### A2 Predictions Etc

#### The DA outweighs, err neg-

#### Action inaction distinction

Hanson, Goddard institute for space studies, et al, 2007

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These stark conclusions about the threat posed by global climate change and implications for fossil fuel use are not yet appreciated by essential governing bodies, as evidenced by ongoing plans to build coal-fired power plants without CO2 capture and sequestration. In our view, there is an acute need for science to inform society about the costs of failure to address global warming, because of a fundamental difference between the threat posed by climate change and most prior global threats. In the nuclear standoff between the Soviet Union and United States, a crisis could be precipitated only by action of one of the parties. In contrast, the present threat to the planet and civilization, with the United States and China now the principal players (though, as Fig. 10 shows, Europe also has a large responsibility), requires only inaction in the face of clear scientific evidence of the danger.

#### Reversibility- Precautionary principle

Cass R. Sunstein () 2007 “WORST-CASE SCENARIOS” p. 176-7, Harry Kalven Visitng Professor, Professor of Law at Harvard Law School but is currently on leave to serve as the Administrator of the White House Office of Information and Regulatory Affairs in the Obama administration, and

In ordinary life, our judgments about worst-case scenarios have everything to do with irreversibility. Of course an action may be hard but not impossible to undo, and so there may be a continuum of cases, with different degrees of difficulty in reversing. A marriage can be reversed, but divorce is rarely easy; having a child is very close to irreversible; moving from New York to Paris is reversible, but moving back may be difficult. People often take steps to avoid courses of action that are burdensome rather than literally impossible to reverse. In this light,we might identify an Irreversible Harm Precautionary Principle, applicable to a subset of risks.3 As a rough first approximation, the principle says this: Special steps should be taken to avoid irreversible harms, through precautions that go well beyond those that would be taken if irreversibility were not a problem. The general attitude here is “act, then learn,” as opposed to the tempting alternative of “wait and learn.” In the case of climate change, some people believe that research should be our first line of defense. In their view, we should refuse to commit substantial resources to the problem until evidence of serious harm is unmistakably clear.4 But even assuming that the evidence is not so clear, research without action allows greenhouse gas emissions to continue, which might produce risks that are irreversible, or at best difficult and expensive to reverse. For this reason, the best course of action might well be to take precautions now as a way of preserving flexibility for future generations. In the environmental context in general, this principle suggests that regulators should proceed with far more aggressive measures than would otherwise seem justified.5

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#### If we win our impact framing this is a crush-

#### Ocean acidification is extinction

Westenskow 2008 (UPI Correspodent. June 28, 2008, online)

Increased carbon levels in ocean water could have devastating impacts on marine life, scientists testified Thursday at a congressional hearing. Although most of the concern about carbon emissions has focused on the atmosphere and resulting temperature changes, accumulation of carbon dioxide in the ocean also could have disturbing outcomes, experts said at the hearing, which examined legislation that would create a program to study how the ocean responds to increased carbon levels. Ocean surface waters quickly absorb carbon dioxide from the atmosphere, so as carbon concentrations rise in the skies, they also skyrocket in the watery depths that cover almost 70 percent of the planet. As carbon dioxide increases in oceans, the acidity of the water also rises, and this change could affect a wide variety of organisms, said Scott Doney, senior scientist at the Woods Hole Oceanographic Institution, a non-profit research institute based in Woods Hole, Mass. "Greater acidity slows the growth or even dissolves ocean plant and animal shells built from calcium carbonate," Doney told representatives in the House Committee on Energy and the Environment. "Acidification thus threatens a wide range of marine organisms, from microscopic plankton and shellfish to massive coral reefs." If small organisms, like phytoplankton, are knocked out by acidity, the ripples would be far-reaching, said David Adamec, head of ocean sciences at the National Aeronautics and Space Administration. "If the amount of phytoplankton is reduced, you reduce the amount of photosynthesis going on in the ocean," Adamec told United Press International. "Those little guys are responsible for half of the oxygen you're breathing right now." A hit to microscopic organisms can also bring down a whole food chain. For instance, several years ago, an El Nino event wiped out the phytoplankton near the Galapagos Islands. That year, juvenile bird and seal populations almost disappeared. If ocean acidity stunted phytoplankton populations like the El Nino did that year, a similar result would occur -- but it would last for much longer than one year, potentially leading to extinction for some species, Adamec said.

