative, are opposed in principle to forcing one faction to give way to another. Disunity thus persists within the group. On the other hand, the tension can be understood not as a failure, but as a kind of success: grassroots politics has not been absorbed into the bureaucratized system; it retains its critical dimension, both in relation to the political system and within the groups themselves. The lively debate stimulated by grassroots groups and parties keeps questions of democracy on the public agenda. Technical Debate In West Berlin, the two-dimensionality of the energy issue forced citizen activists to become both participants in and critics of the policy process. In order to defeat the plant, activists engaged in technical debate. They won several decisions in favor of environmental protection, often proving to be more informed than bureaucratic experts themselves. The case study demonstrates that grassroots groups, far from impeding techno-logical advancement, can actually serve as technological innovators. The activists' role as technical experts, while it helped them achieve some success on the policy dimension, had mixed results on the legitimation dimension. On one hand, it helped them to challenge the legitimacy of technocratic policy making. They turned back the Land government's attempts to displace political problems by formulating them in technical terms.54 By demonstrating the fallibility of the technical arguments, activists forced authorities to acknowledge that energy demand was a political variable, whose value at any one point was as much influenced by the choices of policy makers as by independent technical criteria. Submission to the form and language of technical debate, however, weakened activists' attempts to introduce an alternative, goal-oriented form of decision making into the political system. Those wishing to par-ticipate in energy politics on a long-term basis have had to accede to the language of bureaucratic discussion, if not the legitimacy of bureaucratic authorities. They have helped break down bureaucratic authority but have not yet offered a viable long-term alternative to bureaucracy. In the tension between form and language, goals and procedure, the legitima-tion issue persists. At the very least, however, grassroots action challenges critical theory's notion that technical discussion is inimical to democratic politics.55 Citizen groups have raised the possibility of a dialogue that is both technically sophisticated and democratic. In sum, although the legitimation problems which gave rise to grass-roots protest have not been resolved, citizen action has worked to counter the marginalization of parliamentary politics and the technocratic character of policy debate that Offe and Habermas identify. The West Berlin case suggests that the solutions to current legitimation problems may not require total repudiation of those things previously associated with technocracy.56 In Berlin, the citizen initiative and AL continue to search for new, more legitimate forms of organization consistent with their principles. No permanent Land parliamentary body exists to coordinate and con-solidate energy policy making.57 In the 1989 Land elections, the CDU/ FDP coalition was defeated, and the AL formed a governing coalition with the SPD. In late 1990, however, the AL withdrew from the coali-tion. It remains to be seen whether the AL will remain an effective vehi-cle for grassroots concerns, and whether the citizenry itself, now includ-ing the former East Berliners, will remain active enough to give the AL direction as united Berlin faces the formidable challenges of the 1990s. On the policy dimension, grassroots groups achieved some success. On the legitimation dimension, it is difficult to judge the results of grass-roots activism by normal standards of efficacy or success. Activists have certainly not radically restructured politics. They agree that democracy is desirable, but troublesome questions persist about the degree to which those processes that are now bureaucratically organized can and should be restructured, where grassroots democracy is possible and where bureaucracy is necessary in order to get things done. In other words, grassroots groups have tried to remedy the Weberian problem of the marginalization of politics, but it is not yet clear what the boundaries of the political realm should be. It is, however, the act of calling existing boundaries into question that keeps democracy vital. In raising alternative possibilities and encouraging citizens to take an active, critical role in their own governance, the contribution of grassroots environmental groups has been significant. As Melucci states for new social movements in general, these groups mount a "symbolic" challenge by proposing "a different way of perceiving and naming the world."58 Rochon concurs for the case of the West German peace movement, noting that its effect on the public discussion of secur-ity issues has been tremendous.59 The effects of the legitimation issue in the FRG are evident in increased citizen interest in areas formerly left to technical experts. Citizens have formed nationwide associations of environmental and other grassroots groups as well as alternative and green parties at all levels of government. The level of information within the groups is generally quite high, and their participation, especially in local politics, has raised the awareness and engagement of the general populace noticeably.60 Policy concessions and new legal provisions for citizen participation have not quelled grassroots action. The attempts of the established political parties to coopt "green" issues have also met with limited success. Even green parties themselves have not tapped the full potential of public support for these issues. The persistence of legitima-tion concerns, along with the growth of a culture of informed political activism, will ensure that the search continues for a space for a delibera-tive politics in modern technological society.61

**The rhetoric of extinction is politically useful – causes action**

**Romm 12** (Joe Romm,  Ph.D in Physics from MIT, worked at the Scripps Institution of Oceanography, Fellow of the American Association for the Advancement of Science, former Acting Assistant Secretary of the U.S. Department of Energy, awarded an American Physical Society Congressional Science Fellowship, executive director of  Center for Energy and Climate Solutions, former researcher at the Rocky Mountain Institute, former Special Assistant for International Security at the Rockefeller Foundation, taught at Columbia University's School of International and Public Affairs, Senior Fellow at the Center for American Progress, interview with Ken Caldeira, atmospheric scientist who works at the Carnegie Institution for Science's Department of Global Ecology, “Apocalypse Not: The Oscars, The Media And The Myth of ‘Constant Repetition of Doomsday Messages’ on Climate”, <http://thinkprogress.org/romm/2012/02/26/432546/apocalypse-not-oscars-media-myth-of-repetition-of-doomsday-messages-on-climate/#more-432546>)

The two greatest myths about global warming communications are 1) constant repetition of doomsday messages has been a major, ongoing strategy and 2) that strategy doesn’t work and indeed is actually counterproductive!  These myths are so deeply ingrained in the environmental and progressive political community that when we finally had a serious shot at a climate bill, the powers that be decided not to focus on the threat posed by climate change in any serious fashion in their $200 million communications effort (see my 6/10 post “Can you solve global warming without talking about global warming?“). These myths are so deeply ingrained in the mainstream media that such messaging, when it is tried, is routinely attacked and denounced — and the flimsiest studies are interpreted exactly backwards to drive the erroneous message home (see “Dire straits: Media blows the story of UC Berkeley study on climate messaging“)  The only time anything approximating this kind of messaging — not “doomsday” but what I’d call blunt, science-based messaging that also makes clear the problem is solvable — was in 2006 and 2007 with the release of An Inconvenient Truth (and the 4 assessment reports of the Intergovernmental Panel on Climate Change and media coverage like the April 2006 cover of Time). The data suggest that strategy measurably moved the public to become more concerned about the threat posed by global warming (see recent study here).  You’d think it would be pretty obvious that the public is not going to be concerned about an issue unless one explains why they should be concerned about an issue. And the social science literature, including the vast literature on advertising and marketing, could not be clearer that only repeated messages have any chance of sinking in and moving the needle.  Because I doubt any serious movement of public opinion or mobilization of political action could possibly occur until these myths are shattered, I’ll do a multipart series on this subject, featuring public opinion analysis, quotes by leading experts, and the latest social science research.  Since this is Oscar night, though, it seems appropriate to start by looking at what messages the public are exposed to in popular culture and the media. It ain’t doomsday. Quite the reverse, climate change has beenmostly an invisible issue for several years and the message of conspicuous consumption and business-as-usual reigns supreme.  The motivation for this post actually came up because I received an e-mail from a journalist commenting that the “constant repetition of doomsday messages” doesn’t work as a messaging strategy. I had to demur, for the reasons noted above.  But it did get me thinking about what messages the public are exposed to, especially as I’ve been rushing to see the movies nominated for Best Picture this year. I am a huge movie buff, but as parents of 5-year-olds know, it isn’t easy to stay up with the latest movies.  That said, good luck finding a popular movie in recent years that even touches on climate change, let alone one a popular one that would pass for doomsday messaging.  Best Picture nominee The Tree of Life has been billed as an environmental movie —  and even shown at environmental film festivals — but while it is certainly depressing, climate-related it ain’t. In fact, if that is truly someone’s idea of environmental movie, count me out.  The closest to a genuine popular climate movie was the dreadfully unscientific The Day After Tomorrow, which is from 2004 (and arguably set back the messaging effort by putting the absurd “global cooling” notion in people’s heads! Even Avatar, the most successful movie of all time and “the most epic piece of environmental advocacy ever captured on celluloid,” as one producer put it, omits the climate doomsday message. One of my favorite eco-movies, “Wall-E, is an eco-dystopian gem and an anti-consumption movie,” but it isn’t a climate movie.  I will be interested to see The Hunger Games, but I’ve read all 3 of the bestselling post-apocalyptic young adult novels — hey, that’s my job! — and they don’t qualify as climate change doomsday messaging (more on that later).  So, no, the movies certainly don’t expose the public to constant doomsday messages on climate.  Here are the key points about what repeated messages the American public is exposed to:      The broad Americanpublic is exposed to virtually no doomsday messages, let alone constant ones, on climate change in popular culture (TV and the movies and even online). There is not one single TV show on any network devoted to this subject, which is, arguably, more consequential than any other preventable issue we face.     The same goes for the news media, whose coverage of climate change has collapsed (see “Network News Coverage of Climate Change Collapsed in 2011“). When the media do cover climate change in recent years, the overwhelming majority of coverage is devoid of any doomsday messages — and many outlets still feature hard-core deniers. Just imagine what the public’s view of climate would be if it got the same coverage as, say, unemployment, the housing crisis or even the deficit? When was the last time you saw an “employment denier” quoted on TV or in a newspaper?     The public is exposed to constant messages promoting business as usual and indeed idolizing conspicuous consumption. See, for instance, “Breaking: The earth is breaking … but how about that Royal Wedding?     Our political elite and intelligentsia, including MSM pundits and the supposedly “liberal media” like, say, MSNBC, hardly even talk about climate change and when they do, it isn’t doomsday. Indeed, there isn’t even a single national columnist for a major media outlet who writes primarily on climate. Most “liberal” columnists rarely mention it.     At least a quarter of the public chooses media that devote a vast amount of time to the notion that global warming is a hoax and that environmentalists are extremists and that clean energy is a joke. In the MSM, conservative pundits routinely trash climate science and mock clean energy. Just listen to, say, Joe Scarborough on MSNBC’s Morning Joe mock clean energy sometime.     The major energy companies bombard the airwaves with millions and millions of dollars of repetitious pro-fossil-fuel ads. The environmentalists spend far, far less money. As noted above, the one time they did run a major campaign to push a climate bill, they and their political allies including the president explicitly did NOT talk much about climate change, particularly doomsday messaging     Environmentalists when they do appear in popular culture, especially TV, are routinely mocked.     There is very little mass communication of doomsday messages online. Check out the most popular websites. General silence on the subject, and again, what coverage there is ain’t doomsday messaging. Go to the front page of the (moderately trafficked) environmental websites. Where is the doomsday?  If you want to find anything approximating even modest, blunt, science-based messaging built around the scientific literature, interviews with actual climate scientists and a clear statement that we can solve this problem — well, you’ve all found it, of course, but the only people who see it are those who go looking for it.  Of course, this blog is not even aimed at the general public. Probably 99% of Americans haven’t even seen one of my headlines and 99.7% haven’t read one of my climate science posts. And Climate Progress is probably the most widely read, quoted, and reposted climate science blog in the world.  Anyone dropping into America from another country or another planet who started following popular culture and the news the way the overwhelming majority of Americans do would get the distinct impression that nobody who matters is terribly worried about climate change. And, of course, they’d be right — see “The failed presidency of Barack Obama, Part 2.”  It is total BS that somehow the American public has been scared and overwhelmed by repeated doomsday messaging into some sort of climate fatigue. If the public’s concern has dropped — and public opinion analysis suggests it has dropped several percent (though is bouncing back a tad) — that is primarily due to the conservative media’s disinformation campaign impact on Tea Party conservatives and to the treatment of this as a nonissue by most of the rest of the media, intelligentsia and popular culture.

**Economics is a necessary lens for solving environmental problems**

**Thompson 3** (Barton H. Thompson Jr., Vice Dean and Robert E. Paradise Professor of Natural Resources Law, Stanford LawSchool; Senior Scholar, Center for Environmental Science and Policy, Stanford Institute for International Studies, "What Good is Economics?", environs.law.ucdavis.edu/issues/27/1/thompson.pdf)

Even the environmental moralist who eschews any normative use of economics may find economics valuable for other purposes. Indeed, economics is indispensable in diagnosing why society currently does not achieve the level of environmental protection desired by the moralist. Those who turn their backs on economicsand rely instead on ethical intuition to diagnose environmental problemsare likely to find themselvesdoomed to failure. Economic theory suggests that flaws in economic markets and institutions are often the cause of environmental problems. Three concepts of market failure have proven particularly robust in analyzing environmental problems. The first is the "tragedy of the commons."28 If a resource is open and free for multiple parties to use, the parties will tend to over-utilize the resource, even to the point of its destruction. Economists and others have used the tragedy of the commons to explain such environmental problems as over-fishing, the over-drafting of groundwater aquifers, the early and inept exhaustion of oil fields, and high levels of population growth.29 The second, more general concept (of which the tragedy of the commons actually is a specialized instance) is the "negative externality." 3 0 When parties do not bear the full cost to society of environmental harms that they cause, they tend to underinvest in the elimination or correction of the harm. Externalities help explain why factories pollute, why landowners destroy ecologically valuable wetlands or other forms of habitat, and why current generations consume high levels of exhaustible resources. The final concept is the problem of "collective action." 31 If political or market actions will benefit a large group of individuals and it is impossible to exclude anyone from enjoying the benefits, each individual will have an incentive to "free ride" on the actions of others rather than acting themselves, reducing the possibility that anything will get done. This explains why the private market does not provide us with more wildlife refuges or aesthetic open space.32 Although these economic explanations for environmental problems are not universal truths, accurate in all settings, they do enjoy a robust applicability. Experimenters, for example, have found that subjects in a wide array of countries succumb to the tragedy of the commons.33 Smaller groups sometimes have been able to overcome the tragedy of the commons and govern a resource in collective wisdom. Yet this exception appears to be the result of institutional characteristics peculiar to the group and resource that make it easier to devise a local and informal regulatory system rather than the result of cultural differences that undermine the economic precepts of the tragedy of the commons.4 These economic explanations point to a vastly different approach to solving environmental problems than a focus on environmental ethics alone would suggest. To environmental moralists, the difficulty is that the population does not understand the ethical importance of protecting the environment. Although governmental regulation might be necessary in the short run to force people tQ do what they do not yet appreciate is proper, the long run answers are education and moral change. A principal means of enlightening the citizenry is engaging them in a discussion of environmental goals. Economic analysis, by contrast, suggests that the problem lies in our economic institutions. The solution under economic analysis is to give those who might harm the environment the incentive to avoid the harm through the imposition of taxes or regulatory fines or the awarding of environmentally beneficial subsidies. The few studies that have tried to test the relative importance of environmental precepts and of economics in predicting environmentally relevant behavior suggest that **economics trumps ethics**. In one 1992 experiment designed to test whether subjects would yield to the tragedy of the commons in a simulated fisheries common, the researchers looked to see whether the environmental attitudes of individual subjects made any difference in the subjects' behavior. The researchers measured subjects' environmental beliefs through various means. They administered questionnaires designed to elicit environmental beliefs; they asked the subjects how they would behave in various hypothetical scenarios (e.g., if someone asked them to volunteer to pick up litter on the weekend); they even tried to see how the subjects would react to real requests for environmental help (e.g., by asking them to participate in a Saturday recycling campaign). No matter how the researchers tried to measure the environmental attitudes of the subjects, attitude failed to provide a statistically significant explanation for participants' behavior in the fishing commons. Those who appeared to have strong environmental beliefs behaved just as tragically as those who did not • 35 when fighting for the limited stock of fish. In another study, researchers examined domestic consumers of high amounts of electricity in Perth, Australia. After administering a survey to determine whether the consumers believed they had a personal and ethical duty to conserve energy, the researchers tried various methods for changing the behavior of those who reported that people have a conservation obligation. Informing these individuals of their high electricity usage and even supplying them with conservation tips did not make a statistically significant difference in their energy use. The only thing that led these individuals to reduce their electricity consumption was a letter reminding them of the earlier survey in which they had espoused a conservation duty and emphasizing the inconsistency of that view with their high electricity usage. In response to this letter, the subjects reduced their energy use. Apparently shame can be a valuable catalyst in converting ethical beliefs into action. But the effect may be short lived. Within two weeks, the Perth subjects' energy use had risen back to its earlier levels.36 Ethical beliefs, in short, frequently fall victim to personal convenience or cost considerations. Ethical views sometimes can make a difference in how people behave. Examples include the role that ethics has played in encouraging people to recycle or to eat dolphin-free tuna." But the personal cost, if any, of recycling or of eating dolphin-free tuna is exceptionally small. For most of the environmental dilemmas that face the nation and the world today, the economic cost of changing behavior is far more significant. And where costs are high, economics appears to trump most peoples'environmental views. Even if ethics played a more powerful role, we do not know for certain how to create or strengthenenvironmental norms.38 In contrast**, we do know how to change economic incentives**. Although environmental moralists should continue trying to promote environmental ethics, economic analysis currently provides the strongest tool for diagnosing and thus helping to resolve environmental problems. **The** environmental **moralist who ignores this tool in trying to improve the environment is** doomed to frustration.

**Deliberative policymaking offers the ability to come to solutions about climate change – it’s a learning process that allows the sharing of information**

**Herbeck and Isham 10**

<http://www.thesolutionsjournal.com/node/775>

 Jon Isham

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 In the fall of 1999, Jon joined the department of economics and the program in environmental studies at Middlebury College. Jon teaches classes in environmental economics, environmental policy, introductory microeconomics, social capital in Vermont, and global climate change. Jon is co-editing a new book, Ignition: The Birth of the Climate Movement; has co-edited Social Capital, Development, and the Environment (Edward Elgar Publications); has published articles (several forthcoming) in Economic Development and Cultural Change, The Journal of African Economies, The Nonprofit and Voluntary Sector Quarterly, The Quarterly Journal of Economics, Rural Sociology, Society and Natural Resources, The Southern Economic Journal, The Vermont Law Review, and the World Bank Economic Review; and has published book chapters in volumes from Ashgate Press, The New England University Press, Oxford University Press, and Cambridge University Press. His current research focuses on building the new climate movement; the demand for water among poor households in Cambodia; information asymmetries in low-income lending; and the effect of local social capital on environmental outcomes in Vermont.

Herbeck, member of the Rubenstein School of Environment and Natural Resources and the Honors College.