#### Deforestation is extinction

Mia Den Haan, IT consultant, 2008, " Deforestation is Affecting the Human Race In Many Different Ways,” Buzzle, http://www.buzzle.com/articles/deforestation-is-affecting-the-human-race-in-many-different-ways.html

Most people need to implement a much better, ecologically friendly lifestyle before it is too late, and nature takes its course with further calamities. If most of humanity does not implement improvements in its life and does not make ecologically sustaining lifestyle changes but continue to damage and pollute the planet, there will not be a liveable environment in the near future. Our ecological system is the most important part of this planetary system and it must be conserved. Trees are of utmost importance to have an ecologically balanced environment. Without trees, there will be no chance of surviving, not only because of the need for oxygen or because of the lack of paper and other commodities, but in particular because this ecological structure is part of the planet’s ecological foundation plane. Trees are much more important to the well-being of humanity than most people know. They create energy forms and hold much of the balance on the planet, in particular, those trees that are part of a forest. These energy forms can be enormous and can keep people in balance mentally, emotionally, and, to some degree, allow people to be less affected by air pollutants. Our forests must therefore be protected. Often people feel rejuvenated when they go for a walk or run near trees or a forest; they can feel the peacefulness radiating from the trees. Trees have a certain energy content, which is not easy to explain within the context of this article. The ancient forests, in particular, preserve much of this energy structure. This energy structure is like a foundation, a building block similar to brickwork; however, the content of this "brickwork of trees" cannot be proven. Most people resonate with this wisdom and know this, as they know that trees need to be left to grow to be able to fulfill their own purpose, to stabilize the planet’s own functioning. What will be the future for humanity when there is hardly any forest left? If this deforestation continues at this alarming rate people will need to understand that the support the forests are providing for the overall life on the planet will be lost forever. The reduction of forests has far exceeded the threshold whereby forests can continue to sustain humanity and the planet. Older trees contain ancient knowledge that can have a beneficial effect on all. This ancient knowledge inherent in a tree will simply vanish, and anyone who was sustained by these energy structures will be affected. Estimates are that many forests including the Amazon, one of the most important structural forests on the planet, which is decreasing at an incredible rate, will no longer exist by the year 2025. Most of the planet’s forests could be completely extinct by 2040. Thus, these forests, which are major contributors to the planet’s oxygen supply, may no longer exist in the near future. Estimations are that the Amazon forest currently contributes 15% to 20% to the planet’s oxygen supply. While there is enough oxygen supplied in the atmosphere, the overall oxygen levels are still slowly declining.

#### Biodiversity key to survival.

Young, 10, Dr Ruth Young, PhD specialising in coastal marine ecology. 2-9-2010, “Biodiversity: what it is and why it’s important”, http://www.talkingnature.com/2010/02/biodiversity/biodiversity-what-and-why/