 Getting to 350 parts per million CO2 in the atmosphere will require massive investments in clean-energy infrastructure—investments that can too often be foiled by a combination of special interests and political sclerosis. Take the recent approval of the Cape Wind project by the U.S. Department of the Interior. In some ways, this was great news for clean-energy advocates: the project’s 130 turbines will produce, on average, 170 megawatts of electricity, almost 75 percent of the average electricity demand for Cape Cod and the islands of Martha’s Vineyard and Nantucket.1 But, because of local opposition by well-organized opponents, the approval process was lengthy, costly, and grueling —and all for a project that will produce only 0.04 percent of the total (forecasted) U.S. electricity demand in 2010.2,3 Over the next few decades, the world will need thousands of large-scale, low-carbon electricity projects—wind, solar, and nuclear power will certainly be in the mix. But if each faces Cape Wind–like opposition, getting to 350 is unlikely. How can the decision-making process about such projects be streamlined so that public policy reflects the view of a well-informed majority, provides opportunities for legitimate critiques, but does not permit the opposition to retard the process indefinitely? One answer is **found in** a set of innovative policy-making tools founded on the principle of deliberative democracy, defined as “decision making by discussion among free and equal citizens.”4 Such approaches, which have been developed and led by the Center for Deliberative Democracy (cdd.stanford.edu), America Speaks (www.americaspeaks.org), and the Consensus Building Institute (cbuilding.org), among others, are gaining popularity by promising a new foothold for effective citizen participation in the drive for a clean-energy future. Deliberative democracy stems from the belief that democratic leadership should involve educating constituents about issues at hand, and that citizens may significantly alter their opinions when faced with information about these issues. Advocates of the approach state that democracy should shift away from fixed notions toward a learning process in which people develop defensible positions.5 While the approaches of the Center for Deliberative Democracy, America Speaks, and the Consensus Building Institute do differ, all of these deliberative methodologies involve unbiased sharing of information and public-policy alternatives with a representative set of citizens; a moderated process of deliberation among the selected citizens; and the collection and dissemination of data resulting from this process. For example, in the deliberative polling approach used by the Center for Deliberative Democracy, a random selection of citizens is first polled on a particular issue. Then, members of the poll are invited to gather at a single place to discuss the issue. Participants receive balanced briefing materials to review before the gathering, and at the gathering they engage in dialogue with competing experts and political leaders based on questions they develop in small group discussions. After deliberations, the sample is asked the original poll questions, and the resulting changes in opinion represent the conclusions that the public would reach if everyone were given the opportunity to become more informed on pressing issues.6 If policymakers look at deliberative polls rather than traditional polls, they will be able to utilize results that originate from an informed group of citizens. As with traditional polls, deliberative polls choose people at random to represent U.S. demographics of age, education, gender, and so on. But traditional polls stop there, asking the random sample some brief, simple questions, typically online or over the phone. However, participants of deliberative polls have the opportunity to access expert information and then talk with one another before voting on policy recommendations. The power of this approach is illustrated by the results of a global deliberative process organized by World Wide Views on Global Warming (www.wwviews.org), a citizen’s deliberation organization based in Denmark.7 On September 26, 2009, approximately 4,000 people gathered in 38 countries to consider what should happen at the UN climate change negotiations in Copenhagen (338 Americans met in five major cities). The results derived from this day of deliberation were dramatic and significantly different from results of traditional polls. Overall, citizens showed strong concern about global warming and support for climate-change legislation, contrary to the outcomes of many standard climate-change polls. Based on the polling results from these gatherings, 90 percent of global citizens believe that it is urgent for the UN negotiations to produce a new climate change agreement; 88 percent of global citizens (82 percent of U.S. citizens) favor holding global warming to within 2 degrees Celsius of pre-industrial levels; and 74 percent of global citizens (69 percent of U.S. citizens) favor increasing fossil-fuel prices in developed countries. However, a typical news poll that was conducted two days before 350.org’s International Day of Climate Action on October 24, 2009, found that Americans had an overall declining concern about global warming.7 How can deliberative democracy help to create solutions for the climate-change policy process, to accelerate the kinds of policies and public investments that are so crucial to getting the world on a path to 350? Take again the example of wind in the United States. In the mid-1990s, the Texas Public Utilities Commission (PUC) launched an “integrated resource plan” to develop long-term strategies for energy production, particularly electricity.8 Upon learning about the deliberative polling approach of James Fishkin (then at the University of Texas at Austin), the PUC set up deliberative sessions for several hundred customers in the vicinity of every major utility provider in the state. The results were a surprise: it turned out that participants ranked reliability and stability of electricity supply as more important characteristics than price. In addition, they were open to supporting renewable energy, even if the costs slightly exceeded fossil-fuel sources. Observers considered this a breakthrough: based on these public deliberations, the PUC went on to champion an aggressive renewable portfolio standard, and the state has subsequently experienced little of the opposition to wind-tower siting that has slowed development in other states.8 By 2009, Texas had 9,500 megawatts of installed wind capacity, as much as the next six states (ranked by wind capacity) in the windy lower and upper Midwest (Iowa, Minnesota, Colorado, North Dakota, Kansas, and New Mexico).9 Deliberative democracy has proven effective in a wide range of countries and settings. In the Chinese township of Zeguo, a series of deliberative polls has helped the Local People’s Congress (LPC) to become a more effective decision-making body.10 In February 2008, 175 citizens were randomly selected to scrutinize the town’s budget—and 60 deputies from the LPC observed the process. After the deliberations, support decreased for budgeting for national defense projects, while support rose for infrastructure (e.g., rural road construction) and environmental protection. Subsequently, the LPC increased support for environmental projects by 9 percent.10 In decades to come, China must be at the forefront of the world’s investments in clean-energy infrastructure. The experience of Zeguo, if scaled up and fully supported by Chinese leaders, can help to play an important role. Deliberative democracy offers one solution for determining citizen opinions, including those on pressing issues related to climate change and clean energy.

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# 2ac race key

Consumption economically inet –r oot cause is irrelevant b/c Russia, china, the us won’t shift away absent an economic reason, but will if there is

**The energy problem is insurmountable – IFR is not just sufficient it is NECESSARY, solving some root cause won’t do anything**

**Brook and Blees 11** (Barry Brook, Professor of Climate Change University of Adelaide, and Tom Blees, president of the Science Council for Global Initiatives and a board member of the UN-affiliated World Energy Forum, “The Guardian questions: thorium, shale gas, off-grid renewables, and much more…” 12/11/11) <http://bravenewclimate.com/2011/12/11/guardian-energy-questions/>

Q3. Why is there so much emphasis on fixing the supply side? To reach our targets we need to “simultaneously” reduce the kgCO2/kWh and reduce the total kWh used. Then the benefits will be multiplied and we’ll have a chance to make a real impact on emissions. Why aren’t government talking more about reducing the total demand for energy? Yes, we can do efficiency but it isn’t enough. We need conservation too. Could it be that reducing demand would go directly against their economic goals?

As a resident of California, I’ve been a beneficiary of the most effective energy efficiency policies in the USA. Per capita electricity demand in this state has remained fairly flat for the last three decades, though that statement must be qualified somewhat since some industries have left the state and so reduced the overall electricity demand. Nevertheless, energy efficiency is something that should always be a goal even if we develop virtually unlimited clean energy supplies, since we would still want to save the capital costs of building unnecessary power plants. By the way, you can read about one of the winners of this year’s Global Energy Prize, a man some call the Grandfather of Energy Efficiency, at this website.

But you are right, efficiency is not enough. It isn’t actually an energy source. Talking about conservation and reducing demand for energy is a luxury only allowed those of us in developed nations with already-high per capita energy use. All too often, purported solutions to climate change are trotted out that ignore the fact that the vast majority of people on this planet live in energy poverty. Even if everyone in the USA and the UK stopped using all energy tomorrow, global energy demand would still rise inexorably, for energy availability is inextricably bound to standard of living. This applies to both personal energy use and to the energy used by industries that contribute to high living standards.

If there is to be any egalitarianism and social justice in the world, those living today in poverty must be afforded the opportunity to raise their standard of living to levels enjoyed today in fully industrialized countries. This will be absolutely impossible without a massive increase in global energy supply, all the more so because the world’s population is expected to increase by another 2-3 billion people by mid-century.

But the raw numbers tell only part of the tale. Consider where the fresh water will come from for all those people, not just their personal water use but all the additional water needed to grow the food for such a tide of humanity. The only place where so much fresh water can come from will be from the sea, necessitating desalination projects on a scale hitherto unimagined. Those desalination projects (and the energy needed to move both the water and the salt to their ultimate destinations) will require staggering amounts of energy.

Hence the focus on fixing the supply side. We must consider the entire planet, not just the fortunate nations in which we might live. While ever-better energy efficiency is certainly something to strive for, the policies and technologies to provide virtually unlimited clean energy for the entire planet must be the focus if we are to leave a better and fairer world to our progeny.

**Focus on individual consumption leads to socially regressive solutions – re-inscribe inequality**

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Martens, S. & Spaargaren, G. 2005. The politics of sustainable consumption: the case of the Netherlands. Sustainability: Science, Practice, & Policy 1(1):29-42. Proquest

We begin with a discussion of the possible weaknesses inherent in more consumption-oriented environmental policies, and consider the “individualization” of politics and political responsibilities as developed by Bauman (1993) and Princen et al. (2002). Many environmental problems are ultimately rooted in the conduct of institutional actors, such as companies and governments. Under these circumstances, there is little merit imposing obligations on citizen-consumers, who not only lack the power to influence the organization of production and consumption, but also cannot—and arguably should not—be held responsible for issues that arise out of the “treadmill of production and consumption” (Schnaiberg, 1980). It is likely to be unproductive, and above all illegitimate, to burden citizen-consumers with remedying such problems. If policy initiatives only advance individual solutions—and ignore institutional actors—socially regressive and environmentally ineffectual outcomes will be the result.

Their Wise links are guilt by association – correlation not causation

Daily Kos 10, daily weblog with political analysis on US current events from a liberal perspective, Kossack Lays the Smackdown on Tim Wise, Aug 21, <http://www.dailykos.com/story/2010/8/22/0916/52061>

So, in this story, you have a phenomenon which is clearly disadvantaging African Americans. The problem is that there is no evidence of racism. There are no racists to accuse. There is nobody practicing a supremacist ideology that posits black people are worth less, so they should be sold crappier loans. Whatever the individual attitudes of brokers, it's not likely to be the overwhelming case. It's not that "the effect/impact is racist," it's that the effect/impact is disproportionate by race, which means racial disadvantage. It's not "institutional action" that prompted sub-prime mortgage brokers to prowl for those in the most likely position to accept sub-prime lending conditions, or to have the least options in terms of available banking services. There were no rules involved, except how market actors usually behave. That's the problem with asserting a racist "effect/impact," i.e. outcome in an economic system in which the activity that may cause the greatest disparate impact may also be the most rational market response to current conditions. Often these can be self-fulfilling prophecies, as in the case of the "white flight" syndrome decades ago. It's just not accurate, though, to accuse mortgage brokers trying to snap up as many cheap, high-fee, high-commission sub-prime loans from predictable locations of racism. It's not the "institution" of lending, either -- unless you'd like to name the Federal Reserve for flooring interest rates, and the giant financial companies for selling Collateralized Debt Obligations in droves to foreign debt purchasers as white supremacists. It's systemic, but it isn't racist. It's disadvantaging, but not privileging. It's disparate, but not inherent. It's practical. It's how things work. It's the real world. It's the invisible hand that doesn't care for morality or justice, only seeking higher and higher return. So when well-meaning people try to get to an ideological point where these phenomena can be "proven racist," they'll never succeed. These things truly can't be. They can be proven to be significantly immoral, or unjust in certain situations, but not racist. These are two different qualifiers. That doesn't mean we can't effect changes, nor improve circumstances, or simply outlaw the kinds of natural market behaviors that create certain types of injustice, or remedy those injustices systemically until remedy is no longer necessary, but it does mean that we can't accuse the mortgage brokerage industry of racism in any meaningful way. We must be able to separate economic incentives from racial or cultural incentives --because we live in a system of mass, variegated economic incentives-- or we're no longer the reality-based

**Mandel identifies need to overturn economics, but overturning economics will fail, corporations willnot stop, people will buy what’s cheap, have to subvert it.**

# 2ac – ling cp

**Focus on language disables meaningful political dialogue and action.**

**Churchill 96** (Ward, Professor, Indigenous Studies, University of Colorado Boulder. From A Native Son, p. 460)

There can be little doubt that matters of linguistic appropriateness and precision are of serious and legitimate concern. By the same token, however, it must be conceded that such preoccupations arrive at a point of **diminishing return**. After that, they **degenerate rapidly** into liabilities rather than benefits to comprehension. By now, it should be evident that much of what is mentioned in this article falls under the latter category; it is, by and large, inept, esoteric, and semantically silly, bearing no more relevance in the real world than the question of how many angels can dance on the head of a pin. Ultimately, it is a means to **stultify and divide** people rather than stimulate and unite them. Nonetheless, such “issues” of word choice have come to dominate dialogue in a significant and apparently growing segment of the Left. Speakers, writers, and organizers or persuasions are drawn, with increasing vociferousness and persistence, into heated confrontations, not about what they’ve said, but about how they’ve said it. Decisions on whether to enter into alliances, or even to work with other parties, seem more and more contingent not upon the prospect of a common agenda, but upon mutual adherence to certain elements of a prescribed vernacular. Mounting quantities of a progressive time, energy, and attention are squandered in perversions of Mao’s principle of criticism/self-criticism – now variously called “process,” “line sharpening,” or even ‘struggle” – in which there occurs a virtually **endless stream** of talk about how to talk about “the issues.” All of this happens at the **direct expense** of actually understanding the issues themselves, **much less doing something** about them. It is impossible to escape the conclusion that the dynamic at hand adds up to a pronounced avoidance syndrome, a masturbatory ritual through which an opposition nearly paralyzed by its own deeply felt sense of impotence pretends to be engaged in something “meaningful.” In the end, it reduces to a tragic delusion at best, cynical game playing or intentional disruption at worst. With this said, it is only fair to observe that it’s **high time to get off this nonsense**, and on with the real work of effecting positive social change.