Different species within ecosystems fill particular roles, they all have a function, they all have a niche. They interact with each other and the physical environment to provide ecosystem services that are vital for our survival. For example plant species convert carbon dioxide (CO2) from the atmosphere and energy from the sun into useful things such as food, medicines and timber. A bee pollinating a flower (Image: ClearlyAmbiguous Flickr) Pollination carried out by insects such as bees enables the production of ⅓ of our food crops. Diverse mangrove and coral reef ecosystems provide a wide variety of habitats that are essential for many fishery species. To make it simpler for economists to comprehend the magnitude of services offered by biodiversity, a team of researchers estimated their value – it amounted to $US33 trillion per year. “By protecting biodiversity we maintain ecosystem services” Certain species play a “keystone” role in maintaining ecosystem services. Similar to the removal of a keystone from an arch, the removal of these species can result in the collapse of an ecosystem and the subsequent removal of ecosystem services. The most well known example of this occurred during the 19th century when sea otters were almost hunted to extinction by fur traders along the west coast of the USA. This led to a population explosion in the sea otters’ main source of prey, sea urchins. Because the urchins graze on kelp their booming population decimated the underwater kelp forests. This loss of habitat led to declines in local fish populations. Sea otters are a keystone species once hunted for their fur (Image: Mike Baird) Eventually a treaty protecting sea otters allowed the numbers of otters to increase which inturn controlled the urchin population, leading to the recovery of the kelp forests and fish stocks. In other cases, ecosystem services are maintained by entire functional groups, such as apex predators (See Jeremy Hance’s post at Mongabay). During the last 35 years, over fishing of large shark species along the US Atlantic coast has led to a population explosion of skates and rays. These skates and rays eat bay scallops and their out of control population has led to the closure of a century long scallop fishery. These are just two examples demonstrating how biodiversity can maintain the services that ecosystems provide for us, such as fisheries. One could argue that to maintain ecosystem services we don’t need to protect biodiversity but rather, we only need to protect the species and functional groups that fill the keystone roles. However, there are a couple of problems with this idea. First of all, for most ecosystems we don’t know which species are the keystones! Ecosystems are so complex that we are still discovering which species play vital roles in maintaining them. In some cases its groups of species not just one species that are vital for the ecosystem. Second, even if we did complete the enormous task of identifying and protecting all keystone species, what back-up plan would we have if an unforseen event (e.g. pollution or disease) led to the demise of these ‘keystone’ species? Would there be another species to save the day and take over this role? Classifying some species as ‘keystone’ implies that the others are not important. This may lead to the non-keystone species being considered ecologically worthless and subsequently over-exploited. Sometimes we may not even know which species are likely to fill the keystone roles. An example of this was discovered on Australia’s Great Barrier Reef. This research examined what would happen to a coral reef if it were over-fished. The “over-fishing” was simulated by fencing off coral bommies thereby excluding and removing fish from them for three years. By the end of the experiment, the reefs had changed from a coral to an algae dominated ecosystem – the coral became overgrown with algae. When the time came to remove the fences the researchers expected herbivorous species of fish like the parrot fish (Scarus spp.) to eat the algae and enable the reef to switch back to a coral dominated ecosystem. But, surprisingly, the shift back to coral was driven by a supposed ‘unimportant’ species – the bat fish (Platax pinnatus). The bat fish was previously thought to feed on invertebrates – small crabs and shrimp, but when offered a big patch of algae it turned into a hungry herbivore – a cow of the sea – grazing the algae in no time. So a fish previously thought to be ‘unimportant’ is actually a keystone species in the recovery of coral reefs overgrown by algae! Who knows how many other species are out there with unknown ecosystem roles! In some cases it’s easy to see who the keystone species are but in many ecosystems seemingly unimportant or redundant species are also capable of changing niches and maintaining ecosystems. The more biodiverse an ecosystem is, the more likely these species will be present and the more resilient an ecosystem is to future impacts. Presently we’re only scratching the surface of understanding the full importance of biodiversity and how it helps maintain ecosystem function. The scope of this task is immense. In the meantime, a wise insurance policy for maintaining ecosystem services would be to conserve biodiversity. In doing so, we increase the chance of maintaining our ecosystem services in the event of future impacts such as disease, invasive species and of course, climate change. This is the international year of biodiversity – a time to recognize that biodiversity makes our survival on this planet possible and that our protection of biodiversity maintains this service.

#### The Disad also outweighs in their impact framework- Warming is a systemic impact that exacerbates urban poverty, lowers crop yields causing chronic food shortages, etc. making lots of people’s daily lives much worse

### Centralization Good

#### Here’s where I’ll bracket out their decentralized method best arguments-

#### Centralized energy policy good- Only an environmental strategy that works through existing political structures can solve

Maniates, Professor of Political Science and Environmental Science at Allegheny College, 1

Michael, “Individualization: Plant a Tree, Buy a Bike, Save the World?,” Global Environmental Politics 1:3, August 2001, http://merlin.allegheny.edu/employee/m/mmaniate/savetheworld.pdf, page 32-33,