**Impersonal tone is NOT doesn’t cause their view from nowhere impacts, rather it fights white domination**

Roelofs ‘5 (Monique, Assoc. Prof. of Philosophy @ Hampshire College, “Racialization as an Aesthetic Production” *White on White/Black on Black* pp. 111-112)

My reason for adopting the impersonal voice, as noted above, lies in the urgency of basic theoretical work in the undertheorized philosophical field where matters of aesthetics and race coalesce.64 More than that, in light of the critical project outlined in the above, a number of questions arise about the effectiveness of personal testimonies in the study of whiteness: How do such testimonies resist already scripted aesthetic scenarios of heroization, narcissism, and self-confession that they inevitably activate? How does the personal mode dislodge questionable kinds of aestheticized and aestheticizing power? How does this form avoid casting white self-professions in a self-decorative, recuperative mold, offering the freshly re-aestheticized self a new epistemic and moral cachet it is not yet able to sustain? Writers in the personal mode face the aesthetic demand to **make their testimony engaging**, or, at least, publicly presentable. This requirement impacts any edited sequence of poignant anecdotes, feelings, insights, and silences.65 I believe this can hinder the critical effectiveness of self-declarations. I am especially reluctant to draw philosophical mileage from a centering of a supposedly achieved “insightful,” “sophisticated,” “cool,” “courageous,” “humorous,” “morally remediable,” “humane” whiteness. I worry about the capacities of self-aestheticization to pass off my whiteness as more critical than it can be. While it is crucial that whites take on the job of critical self-reflection, and extend this job to their own racial selves, I am not sure how self-reflections in print can be as critical as they need to be. I am skeptical about the power of white self-declarations—which keep whites solidly ensconced in the center—to help decentering whiteness from the grounds of cultural normativity. Juxtaposing white and black personal testimonies by itself does not dispel this skepticism. Moreover, the difficulty arises also for testimonies by blacks: Which black lives are being foregrounded over and above other black lives? While I do not doubt that carefully crafted, intentional self-contextualizations and autobiographical statements can do philosophical work, I am afraid that a personal testimony on the part of my white self replicates a pseudo-relationality and a pseudo-reciprocity, that must be analyzed and exposed.66 These concerns apply not exclusively to the personal voice, which is at the same time also always theoretical, but pertain more generally to the aestheticization of self that is implicit in all reading and writing. Conceptual work along the above lines is indispensable to the realization of a critical stance vis-à-vis questions of self-representation, the formation of experience, and the aesthetic fashioning of individual selves, mine included.

**We’ll impact turn the view from nowhere**

**Callicott 11** – (Oct. 2011, J. Baird, University Distinguished Research Professor and a member of the Department of Philosophy and Religion Studies and the Institute of Applied Sciences at the University of North Texas, “The Temporal and Spatial Scales of Global Climate Change and the Limits of Individualistic and Rationalistic Ethics,” Royal Institute of Philosophy Supplement, Volume 69, October 2011, pp 101-116, cambridge journals)

The temporal scale of this proposed moral ontology – moral considerability for human civilization per se – is proportionate to the spatial and temporal scales of global climate change. Global human **civilization** thus appears to be the **appropriate moral patient** for global-climate-change ethics. What about the appropriate moral agent? Global climate change moralists often end their sermons with a list of things that each Jack and Jill of us can individually and voluntarily do to shrink our individual carbon footprints: replace halogen with compact fluorescent light bulbs, drive less, bike more, insulate, turn down the thermostat in winter and turn it up in summer … The Jack-and-Jill ethical paradigm is so ingrained in our thinking that we seem to suppose that duty-driven voluntary change in individual behavior is all that global-climate-change ethics is about. **If so, catastrophic global climate change and the likely demise of human civilization is all but inevitable**, due to the familiar free-rider problem. If there is a chance at averting climate catastrophe it lies in scaling up the moral agent as well as the moral patient.

The identity of that moral agent is no mystery: the world's several **governments** acting in concert to create policy and law that will effectively drive changes in individual behavior. The manufacture of halogen light bulbs might be discontinued through international agreement. A steep excise tax on gas-guzzling SUVs might be globally imposed. A transnational carbon tax might be imposed or an international cap-and-trade market might be instituted. Research on alternative fuels might be lavishly subsidized. And so on and so forth. My purpose here is not to provide an inventory of actions that governments can take, but to identify the effective moral agent for an ethics of global climate change.

Nor do I mean to reject altogether out of hand the efficacy of voluntary individual effort to stem the tide of global climate change. When one see others undertake lifestyle changes, especially if such changes, as they often do, entrain other personal benefits – such as better fitness attendant upon biking, better nutrition attendant upon the consumption of local foods, the economic savings of lower domestic energy consumption – there is a contagious effect. That, in turn, leads to self-organizing communities to promote such things as car pools, urban gardens, and reforestation projects, not to mention organizing for greener policies and laws. After all, in a democracy, change in policy and law must have some degree of support by individual citizens in order to be enacted. And once enacted into law, the ethical status of the newly mandated behavioral changes is reinforced. Now that it is against the law, submitting others to second-hand smoke or endangering infants by not restraining them in rear-facing car seats, is considered to be quite wrong and irresponsible as well as illegal.

**Unfortunately, there is a limit to this contagious effect**. Environmentalism has created a backlash among certain segments of society who feel that their lifestyles are threatened – the mechanized recreationalist, for example. Even more unfortunately, environmentalism has become entangled in partisan politics, associated in the US with ‘liberal’ as opposed to ‘conservative’ political allegiance. Thus in the end, whether we would wish it or not, achieving the changes in human behavior and lifestyle necessary to meet the challenge of global climate change will **require changes in policy and law**, because a significant sector of society is likely to resist such changes as one dimension of a complex political struggle sometimes characterized as ‘the culture war’.

I now conclude. This essay has not been about practical ethics, but about ethical theory. Or to say the same thing in different words, it has been about moral philosophy, not normative morality. We most certainly have moral obligations to distant future generations. However, we cannot – for the reasons I have given here – conceive of those obligations as obligations to future individuals particularly and severally. Rather, we must conceive of those obligations as obligations to **future generations collectively**. In short, the hyper-individualism that has characterized the ethical theory dominating Jack-and-Jill moral philosophy for more than two centuries now becomes incoherent when we contemplate our obligations to future generations on the temporal scale – calibrated in centuries and millennia, not years and decades – of global climate change. Implied by the abandonment of an individualistic ontology for an ethics of global climate change is the abandonment of ethical rationalism. Both Kantian deontology and utilitarianism derive our moral obligations from the most fundamental law of logic, the law of non-contradiction or self-consistency. Both the spatial and temporal scales of global climate change and the billions of individuals, who have intrinsic value and/or equal interests with our own, swamp our capacity to treat all individual persons, living now and in the future, as ends in themselves, and/or our capacity to give equal weight to their equal interests. More deeply, shifting from an individualistic to a holistic moral ontology, persons are not conceived as externally related social atoms. Our internal relationships – the relationships that make us the persons that we are – are multiple and various, each kind of which plays differently on our finely tuned moral sentiments. Thus we may be passionately concerned for the global climate of the near future because our loved ones, for whom we passionately care, will have to live in it. We may be passionately concerned about the global climate of the far-flung future because the now contingent and thus indeterminate individual members of distant future generations will be heirs and custodians of human civilization, for which we passionately care. Moreover, we cannot effectively act, as individual moral agents, in such a way as to significantly benefit or harm near-term future generations or to conserve human civilization in the long term. The colossal moral problem presented by the prospect of global climate change demands a **shift from ethical individualism to ethical holism** in regard to moral agency as well as to patiency. The only moral agents commensurate with the spatial and temporal scales of global climate change **are national governments** and for them to be effective in mitigating global climate change, they must act in concert.

#### Embrace a plurality of English-es rather than an insistence on the innate superiority of one linguistic strategy – the perm is the best option

David E. **Kirkland 10**, English prof at NYU, “English(es) in Urban Contexts: Politics, Pluralism, and Possibilities”, English Education, V42, N3