And yet mainstream environmentalism has not always advanced an individualized consumeristic strategy for redressing environmental ills. Even during¶ the turn of the last century, a time of zealous rediscovery of the wonders of¶ efªciency and scientiªc management, “the dynamics of conservation,” observes¶ famed environmental historian Samuel P. Hays, “with its tension between the¶ centralizing tendencies of system and expertise on the one hand and the decentralization of localism on the other . . .” fueled healthy debate over the causes of¶ and cures for environmental ills.¶ 19¶ Throughout the 20¶ th¶ century, in fact, mainstream environmentalism has demonstrated an ability to foster multiple and simultaneous interpretations on where we are and where we are heading.¶ But that ability has, today, clearly become impaired. Although public support for things environmental has never been greater, it is so because the public¶ increasingly understands environmentalism as an individual, rational, cleanly¶ apolitical process that can deliver a future that works without raising voices or¶ mobilizing constituencies. As individual consumers and recyclers we are supplied with ample and easy means of “doing our bit.” The result, though, is often¶ dissonant and sometimes bizarre: consumers wearing “save the earth” T-shirts,¶ for example, speak passionately against recent rises in gasoline prices when approached by television news crews; shoppers drive all over town in their gasoline-guzzling SUVs in search of organic lettuce or shade-grown coffee; and diligent recyclers expend far more fossil-fuel energy on the hot water spent to¶ meticulously clean a tin can than is saved by its recycling.¶ Despite these jarring contradictions, the technocratic, sanitary and individualized framing of environmentalism prevails, largely because it is continually reinforced. Consider, for example, recent millennial issues of Time and¶ Newsweek that look to life in the future.¶ 20¶ They paint a picture of smart appliances, computer-guided automobiles, clean neighborhoods, eco-friendly energy¶ systems, and happy citizens. How do we get to this future? Not through bold¶ political leadership or citizen-based debate within enabling democratic institutions—but rather via consumer choice: informed, decentralized, apolitical, individualized. Corporations will build a better mousetrap, consumers will buy it,¶ and society will be transformed for the better. A struggle-free eco-revolution¶ awaits, one made possible by the combination of technological innovation and¶ consumer choice with a conscience.¶ The “better mousetrap theory of social change” so prevalent in these popular news magazines was coined by Langdon Winner, a political-science professor and expert on technological politics, who ªrst introduced the term in an essay on the demise of the appropriate technology movement of the 1970s.¶ 21¶ Like¶ the militant recyclers and dead-serious green consumers of today, appropriate¶ technologists of the 1970s were the standard bearers for the individualization of¶ responsibility. The difference between then and now is that appropriate technology lurked at the fringes of a 1970s American environmental politics more¶ worried about corporate accountability than consumer choice. Today, green¶ consumption, recycling and Cuisinart-social-change occupy the heart of US ecopolitics. Both then and now, such individualization is alarming, for as Winner¶ notes:¶ The inadequacies of such ideas are obvious. Appropriate technologists were¶ unwilling to face squarely the facts of organized social and political power.¶ Fascinated by dreams of a spontaneous, grass-roots revolution, they avoided¶ any deep-seeking analysis of the institutions that control the direction of¶ technological and economic development. In this happy self-conªdence¶ they did not bother to devise strategies that might have helped them overcome obvious sources of resistance. The same judgment that Marx and¶ Engels passed on the utopians of the nineteenth century apply just as well to¶ the appropriate technologists of the 1970s: they were lovely visionaries, naive about the forces that confronted them.¶ 22¶

#### Energy POLICY matters and we need policy action to address the pressing energy needs of the US and the world- Must evaluate consequences

Wirth, Gray & Podesta, ‘3 The Future of Energy Policy Timothy E. Wirth, C. Boyden Gray, and John D. Podesta Timothy E. Wirth is President of the United Nations Foundation and a former U.S. Senator from Colorado. C. Boyden Gray is a partner at Wilmer, Cutler & Pickering and served as Counsel to former President George H.W. Bush. John D. Podesta is Visiting Professor of Law at Georgetown University Law Center and served as Chief of Staff to former President Bill Clinton. Volume 82 • Number 4 Foreign Affairs 2003 Council on Foreign Relations

¶ A century ago, Lord Selborne, the ﬁrst lord of the Admiralty,¶ dismissed the idea of fueling the British navy with something other than¶ coal, which the island nation had in great abundance. “The substitution¶ of oil for coal is impossible,” he pronounced, “because oil does not¶ exist in this world in su⁄cient quantities.” Seven years later, the young¶ Winston Churchill was appointed ﬁrst lord and charged with winning¶ the escalating Anglo-German race for naval superiority. As Daniel¶ Yergin chronicled in The Prize, Churchill saw that oil would increase¶ ship speed and reduce refueling time—key strategic advantages—and¶ ordered oil-burning battleships to be built, committing the navy to¶ this new fuel. Churchill’s was a strategic choice, bold, creative, and¶ farsighted. The energy choices the world faces today are no less¶ consequential, and America’s response must be as insightful. ¶ Energy is fundamental to U.S. domestic prosperity and national¶ security. In fact, the complex ties between energy and U.S. national¶ interests have drawn tighter over time. The advent of globalization,¶ the growing gap between rich and poor, the war on terrorism, and¶ the need to safeguard the earth’s environment are all intertwined¶ with energy concerns.¶ The profound changes of recent decades and the pressing challenges¶ of the twenty-ﬁrst century warrant recognizing energy’s central role in¶ America’s future and the need for much more ambitious and creative¶ approaches. Yet the current debate about U.S. energy policy is mainly¶ about tax breaks for expanded production, access to public lands, and¶ nuances of electricity regulation—di⁄cult issues all, but inadequate for¶ the larger challenges the United States faces. The staleness of the policy¶ dialogue reﬂects a failure to recognize the importance of energy to¶ the issues it aªects: defense and homeland security, the economy, and the¶ environment. What is needed is a purposeful, strategic energy policy,¶ not a grab bag drawn from interest-group wish lists.¶ U.S. energy policies to date have failed to address three great challenges. The ﬁrst is the danger to political and economic security¶ posed by the world’s dependence on oil. Next is the risk to the global¶ environment from climate change, caused primarily by the combustion¶ of fossil fuels. Finally, the lack of access by the world’s poor to modern¶ energy services, agricultural opportunities, and other basics needed¶ for economic advancement is a deep concern.¶ None of these problems of dependence, climate change, or poverty¶ can be solved overnight, but aggressive goals and practical short-term¶ initiatives can jump-start the move to clean and secure energy practices.¶ The key challenges can be overcome with a blend of carefully targeted¶ policy interventions that build on the power of the market, publicprivate partnerships in ﬁnancing and technology development, and,¶ perhaps most important, the development of a political coalition¶ that abandons traditional assumptions and brings together energy¶ interests that have so far engaged only in conﬂict. Turning this¶ ambitious, long-term agenda into reality requires a sober assessment¶ of the United States’ critical energy challenges and the interests that¶ can be mobilized for the necessary political change.

### No Solar

#### Support for solar is falling BECAUSE of natural gas

Testa 2012 (Jessica Testa, March 29, 2012, “Solar energy lags in U.S., interest among Americans falls,” Inside Tuscon Business, http://www.insidetucsonbusiness.com/news/solar-energy-lags-in-u-s-interest-among-americans-falls/article\_df7ec6c6-79cb-11e1-a3cf-0019bb2963f4.html)

Consumers have generally supported solar development, but Wellinghoff said there are some concerning signs of waning public interest.¶ A recent Pew Research Center study asked 1,503 people what was more important to them: developing renewable energy or expanding traditional energy sources, like oil and gas. In March 2011, 63 percent responded in favor of renewables. That number dropped to 52 percent in March 2012.¶ “To do the kinds of things I’m talking about, we’re going to need public support,” Wellinghoff said.¶ In a panel after Wellinghoff’s address, Arno Harris, CEO of Recurrent Energy, said it’s important for solar development companies to look, walk and talk like conventional energy companies in order to raise public and industry awareness.

#### Their “inevitability” args only prove the plan is a unique link- Trades off with base load power- new storage developments

Energy Matters, “World's First Baseload Solar Farm Now Operating,” June 23, 2011, http://www.energymatters.com.au/index.php?main\_page=news\_article&article\_id=1593, accessed 8-17-2012.

One of the anti-solar arguments often used is solar farms can't produce electricity at night or in very low light conditions. It's an argument that is rapidly running out of steam. The Gemasolar project, located in the Spanish province of Andalucia, is the first fully-operational commercial-scale solar farm in the world able to provide baseload electricity generation - 24 hours a day, and for much of the year. The Gemasolar Concentrating Solar Power (CSP) facility's ability to generate power during the night is due to the incorporation of molten salt battery technology. Thousands of mirrors, known as heliostats, reflect sunlight onto a receiver containing a fluid that is heated to generate steam, which is then used to drive a turbine to create electricity. The surplus heat accumulated during favourable conditions is stored in a molten-salt tank and can provide enough stored energy for 15 hours of electricity production. According to the consortium behind the solar farm, Torresol Energy, the system guarantees reliable electricity production for 6,500 hours a year; up to 3 times more than other forms of renewable energy installations. The 19.9 megawatt plant will supply clean electricity to 25,000 homes and avoid over 30,000 tonnes of greenhouse gas emissions annually. "Gemasolar is a revolution in the CSP sector, as the standardization of this new technology will mean a real reduction in the investment costs for solar plants. The commercial operation of this plant will lead the way for other central tower plants with molten salt receiver technology, an efficient system that improves the dispatchability of electric power from renewable sources," said Enrique Sendagorta, Chairman of Torresol Energy.