By definition, language once uttered begins to break apart. Its many pieces assemble a history from their various shards, which “from top to bottom . . . represent[s] the co-existence of socio-ideological contradictions between the present and the past, between differing epochs of the past, between different socio-ideological groups in the present, between tendencies, schools, circles and so forth” (Bakhtin, 1981, p. 291). These languages— Englishes, in this case—which have been traded on through various public and private transactions, have constructed a world of their own, governed by what Bakhtin calls “new socially typifying ‘languages’” (p. 291). These languages, Englishes housed in American cities and throughout the globe, have coalesced into what Nero (2005) sees as the lingua franca of the modern era. Hence, Englishes, as opposed to English, are relevant to the twenty-first century conversations of English education. This does not mean that the “old” English education is irrelevant. Conversations about English traditions continue as part of new English education (Kirkland, 2008). However, promoting linguistic pluralism means fully appreciating the hybrid and textured nature in which English is practiced and performed by inner-city youth (see Paris, 2009) as elemental to new English education. The exclusive foci on the study of high dialects can bastardize a language’s fluidity, marginalize its speakers who embody pluralistic identities through their troubled tongues (Ahmad, 2007), and presuppose the process of learning to teach by restricting students’ right to their own language (Kinloch, 2005; Kirkland & Jackson, 2009). Placed in this context, language as a monolithic construct loses importance in the pluralized/ hybridized linguistic lives of urban youth, and the processes of English education lose emphasis in postmodern classrooms. Indeed, we in English education should be concerned, for according to Bakhtin (1981), “It might even seem that the very word ‘language’ loses all meaning in this process—for apparently there is no single plane on which all these ‘languages’ might be juxtaposed to one another” (p. 291). In this way, Canagarajah (2003) expands the definition of English due, in part, to political concerns that grow out of such “language rights issues [that] are still vexing and controversial” (p. ix). For Canagarajah, “the scope of language issues [in the United States] emphasizes the ongoing presence of multiple versions of English in all our classrooms, linked to real issues of personal and ethnic identity” (p. ix). From this perspective, to understand English teaching today, one must recognize the pliant forces that tug at it and destabilize language standardization, generating an internal variability that locks diversity into any given language system (Fecho, 2003). Students are exposed to these forces whenever language(s) become the subject of classroom study. In his reflective study of critical language awareness practices, Fecho (2003) explains how his students were suspicious of language and the monolingual hegemony of “mainstream codes” in their city classroom: Robert grasped that many codes were within his reach, but also grasped that these codes brought advantages and costs. He came to realize that it was difficult at best to operate and sound natural in a language code with which one had little practice using or had mixed feeling about acquiring. . . . What I learned was that, for these students and others like them, it was a matter of if they were able to speak and write in the mainstream codes . . . but was more a matter of figuring out why they would feel disposed to do so. (p. 67; emphasis in original) Fecho’s student’s suspicion of a mainstream code is not surprising. For these students, appropriating this code was not a politically innocent act. Rather, it “brought advantages and costs.” That is, the appropriation of any code is about the politics of language, the competition among codes. It is also about relevance in a world that requires certain ways of speaking, certain sounds and social postures pronounced in various sociopolitical accents. A pluralistic view of English, then, is key for highlighting the sociopolitical tensions reflected in students’ worlds. Englishes (as opposed to English) seem to better capture the complexities of students’ lives for conceptualizing their worlds in words and “specific world views, each characterized by its own objects, meanings and values” (Bakhtin, 1981, p. 292). As languages hybridize, new Englishes emerge for students “to make sense of the world around [them] . . . [for] deepening their views on race and its impact in society” (Fecho, 2003, p. 67). Calls for extending the conversation in English education are far from new. It has been four years since Swenson, Young, McGrail, Rozema, and Whitin (2006) called for an evolved conception of English education due to “newer technologies [that] are reshaping our lives and communities” (p. 353), definitions of texts, and conceptions of reading and writing, of readers and writers. For Swenson et al., these “new literacies” invite English educators to rethink the evolving contexts of our work. Boyd and colleagues (2006) also express this need, arguing, “Never in the history of education in the United States has there been a more urgent need for educators to join forces to create literacy classrooms that meet the needs of linguistically and culturally diverse learners” (p. 329). The new English education is “crossing cultural boundaries” (p. 335), recognizing “student’s funds of knowledge” (p. 337) by fostering for students “varied educational experiences” (p. 340) through “socially responsive and responsible teaching” (p. 338). All students should be “taught mainstream power codes/discourses and become critical users of language while also having their home and street codes honored” (p. 344). While I find merit in Boyd et al.’s (2006) call for rethinking English education for the twenty-first century, I tend to agree with Smitherman and Villanueva (2003), who contend that paying tribute to linguistic diversity isn’t enough. English by definition is diverse, pluralistic, and always changing. And the dynamism of English (plural) can be witnessed from New York (Fisher, 2007) to Los Angeles (Alim, 2006), from the United States (Gee, 1996) to South Africa (Ball, 2009; Sailors, Hoffman, & Matthee, 2007; Smitherman, 2006) to Australia (Luke, 2004). In each context, brave new voices are emerging. These voices are evident among urban youth in the United States, who are bending vowels and verbs, shattering stale syntaxes and sounds, and embodying the vernacular Englishes that constitute new century spaces—online social communities (Kirkland, in press), multiethnic communities (Paris, 2009), and global communities (Nero, 2005). The transnational dispersion of Englishes into the urban, digital, global, and youth mainstreams has not taken place without complexities. These complexities usually appear in heated debates over what constitutes English and increasingly are highlighted in urban education language debates (Beykont, 2002; Kinloch, 2005; Kirkland & Jackson, 2009; Smitherman, 1999), where English can never be accurately described as stable, fixed, or singular. The pluralistic, dynamic, hybrid, and fluid nature of English swells, shifts, and is ultimately transformed in urban contexts, which are themselves complicated by linguistic legacies of survival and oppression.

#### The alternative’s abandonment of all existing lexicons is worse for cross-cultural understanding – endorse pluralist chaos, complete with all its contradictions

David E. **Kirkland 10**, English prof at NYU, “English(es) in Urban Contexts: Politics, Pluralism, and Possibilities”, English Education, V42, N3

Many lessons can be learned from Derrick, Maya, and Kisha. First, if languages in urban settings are bending and breaking apart and essentially forging new languages, then English educators must revise curricula to match the languages of the day, the Englishes of our youth. This does not mean abandoning our study of LWC, the current code of power. To protect diverse students from cultural domination, absorption, and social marginh293alization, such instruction is not optional (Delpit & Dowdy, 2002). Rather it suggests acknowledging the power of codes other than LWC in twenty-first century English classrooms (Boyd et al., 2006; Smitherman & Villanueva, 2003; Tochon, 2009). In doing so, English education no longer stands as a monolithic subject upholding the colonial pillars of England and the imperial ambitions of the United States. This new English education acts more holistically and accurately as language education, incorporating a study of the various Englishes of our country. Second, this framing for English(es) education must be reflective of the research, policies, and practices that guide our field. If English language arts and literacy classroom practices are to respond to linguistic change in new century settings, then accrediting organizations such as NCATE and Englishteacher preparation programs must change with these “new times” (Bean & Harper, 2008; Dressman, McCarthey, & Prior, 2008; Sperling & DiPardo, 2008) and in line with the research that describes them. The major publications on research and pedagogical practices in language and literacy, English, and English education seem to be making this shift by pointing to new directions in ELA, emphasizing developments in our field for the twenty-first century, and noting comparisons between past and present competencies and future needs of students and teachers (Bean & Harper, 2008; Dressman et al., 2008). However, in rethinking, re-voicing, and reframing the definitions of “literacy” and “English” for the twenty first century, the field needs to pose new questions for teacher educators to consider in relation to program standards by highlighting salient issues of equity, diversity, and social justice. I acknowledge Luke’s (2004) insights that “the future of English as field and curricular practice depends less upon a sovereign host discipline, and more on changing sociologies, economies, and demographics of English speaking and learning communities, and our travels as teachers and English speakers across and through them” (p. 87 ). For Luke, This needn’t mean a discarding of literary theory, aesthetic theory, language acquisition theory, and so forth (which we may need now more than ever), but a reframing of them as part of a trans-disciplinary response to new contexts and conditions. . . . [Without these adjustments], we risk becoming a profession involved in the systematic production and distribution of particular brands of linguistic capital, without an ongoing critical appraisal of the force and consequences of our actions. (p. 87) What Luke and other language and literacy scholars , myself included, are beginning to recommend involves the re-casting of English language arts curriculum so that it includes the particular voices of today’s youth. Importantly, English educators must rethink how youth voices, the Englishes of urban contexts, can be understood within Bhabha’s (2004) postcolonial notions of culture and language. These notions highlight specific points of linguistic location that have led me to rethink English. The linguistic third space created in urban contexts can provide a basis for rethinking English in expanded, pluralistic, and internally internationalized ways. For Bhabha, “What is striking about the ‘new’ internationalism is that the move from the specific to the general, from the material to the metaphoric, is not a smooth passage of transition and transcendence. The ‘middle passage’ of contemporary culture [and language] . . . is a process of displacement and disjunction that does not totalize experience” (p. 38). Increasingly, English in the lives of urban youth complicates the political and pedagogical perspectives of Standard English, English Only, and English as an Official Language. It also raises important philosophical and social anthropological questions as to what English is in the twenty-first century. How might an examination of English in urban contexts push us to think about English differently? The most significant effect of these questions should not simply be the acknowledgment of hybrid Englishes producing pluralist chaos in otherwise stable systems of LWC. “New English” represents a revision in the concept of English and of English education itself, since “languages live a real life, they struggle and evolve in an environment of social heteroglossia” (Bakhtin, 1981, p. 292).

McClean**, Ph.D. Philosophy: The New School for Social Research,** 2001 **[David E, “The Cultural Left And The Limits of Social Hope,” Annual Conference of the Society for the Advancement of American Philosophy. 2001 Conference]**

There is a lot of philosophical prose on the general subject of social justice. Some of this is quite good, and some of it is quite bad. What distinguishes the good from the bad is not merely the level of erudition. Displays of high erudition are gratuitously reflected in much of the writing by those, for example, still clinging to Marxian ontology and is often just a **useful smokescreen which shrouds a near total disconnect from empirical reality**. This kind of political writing likes to make a lot of references to other obscure, jargon-laden essays and tedious books written by other true believers - the crowd that takes the fusion of Marxian and Freudian private fantasies seriously. Nor is it the lack of scholarship that makes this prose bad. Much of it is well "supported" by footnotes referencing a lode of other works, some of which are actually quite good. Rather, what makes this prose bad is its utter lack of relevance to extant and critical policy debates, the passage of actual laws, and the amendment of existing regulations that might actually do some good for someone else. The writers of this bad prose are too interested in our arrival at some social place wherein we will finally emerge from our "inauthentic" state into something called "reality." Most of this stuff, of course, comes from those steeped in the Continental tradition (particularly post-Kant). While that tradition has much to offer and has helped shape my own philosophical sensibilities, it is anything but useful when it comes to truly relevant philosophical analysis, and no self-respecting Pragmatist can really take seriously the strong poetry of formations like "authenticity looming on the ever remote horizons of fetishization." What Pragmatists see instead is the hope that we can fix some of the social ills that face us if we treat policy and reform as more important than Spirit and Utopia.

Like light rain released from pretty clouds too high in the atmosphere, the substance of this prose dissipates before it can reach the ground and be a useful component in a discussion of medicare reform or how to better regulate a pharmaceutical industry that bankrupts senior citizens and condemns to death HIV patients unfortunate enough to have been born in Burkina Faso - and a regulatory regime that permits this. It is often too drenched in abstractions and references to a narrow and not so merry band of other intellectuals (Nietzsche, Bataille, Foucault, Lukács, Benjamin) to be of much use to those who are the supposed subject matter of this preternatural social justice literature. Since I have no particular allegiance to these other intellectuals, no particular impulse to carry their water or defend their reputations, I try and forget as much as I can about their writings in order to make space for some new approaches and fresh thinking about that important question that always faces us - "What is to be done?" I am, I think, lucky to have taken this decision before it had become too late.