#### Only warrant why it will displace natural gas is that it will “inevitably have increasing prices” – that’s not true

Levi 2012 [Michael Levi is the David M. Rubenstein¶ senior fellow for energy and the environment¶ and director of the Program on Energy Security¶ and Climate Change at the Council on Foreign¶ Relations July 2012 Bulletin of the Atomic Scientists “Splitting rock vs. splitting¶ atoms: What shale gas means¶ for nuclear power” Ebsco]

Even in the United States, though, not¶ everyone is bullish about shale gas.¶ Some doubt the figures that have been¶ bandied about regarding the size of US¶ resources. Others question the claimed¶ costs of production. And many, fearing¶ contamination of water supplies and¶ despoiling of local environments,¶ oppose shale gas production outright.¶ Any of these could, in principle, send¶ natural gas prices back up, making¶ nuclear competitive. So could strong¶ demand for shale gas from new markets,¶ like natural gas cars.¶ Estimates of the size of US shale¶ resources are extremely uncertain. In¶ 2009, the Ground Water Protection¶ Council and ALL Consulting stunned¶ observers with the release of their estimate that a whopping 262 trillion cubic¶ feet of natural gas was trapped in US¶ shale (2009). (Annual US consumption¶ is about one-tenth of that, and the shale¶ resources came on top of large conventional ones that were already known.)¶ Two years after that, the Energy¶ DepartmentÕs Energy Information¶ Administration (EIA) estimated a massive 827 trillion cubic feet of natural¶ gas, only to drop it back to 482 trillion¶ cubic feet in early 2012 (Urbina, 2012).¶ Private analysts have produced even¶ more varied guesses. Absent more¶ drilling experience, particularly away¶ from the most attractive deposits, resolving outstanding disagreements will be¶ tough.¶ That is compounded by uncertainty¶ about how much gas a given well will¶ ultimately recover. Shale gas is a young¶ business, but developers expect a well to¶ produce for decades. Long-term production projections thus rely heavily on¶ theory, and there are intense debates¶ over where that theory points. Some¶ expect production to flatten out at low¶ levels but to then continue for many¶ years; others expect it to decline steeply¶ without end. It will likely be many years¶ before this battle is resolved decisively.¶ In the meantime, uncertainty about¶ ultimate well productivity is tantamount¶ to uncertainty about the cost of producing a given amount of fuel.¶ That all leaves a big question: How¶ much do these differences matter? In¶ 2011, facing questions over natural gas¶ resources and production costs, the¶ EIA took a careful look at five cases¶ (EIA, 2011a). Their best guess, based on¶ moderate-sized resources and moderate¶ drilling costs, saw natural gas prices rise¶ to about $6 for a thousand cubic feet¶ by 2025 and to $7 by 2035. Bigger¶ resources (boosted by 50 percent)¶ meant 2025 prices near $5, and better¶ productivity pushed those down evenfurther, to barely more than $4. Of¶ course, when EIA analysts slashed estimated resources in half, projected prices¶ rose, hitting $7 by 2025. The most¶ extreme case, which featured not only¶ smaller resources but doubled drilling¶ costs, saw prices eventually top $8.¶ Because of their speculative nature¶ and the lack of experience with shale¶ gas, these sorts of estimates should be¶ taken with a grain of salt. Nonetheless,¶ most of the numbers have something¶ important in common: They look ugly¶ for nuclear power. Even $7 natural gas,¶ one of the worst-case outcomes, translates into new gas-fired power at about¶ 7 cents a kilowatt-hour. Nuclear would¶ have a tough time beating that, at least¶ for the next decade or so, except with the¶ most optimistic assumptions possible¶ about its cost.

#### Natural gas transition now in electricity

StreetInsider 7-17 [StreetInsider , “Natural Gas Fueled Cars: Game Changer or Day Dreamer? (UNG)” 7-17-2012 http://www.streetinsider.com/Commodities/Natural+Gas+Fueled+Cars%3A+Game+Changer+or+Day+Dreamer%3F+(UNG)/7585751.html]

Thanks to advances in technology, the U.S. is now the world's largest producer of natural gas. The supply is so great, natural gas prices collapsed to 10-year lows this year.¶ Power companies have been quick to make the swap from coal to natural gas following the price declines, but the automotive industry is nowhere near making natural gas a viable alternative to petroleum products. Currently, there are only about 500 public CNG filling stations in the U.S. That is less than 0.03 percent of the total 159k fueling stations in America.

### Predictions

#### More evidence

Fuyuki Kurasawa, pub. date: 2004, Constellations Volume 11, No 4, Cautionary Tales: The Global Culture of Prevention and the Work of Foresight

If historicism and scientistic governance offer rather unappealing paradigms for contemplating the future, a turn to the conventional political forecasts of the post-Cold War world order hardly offers more succor. Entering the fray, one is rapidly submerged by Fukuyama’s “end of history,” Huntington’s “clash of civilizations,” Kaplan’s “coming anarchy,” or perhaps most distressing of all, the so-called ‘Bush Doctrine’ of unilateral pre-emption. For the Left, this array of unpalatable scenarios merely prolongs the sense of hope betrayed and utopias crushed that followed the collapse of the socialist experiment. Under such circumstances, is it any wonder that many progressive thinkers dread an unwelcomed future, preferring to avert their gazes from it while eyeing foresight with equal doses of suspicion and contempt? But neither evasion nor fatalism will do. Some authors have grasped this, reviving hope in large-scale socio-political transformation by sketching out utopian pictures of an alternative world order. Endeavors like these are essential, for they spark ideas about possible and desirable futures that transcend the existing state of affairs and undermine the flawed prognoses of the post-Cold War world order; what ought to be and the Blochian ‘Not-Yet’ remain powerful figures of critique of what is, and inspire us to contemplate how social life could be organized differently. Nevertheless, my aim in this paper is to pursue a different tack by exploring how a dystopian imaginary can lay the foundations for a constructive engagement with the future.

#### And, the debate forum is uniquely situated to evaluate predictions, shielding us from true alarmism

Fuyuki Kurasawa, pub. date: 2004, Constellations Volume 11, No 4, Cautionary Tales: The Global Culture of Prevention and the Work of Foresight

Lastly, I contended that the work of preventive foresight can parry alarmist misappropriation or resignation by advocating a process of public deliberation that blends the principles of precaution and global justice. A farsighted politics can function through the public use of reason and the honing of the capacity for critical judgment, whereby citizens put themselves in a position to debate, evaluate, and challenge different dystopian narratives about the future and determine which ones are more analytically plausible, ethically desirable, and politically effective in bringing about a world order that is less perilous yet more just for our descendants., Many fora ranging from local, face-to-face meetings to transnational, highly mediated discursive networks, are sowing the seeds of such a practice of participatory democracy.

### Warming Probability

#### Warming is a fact

Achenbach 2012 (Joel Achenbach, writer and lecturer at Princeton and Georgetown, July 7, 2012, “Climate Change: Global Warming is a Fact,” Washington Post, http://www.washingtonpost.com/blogs/achenblog/post/climate-change-global-warming-is-a-fact/2012/07/09/gJQAAGs6XW\_blog.html)

At some point we should stop litigating the basic question of whether climate change is happening. Climate change is a fact. The spike in atmospheric CO2 is a fact. The dramatic high-latitude warming is a fact. That the trends aren’t uniform and linear, and that there are anomalies here and there, does not change the long-term pattern. The warming trend has flattened out in the last decade but probably only because of air pollution from Chinese coal-fired power plants or somesuch forcing we haven’t fully discovered (smog is hardly the long-term solution we should be seeking). The broader patterns are clear.¶ Models show the greatest warming spike down the road still, decades hence. Thus in a sense, saying that “this is what global warming is like” whenever we have a heat wave actually understates the problem. Having spent much of my life in Florida, I can tell you, what kills you in summer is not the temperature but the duration of the season, which lasts basically forever — into November or even December in South Florida. So, yeah, 100 degrees in July gets my attention here in DC, but so will a stretch of 85-degree high temperatures in October.