One might argue with me that these other intellectuals are not looking to be taken seriously in the construction of solutions to specific socio-political problems. They are, after all, philosophers engaged in something called philosophizing. They are, after all, just trying to be good culture critics. Of course, that isn't quite true, for they often write with specific reference to social issues and social justice in mind, even when they are fluttering about in the ether of high theory (Lukács, for example, was a government officer, albeit a minister of culture, which to me says a lot), and social justice is not a Platonic form but parses into the specific quotidian acts of institutions and individuals. Social justice is but the genus heading which may be described better with reference to its species iterations- the various conditions of cruelty and sadism which we wittingly or unwittingly permit. If we wanted to, we could reconcile the grand general theories of these thinkers to specific bureaucracies or social problems and so try to increase their relevance. We could construct an account which acts as a bridge to relevant policy considerations. But such attempts, usually performed in the reams of secondary literature generated by their devotees, usually make things even more bizarre. In any event, I don't think we owe them that amount of effort. After all, if they wanted to be relevant they could have said so by writing in such a way that made it clear that relevance was a high priority. For Marxians in general, everything tends to get reduced to class. For Lukács everything tends to get reduced to "reification." But society and its social ills are far too intricate to gloss in these ways, and the engines that drive competing interests are much more easily explained with reference to animal drives and fears than by Absolute Spirit. That is to say, they are not easily explained at all.

Take Habermas, whose writings are admittedly the most relevant of the group. I cannot find in Habermas's lengthy narratives regarding communicative action, discourse ethics, democracy and ideal speech situations very much more than I have found in the Federalist Papers, or in Paine's Common Sense, or in Emerson's Self Reliance or Circles. I simply don't find the concept of uncoerced and fully informed communication between peers in a democratic polity all that difficult to understand, and I don't much see the need to theorize to death such a simple concept, particularly where the only persons that are apt to take such narratives seriously are already sold, at least in a general sense. Of course, when you are trying to justify yourself in the face of the other members of your chosen club (in Habermas's case, the Frankfurt School) the intricacy of your explication may have less to do with simple concepts than it has to do with parrying for respectability in the eyes of your intellectual brethren. But I don't see why the rest of us need to partake in an insular debate that has little to do with anyone that is not very much interested in the work of early critical theorists such as Horkheimer or Adorno, and who might see their insights as only modestly relevant at best. Not many self-respecting engaged political scientists in this country actually still take these thinkers seriously, if they ever did at all.

Or we might take Foucault who, at best, has provided us with what may reasonably be described as a very long and eccentric footnote to Nietzsche (I have once been accused, by a Foucaltian true believer, of "gelding" Foucault with other similar remarks). Foucault, who has provided the Left of the late 1960s through the present with such notions as "governmentality," "Limit," "archeology," "discourse" "power" and "ethics," creating or redefining their meanings, has made it overabundantly clear that all of our moralities and practices are the successors of previous ones which derive from certain configurations of savoir and connaisance arising from or created by, respectively, the discourses of the various scientific schools. But I have not yet found in anything Foucault wrote or said how such observations may be translated into a political movement or hammered into a political document or theory (let alone public policies) that can be justified or founded on more than an arbitrary aesthetic experimentalism. In fact, Foucault would have shuddered if any one ever did, since he thought that anything as grand as a movement went far beyond what he thought appropriate. This leads me to mildly rehabilitate Habermas, for at least he has been useful in exposing Foucault's shortcomings in this regard, just as he has been useful in exposing the shortcomings of others enamored with the abstractions of various Marxian-Freudian social critiques.

Yet for some reason, at least partially explicated in Richard Rorty's Achieving Our Country, a book that I think is long overdue, leftist critics continue to cite and refer to the eccentric and often a priori ruminations of people like those just mentioned, and a litany of others including Derrida, Deleuze, Lyotard, Jameson, and Lacan, who are to me hugely more irrelevant than Habermas in their narrative attempts to suggest policy prescriptions

 (when they actually do suggest them) aimed at curing the ills of homelessness, poverty, market greed, national belligerence and racism. I would like to suggest that it is time for American social critics who are enamored with this group, those who actually want to be relevant, to recognize that they have a disease, and a disease regarding which I myself must remember to stay faithful to my own twelve step program of recovery. The disease is the need for elaborate theoretical "remedies" wrapped in neological and multi-syllabic jargon. These elaborate theoretical remedies are more "interesting," to be sure, than the pragmatically settled questions about what shape democracy should take in various contexts, or whether private property should be protected by the state, or regarding our basic human nature (described, if not defined (heaven forbid!), in such statements as "We don't like to starve" and "We like to speak our minds without fear of death" and "We like to keep our children safe from poverty"). As Rorty puts it, "When one of today's academic leftists says that some topic has been 'inadequately theorized,' you can be pretty certain that he or she is going to drag in either philosophy of language, or Lacanian psychoanalysis, or some neo-Marxist version of economic determinism. . . . These futile attempts to philosophize one's way into political relevance are a symptom of what happens when a Left retreats from activism and adopts a spectatorial approach to the problems of its country. Disengagement from practice produces theoretical hallucinations"(italics mine).[(1)](http://www.american-philosophy.org/archives/past_conference_programs/pc2001/Discussion%20papers/david_mcclean.htm%22%20%5Cl%20%22N_1_) Or as John Dewey put it in his The Need for a Recovery of Philosophy, "I believe that philosophy in America will be lost between chewing a historical cud long since reduced to woody fiber, or an apologetics for lost causes, . . . . or a scholastic, schematic formalism, unless it can somehow bring to consciousness America's own needs and its own implicit principle of successful action."

Those who suffer or have suffered from this disease Rorty refers to as the Cultural Left, which left is juxtaposed to the Political Left that Rorty prefers and prefers for good reason. Another attribute of the Cultural Left is that its members fancy themselves pure culture critics who view the successes of America and the West, rather than some of the barbarous methods for achieving those successes, as mostly evil, and who view anything like national pride as equally evil even when that pride is tempered with the knowledge and admission of the nation's shortcomings. In other words, the Cultural Left, in this country, too often dismiss American society as beyond reform and redemption. And Rorty correctly argues that this is a disastrous conclusion, i.e. disastrous for the Cultural Left. I think it may also be disastrous for our social hopes, as I will explain.

Leftist American culture critics might put their considerable talents to better use if they bury some of their cynicism about America's social and political prospects and help forge public and political possibilities in a spirit of determination to, indeed, achieve our country - the country of Jefferson and King; the country of John Dewey and Malcom X; the country of Franklin Roosevelt and Bayard Rustin, and of the later George Wallace and the later Barry Goldwater. To invoke the words of King, and with reference to the American society, the time is always ripe to seize the opportunity to help create the "beloved community," one woven with the thread of agape into a conceptually single yet diverse tapestry that shoots for nothing less than a true intra-American cosmopolitan ethos, one wherein both same sex unions and faith-based initiatives will be able to be part of the same social reality, one wherein business interests and the university are not seen as belonging to two separate galaxies but as part of the same answer to the threat of social and ethical nihilism. We who fancy ourselves philosophers would do well to create from within ourselves and from within our ranks a new kind of public intellectual who has both a hungry theoretical mind and who is yet capable of seeing the need to move past high theory to other important questions that are less bedazzling and "interesting" but more important to the prospect of our flourishing - questions such as "How is it possible to develop a citizenry that cherishes a certain hexis, one which prizes the **character** of the Samaritan on the road to Jericho almost more than any other?" or "How can we square the political dogma that undergirds the fantasy of a missile defense system with the need to treat America as but one member in a community of nations under a "law of peoples?"

The new public philosopher might seek to understand labor law and military and trade theory and doctrine as much as theories of surplus value; the logic of international markets and trade agreements as much as critiques of commodification, and the politics of complexity as much as the politics of power (all of which can still be done from our arm chairs.) This means **going down deep into the guts of our quotidian social institutions**, into the grimy pragmatic details where intellectuals are loathe to dwell but **where the officers and bureaucrats of those institutions take difficult and often unpleasant, imperfect decisions** that affect other peoples' lives, and it means making honest attempts to truly understand how those institutions actually function in the actual world before howling for their overthrow commences. **This might help keep us from being slapped down in debates by true policy pros** who actually know what they are talking about but who lack awareness of the dogmatic assumptions from which they proceed, and who have not yet found a good reason to listen to jargon-riddled lectures from philosophers and culture critics with their snobish disrespect for the so-called "managerial class."

**Partiuclarly important in the context of warming**

Monbiot 8 George, English Writer and Environmental and Political Activist, 9-4, “Identity Politics in Climate Change Hell,” http://www.celsias.com/article/identity-politics-climate-change-hell/

If you want a glimpse of how the movement against climate change could crumble faster than a summer snowflake, read Ewa Jasiewicz’s article , published on the Guardian’s Comment is Free site. It is a fine example of the identity politics that plagued direct action movements during the 1990s, and from which the new generation of activists has so far been mercifully free. Ewa rightly celebrates the leaderless, autonomous model of organising that has made this movement so effective. The two climate camps I have attended – this year and last – were among the most inspiring events I’ve ever witnessed. I am awed by the people who organised them, who managed to create, under extraordinary pressure, safe, functioning, delightful spaces in which we could debate the issues and plan the actions which thrust Heathrow and Kingsnorth into the public eye. Climate camp is a tribute to the anarchist politics that Jasiewicz supports. But in seeking to extrapolate from this experience to a wider social plan, she makes two grave errors. The first is to confuse ends and means. She claims to want to stop global warming, but she makes that task 100 times harder by rejecting all state and corporate solutions. It seems to me that what she really wants to do is to create an anarchist utopia, and use climate change as an excuse to engineer it. Stopping runaway climate change must take precedence over every other aim. Everyone in this movement knows that there is very little time: the window of opportunity in which we can prevent two degrees of warming is closing fast. We have to use all the resources we can lay hands on, and these must include both governments and corporations. Or perhaps she intends to build the installations required to turn the energy economy around - wind farms, wave machines, solar thermal plants in the Sahara, new grid connections and public transport systems - herself? Her article is a terryifying example of the ability some people have to put politics first and facts second when confronting the greatest challenge humanity now faces. The facts are as follows. Runaway climate change is bearing down on us fast. We require a massive political and economic response to prevent it. Governments and corporations, whether we like it or not, currently control both money and power. Unless we manage to mobilise them, we stand a snowball’s chance in climate hell of stopping the collapse of the biosphere. Jasiewicz would ignore all these inconvenient truths because they conflict with her politics. “Changing our sources of energy without changing our sources of economic and political power”, she asserts, “will not make a difference. Neither coal nor nuclear are the “solution”, we need a revolution.” So before we are allowed to begin cutting greenhouse gas emissions, we must first overthrow all political structures and replace them with autonomous communities of happy campers. All this must take place within a couple of months, as there is so little time in which we could prevent two degrees of warming. This is magical thinking of the most desperate kind. If I were an executive of E.On or Exxon, I would be delighted by this political posturing, as it provides a marvellous distraction from our real aims. To support her argument, Jasiewicz misrepresents what I said at climate camp. She claims that I “confessed not knowing where to turn next to solve the issues of how to generate the changes necessary to shift our sources of energy, production and consumption”. I confessed nothing of the kind. In my book Heat I spell out what is required to bring about a 90% cut in emissions by 2030. Instead I confessed that I don’t know how to solve the problem of capitalism without resorting to totalitarianism. The issue is that capitalism involves lending money at interest. If you lend at 5%, then one of two things must happen. Either the money supply must increase by 5% or the velocity of circulation must increase by 5%. In either case, if this growth is not met by a concomitant increase in the supply of goods and services, it becomes inflationary and the system collapses. But a perpetual increase in the supply of goods and services will eventually destroy the biosphere. So how do we stall this process? Even when usurers were put to death and condemned to perpetual damnation, the practice couldn’t be stamped out. Only the communist states managed it, through the extreme use of the state control Ewa professes to hate. I don’t yet have an answer to this conundrum. Does she? Yes, let us fight both corporate power and the undemocratic tendencies of the state. Yes, let us try to crack the problem of capitalism and then fight for a different system. But let us not confuse this task with the immediate need to stop two degrees of warming, or allow it to interfere with the carbon cuts that have to begin now. Ewa’s second grave error is to imagine that society could be turned into a giant climate camp. Anarchism is a great means of organising a self-elected community of like-minded people. It is a disastrous means of organising a planet. Most anarchists envisage their system as the means by which the oppressed can free themselves from persecution. But if everyone is to be free from the coercive power of the state, this must apply to the oppressors as well as the oppressed. The richest and most powerful communities on earth - be they geographical communities or communities of interest - will be as unrestrained by external forces as the poorest and weakest. As a friend of mine put it, “when the anarchist utopia arrives, the first thing that will happen is that every Daily Mail reader in the country will pick up a gun and go and kill the nearest hippy.” This is why, though both sides furiously deny it, the outcome of both market fundamentalism and anarchism, if applied universally, is identical. The anarchists associate with the oppressed, the market fundamentalists with the oppressors. But by eliminating the state, both remove such restraints as prevent the strong from crushing the weak. Ours is not a choice between government and no government. It is a choice between government and the mafia. Over the past year I have been working with groups of climate protesters who have changed my view of what could be achieved. Most of them are under 30, and they bring to this issue a clear-headedness and pragmatism that I have never encountered in direct action movements before. They are prepared to take extraordinary risks to try to defend the biosphere from the corporations, governments and social trends which threaten to make it uninhabitable. They do so for one reason only: that they love the world and fear for its future. It would be a tragedy if, through the efforts of people like Ewa, they were to be diverted from this urgent task into the identity politics that have wrecked so many movements.

**Particularly matters for environmental politics**

**ECKERSLEY 2004** [ROBYN, SENIOR LECTURER IN THE DEPARTMENT OF POLITICAL SCIENCE AT THE UNIVERSITY OF MELBOURNE, THE GREEN STATE, P. 4-5]

This inquiry thus swims against a significant tide of green political theory that is mostly skeptical of, if not entirely hostile toward, the nation-state. Indeed, if a green posture toward the nation-state can be discerned from the broad tradition of green political thought, it is that the nation-state plays, at best, a contradictory role in environmental management in facilitating both environmental destruction and environmental protection and, at worst, it is fundamentally ecocidal. From eco-Marxists to ecofeminists and ecoanarchists, there are few green political theorists who are prepared to defend the nation-state as an institution that is able to play, on balance, a positive role in securing sustainable livelihoods and ecosystem integrity. It is now a trite observation that neither environmental problems nor environmentalists respect national borders and the principle of state sovereignty, which assumes that states ought to possess and be able to exercise more or less exclusive control of what goes on within their territories. Indeed, those interested in global political ecology are increasingly rejecting the “statist frame” through which international relations and world politics have been traditionally understood, preferring to understand states as but one set of actors and/or institutions among myriad actors and institutions on the global scene that are implicated in ecological destruction. Thus many global political ecologists tend not only to be skeptical of states, they are also increasingly sceptical of state-centric analyses of world politics, in general, and global environmental degradation, in particular. Taken together, the analyses of green theorists and activists seem to point toward the need for alternative forms of political identity, authority, and governance that break with the traditional statist model of exclusive territorial rule. 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 degradationY 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

**If our methodology is faster – that’s better**

Hahnel 12 (Robin Hahnel, Professor of Economics at Portland State University, 02 Nov 2012, “Desperately Seeking Left Unity on International Climate Policy”, Capitalism Nature Socialism Volume 23, Issue 4, 2012, DOI:10.1080/10455752.2012.722308)

This author has been an ecosocialist since before the name became popular. I have written extensively about a host of reasons we would be well served to replace not only private ownership of the means of production but the market system as well with a system of participatory planning in which worker and consumer councils and federations plan how to use productive resources that belong to all fairly, efficiently, and sustainably (Albert and Hahnel 1981 and 1991; Hahnel 2005, Hahnel 2012a). And like many readers of this journal, I am under no illusions that we can fully achieve economic democracy and economic justice, much less adequately protect the natural environment, until we have replaced global capitalism with global ecosocialism. However, because the system we fight for requires the support of a majority of the population, I know system change does not lie just around the corner. And unfortunately, we need to begin to address climate change now, even while global capitalism persists, if there is to be a habitable planet where ecosocialism can flourish. So, just as many of us have long supported workers’ struggles for better wages and working conditions until wage slavery can be abolished altogether, I believe we must support effective measures to avert climate change even while the global market system persists. This means fighting now for an international treaty that accomplishes our goals as well as possible in the context of a global market economy. As environmentalists, we should fight for a post-Kyoto treaty with serious, mandatory caps on national emissions. As socialists committed to economic justice, we should fight to make those caps fair. Because allowing sources in different countries to sell and buy CERs from one another significantly reduces the social cost of reducing global emissions, and therefore makes the arduous task of securing agreement to reduce emissions easier, it helps protect the environment. If caps are set fairly as the authors of the GDRF propose, trading CERs would induce a massive flow of wealth from MDCs to LDCs and thereby make the global economy fairer than it is today. For these reasons, I think it is irresponsible for ecosocialists to fail to support the kind of post-Kyoto treaty I have outlined here, even while we continue to agitate and organize for the new world we believe is not only possible but increasingly necessary.10 Exemplary Mass Actions Only climate change denialists, special interests tied to the fossil fuel industries, people who have been hypnotized by demagogues, and people who are paying no attention fail to understand that both domestic and international political responses to the danger of climate change have been woefully inadequate to this point. Climate change is an urgent problem and delay is deadly. Anyone who cares about averting climate change should be thankful that the criminally negligent performance of official government delegations and a number of heads of state in Copenhagen in December 2009 did not go without a massive and powerful protest. There is a crucial role for climate justice activists and the street heat we bring. Protests in the galleries of national congresses and parliaments where elected representatives serve special interests and refuse to approve effective, fair domestic policies; civil disobedience at the White House when Obama hesitates to kill the Keystone XL oil pipeline slated to carry carbon-intensive tar sands oil from Canada to the U.S.; protests at international meetings where government delegations free ride and obstruct, where too little is accomplished, and where justice is sacrificed—all are productive and desperately needed. The larger the demonstrations and the greater the anger over the failure of authorities to do what is required, the better. “Keep the Oil in the Soil and the Coal in the Hole” campaigns, which mobilize citizens to engage in mass protests and civil disobedience at mine sites and wellheads—or better yet, at company headquarters and CEOs’ residences—can also be an important and positive catalyst. When governing elites are playing Nero's fiddle while our world burns, outrage is the only sane response. However, dogged determination, heroic protest, and civil disobedience can be only one part of an effective strategy to reduce carbon emissions sufficiently to avert climate change. Unless an effective cap-and-trade international treaty is approved and enforced, and unless governments are forced to implement effective domestic policies, demonstrators engaging in civil disobedience will be rounded up and arrested by armed police and military personnel to no avail. So just as it is counterproductive for mainstream environmental NGOs and progressive politicians to denounce the tactics of demonstrators who are playing an important, positive role in averting climate change equitably, it is also counterproductive for radicals who put their lives on the line to accuse those who are working tirelessly for a more effective and fair international treaty and better domestic policies of misleading the public and selling “pretend solutions.” We will need much more of both kinds of efforts to succeed, and the sooner climate change radicals and reformers recognize this, the more successful we all will be.

Extinction outweighs – there can be no authentic acceptance of it

Kennedy, 2k7 (Greg, PhD U of Ottowa, An Ontology of Trash, pg. 170-1)

The phenomenon of extinction is the technological ersatz for death. But our being-toward-extinction can never be authentic because it occludes the mortal being-in-the-worldwith-others, whose resolute acceptance authenticity requires. Unlike death, extinction cannot summon authentic individuals to their possibilities. Rather it addresses isolationists and solipsists, for "the lack of others is the defining feature of extinction."14 So long as we exist toward this lack, we cannot exist as whole, as healthy. "Being human, we have, through the establishment of a common world, taken up residence in the enlarged space of past, present and future, and if we threaten to destroy the future generations we harm ourselves, for the threat we pose to them is carried back to us through the channels of the common world that we all inhabit together."15 We fail to be human as long as we project a hostile indifference onto the possibility of perpetuity. Here again, the ontologically inconsistent phenomenon of extinction undermines its own being, for it dismantles the temporal platform from which all projections are cast. "We need the assurance that there will be a future if we are to take on the burden of mastering the past—a past that really does become the proverbial "dead past," an unbearable weight of millennia of corpses and dust, if there is no promise of a future."16 Schell's use of Arendt's notion of a social and biological common world convincingly demonstrates how the phenomenon of human extinction stymies our careful being-in-the-world-with-others. It does not, however, manage to exhaust the structural totality of care: "the being of Dasein means being-ahead-of-oneself-already-in (the world) as being-together-with (innerworldly beings encountered)" (BT 180). Our being-with extends beyond other humans to encompass all innerworldly beings. Thus, the lack of others definitive of extinction must include a lack of beings in general. The being of trash is ontologically deficient to the pint of phenomenal disappearance. The more the common world fills up with disposable commodities, the more it becomes ontologically empty, hence worthless and dispensable. Consequently, a thorough interpretation of human extinction requires an ontology of trash. Schell moves toward this necessity without meeting it when he writes: Like death, extinction is felt not when it has arrived, but beforehand, as a deep shadow cast back across the whole of life... Extinction saturates our existence and never stops happening. If we want to find the meaning of extinction, accordingly, we should start by looking with new eyes at ourselves and the world we live in, and at the lives we live. The question to be asked then is no longer what the features and characteristics of extinction are but what it says about us and what it does to us that we are preparing our own extermination.17 In the technological era, the lives we live are lives of consumption, and the world we live in teeters on a mountain of trash high above an infernal abyss. The ontology of trash comes to its end in the discovery of the full meaning of extinction. The twin phenomena appear as one in the destruction of time, the extermination, that is, the detemporalization of human being.

**VTL is inevitable – individually determined as long as we survive**

**Fassin, 10** - James D. Wolfensohn Professor in the School of Social Science at the Institute for Advanced Study, Princeton, as well as directeur d’études at the École des Hautes Études en Sciences Sociales, Paris. (Didier, Fall, “Ethics of Survival: A Democratic Approach to the Politics of Life” Humanity: An International Journal of Human Rights, Humanitarianism, and Development, Vol 1 No 1, Project Muse)

Conclusion

Survival, in the sense Jacques Derrida attributed to the concept in his last interview, not only shifts lines that are too often hardened between biological and political lives: it **opens an ethical space for** reflection **and** action. Critical thinking in the past decade has often taken biopolitics and the politics of life as its objects. It has thus unveiled the way in which individuals and groups, even entire nations, have been treated by powers, the market, or the state, during the colonial period as well as in the contemporary era.

However, through indiscriminate extension, this powerful instrument has lost some of its analytical sharpness and heuristic potentiality. On the one hand, the binary reduction of life to the opposition between nature and history, bare life and qualified life, when systematically applied from philosophical inquiry in sociological or anthropological study, erases much of the complexity and richness of life in society as it is in fact observed. On the other hand, the normative prejudices which underlie the evaluation of the forms of life and of the politics of life, when generalized to an undifferentiated collection of social facts, end up by depriving social agents of legitimacy, voice, and action. The risk is therefore both scholarly and political. It calls for ethical attention.

In fact, the genealogy of this intellectual lineage reminds us that the main founders of these theories expressed tensions and hesitations in their work, which was often more complex, if even sometimes more obscure, than in its reduced and translated form in the humanities and social sciences today. And also biographies, here limited to fragments from South African lives that I have described and analyzed in more detail elsewhere, suggest the necessity of complicating the dualistic models that oppose biological and political lives. Certainly, powers like the market and the state do act sometimes as if human beings could be reduced to “mere life,” but democratic forces, including from within the structure of power, tend to produce alternative strategies that escape this reduction. And people themselves, even under conditions of domination, [End Page 93] manage subtle tactics that transform their physical life into a political instrument or a moral resource or an affective expression.

But let us go one step further: ethnography invites us to reconsider what life is or rather what human beings make of their lives, and reciprocally how their lives permanently question what it is to be human. “The blurring between what is human and what is not human shades into the blurring over what is life and what is not life,” writes Veena Das. In the tracks of Wittgenstein and Cavell, she underscores that the usual manner in which we think of forms of life “not only obscures the mutual absorption of the natural and the social but also emphasizes form at the expense of life.”22 It should be the incessant effort of social scientists to return to this inquiry about life in its multiple forms but also in its everyday expression of the human.

**People matter – there are billions who will die if you don’t force an energy shift, there are countries besides the united states**

**Fassin, 10** - James D. Wolfensohn Professor in the School of Social Science at the Institute for Advanced Study, Princeton, as well as directeur d’études at the École des Hautes Études en Sciences Sociales, Paris. (Didier, Fall, “Ethics of Survival: A Democratic Approach to the Politics of Life” Humanity: An International Journal of Human Rights, Humanitarianism, and Development, Vol 1 No 1, Project Muse)

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**-justifications have to be mutable, desert v ocean, you can’t just only look at 1 segment and ALWAYS advocate as if that is your audience, rather advocacy must ADJUST to great a global organizing calculus**

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."

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**the aff doesn’t spillover and politicizing the outcome of rounds collapses any change they want to make**

**Atchison and Panetta 9** – \*Director of Debate at Trinity University and \*\*Director of Debate at the University of Georgia (Jarrod, and Edward, “Intercollegiate Debate and Speech Communication: Issues for the Future,” The Sage Handbook of Rhetorical Studies, Lunsford, Andrea, ed., 2009, p. 317-334)

The final problem with an individual debate round focus is the role of competition. Creating community change through individual debate rounds sacrifices the “community” portion of the change. Many teams that promote activist strategies in debates profess that they are more interested in creating change than winning debates. What is clear, however, is that the vast majority of teams that are not promoting community change are very interested in winning debates. The tension that is generated from the clash of these opposing forces is tremendous. Unfortunately, this is rarely a productive tension. Forcing teams to consider their purpose in debating, their style in debates, and their approach to evidence are all critical aspects of being participants in the community.

However, the dismissal of the proposed resolution that the debaters have spent countless hours preparing for, in the name of a community problem that the debaters often have little control over, does little to engender coalitions of the willing. Should a debate team lose because their director or coach has been ineffective at recruiting minority participants? Should a debate team lose because their coach or director holds political positions that are in opposition to the activist program? Competition has been a critical component of the interest in intercollegiate debate from the beginning, and it does not help further the goals of the debate community to dismiss competition in the name of community change.

The larger problem with locating the “debate as activism” perspective within the competitive framework is that it overlooks the communal nature of the community problem. If each individual debate is a decision about how the debate community should approach a problem, then the losing debaters become collateral damage in the activist strategy dedicated toward creating community change. One frustrating example of this type of argument might include a judge voting for an activist team in an effort to help them reach elimination rounds to generate a community discussion about the problem. Under this scenario, the losing team serves as a sacrificial lamb on the altar of community change. Downplaying the important role of competition and treating opponents as scapegoats for the failures of the community may increase the profile of the winning team and the community problem, but it does little to generate the critical coalitions necessary to address the community problem, because the competitive focus encourages teams to concentrate on how to beat the strategy with little regard for addressing the community problem. There is no role for competition when a judge decides that it is important to accentuate the publicity of a community problem. An extreme example might include a team arguing that their opponents’ academic institution had a legacy of civil rights abuses and that the judge should not vote for them because that would be a community endorsement of a problematic institution. This scenario is a bit more outlandish but not unreasonable if one assumes that each debate should be about what is best for promoting solutions to diversity problems in the debate community.

If the debate community is serious about generating community change, then it is more likely to occur outside a traditional competitive debate. When a team loses a debate because the judge decides that it is better for the community for the other team to win, then they have sacrificed two potential advocates for change within the community. Creating change through wins generates backlash through losses. Some proponents are comfortable with generating backlash and argue that the reaction is evidence that the issue is being discussed.

From our perspective, the discussion that results from these hostile situations is not a productive one where participants seek to work together for a common goal. Instead of giving up on hope for change and agitating for wins regardless of who is left behind, it seems more reasonable that the debate community should try the method of public argument that we teach in an effort to generate a discussion of necessary community changes. Simply put, debate competitions do not represent the best environment for community change because it is a competition for a win and only one team can win any given debate, whereas addressing systemic century-long community problems requires a tremendous effort by a great number of people.

**They link to their roleplaying bad offense. Our vision of debate makes debaters familiar with the terms of government, producing net better activism**

**Coverstone, 05** – masters in communication from Wake Forest and longtime debate coach

(Alan H., “Acting on Activism: Realizing the Vision of Debate with Pro-social Impact,” Paper presented at the National Communication Association Annual Conference, 11/17/05)

However, contest debate teaches students to combine personal experience with the language of political power. Powerful personal narratives unconnected to political power are regularly co-opted by those who do learn the language of power. One need look no further than the annual state of the Union Address where personal story after personal story is used to support the political agenda of those in power. The so-called role-playing that public policy contest debates encourage promotes active learning of the vocabulary and levers of power in America. Imagining the ability to use our own arguments to influence government action is one of the great virtues of academic debate. Gerald Graff (2003) analyzed the decline of argumentation in academic discourse and found a source of student antipathy to public argument in an interesting place.

I’m up against…their aversion to the role of public spokesperson that formal writing presupposes. It’s as if such students can’t imagine any rewards for being a public actor or even imagining themselves in such a role. This lack of interest in the public sphere may in turn reflect a loss of confidence in the possibility that the arguments we make in public will have an effect on the world. Today’s students’ lack of faith in the power of persuasion reflects the waning of the ideal of civic participation that led educators for centuries to place rhetorical and argumentative training at the center of the school and college curriculum. (Graff, 2003, p. 57)

The power to imagine public advocacy that actually makes a difference is one of the great virtues of the traditional notion of fiat that critics deride as mere simulation. Simulation of success in the public realm is far more empowering to students than completely abandoning all notions of personal power in the face of governmental hegemony by teaching students that “nothing they can do in a contest debate can ever make any difference in public policy.” Contest debating is well suited to rewarding public activism if it stops accepting as an article of faith that personal agency is somehow undermined by the so-called role playing in debate. **Debate is role-playing whether we imagine government** action **or** imagine **individual action.** Imagining myself starting a socialist revolution in America is no less of a fantasy than imagining myself making a difference on Capitol Hill. Furthermore, both fantasies influenced my personal and political development virtually ensuring a life of active, pro-social, political participation. Neither fantasy reduced the likelihood that I would spend my life trying to make the difference I imagined. One fantasy actually does make a greater difference: the one that speaks the language of political power. The other fantasy disables action by making one a laughingstock to those who wield the language of power. Fantasy motivates and role-playing trains through visualization. Until we can imagine it, we cannot really do it. **Role-playing** without question **teaches students to be comfortable with the language of power**, and that language paves the way for genuine and effective political activism.

Debates over the relative efficacy of political strategies for pro-social change must confront governmental power at some point. There is a fallacy in arguing that movements represent a better political strategy than voting and person-to-person advocacy. Sure, a full-scale movement would be better than the limited voice I have as a participating citizen going from door to door in a campaign, but so would full-scale government action. Unfortunately, the gap between my individual decision to pursue movement politics and the emergence of a full-scale movement is at least as great as the gap between my vote and democratic change. They both represent utopian fiat. Invocation of Mitchell to support utopian movement fiat is simply not supported by his work, and too often, such invocation discourages the concrete actions he argues for in favor of the personal rejectionism that under girds the political cynicism that is a fundamental cause of voter and participatory abstention in America today.