### 2AC – Warming

#### Warming causes extinction – rising sea levels, disease and extreme weather will consume the planet and are comparatively worse than nuclear war –that’s Diebel. Only we control 100% probability since we are seeing signs of it right now

#### Method focus causes scholarly paralysis

Jackson 11, associate professor of IR – School of International Service @ American University, ‘11 (Patrick Thadeus, The Conduct of Inquiry in International Relations, p. 57-59)

Perhaps the greatest irony of this instrumental, decontextualized importation of “falsification” and its critics into IR is the way that an entire line of thought that privileged disconfirmation and refutation—no matter how complicated that disconfirmation and refutation was in practice—has been transformed into a license to **worry endlessly about foundational assumptions.** At the very beginning of the effort to bring terms such as “paradigm” to bear on the study of politics, Albert O. **Hirschman** (1970b, 338) **noted this very danger**, suggesting that without “a little more ‘reverence for life’ and a little less straightjacketing of the future,” the **focus on** producing internally **consistent** packages of **assumptions instead of** actually examining **complex empirical situations would result in scholarly paralysis.** Here as elsewhere, Hirschman appears to have been quite prescient, inasmuch as the major effect of paradigm and research programme language in IR seems to have been a series of debates and discussions about whether the fundamentals of a given school of thought were sufficiently “scientific” in their construction. Thus **we have debates about how to evaluate scientific progress**, and attempts to propose one or another set of research design principles **as uniquely scientific**, and inventive, “reconstructions” of IR schools, such as Patrick James’ “elaborated structural realism,” supposedly for the purpose of placing them on a firmer scientific footing by making sure that they have all of the required elements of a basically Lakatosian19 model of science (James 2002, 67, 98–103). The bet with all of this scholarly activity seems to be that if we can just get the fundamentals right, then scientific progress will inevitably ensue . . . even though this is the precise opposite of what Popper and Kuhn and Lakatos argued! In fact, all of this obsessive interest in foundations and starting-points is, in form if not in content, a lot closer to logical positivism than it is to the concerns of the falsificationist philosophers, despite the prominence of language about “hypothesis testing” and the concern to formulate testable hypotheses among IR scholars engaged in these endeavors. That, above all, is why I have labeled this methodology of scholarship neopositivist. While it takes much of its self justification as a science from criticisms of logical positivism, in overall sensibility it still operates in a visibly positivist way, attempting to construct knowledge from the ground up by getting its foundations in logical order before concentrating on how claims encounter the world in terms of their theoretical implications. This is by no means to say that neopositivism is not interested in hypothesis testing; on the contrary, neopositivists are extremely concerned with testing hypotheses, but **only after the fundamentals have been** soundly **established.** Certainty, not conjectural provisionality, seems to be the goal—a goal that, ironically, Popper and Kuhn and Lakatos would all reject.

#### There is no internal link to their nuclear apocalypse impact – their evidence is about nuclear weaponry and just asserts things about the ‘nuclear age’ there’s no spillover from use of nuclear POWER to nuclear weapons

#### Extinction outweighs

Bok 88 (Sissela, Professor of Philosophy at Brandeis, Applied Ethics and Ethical Theory, Rosenthal and Shehadi, Ed.)

The same argument can be made for Kant’s other formulations of the Categorical Imperative: “So act as to use humanity, both in your own person and in the person of every other, always at the same time as an end, never simply as a means”; and “So act as if you were always through your actions a law-making member in a universal Kingdom of Ends.” No one with a concern for humanity could consistently will to risk eliminating humanity in the person of himself and every other or to risk the death of all members in a universal Kingdom of Ends for the sake of justice. To risk their collective death for the sake of following one’s conscience would be, as Rawls said, “irrational, crazy.” And to say that one did not intend such a catastrophe, but that one merely failed to stop other persons from bringing it about would be beside the point when the end of the world was at stake. For although it is true that we cannot be held responsible for most of the wrongs that others commit, the Latin maxim presents a case where we would have to take such responsibility seriously – perhaps to the point of deceiving, bribing, even killing an innocent person, in order that the world not perish. To avoid self-contradiction, the Categorical Imperative would, therefore, have to rule against the Latin maxim on account of its cavalier attitude toward the survival of mankind. But the ruling would then produce a rift in the application of the Categorical Imperative. Most often the Imperative would ask us to disregard all unintended but foreseeable consequences, such as the death of innocent persons, whenever concern for such consequences conflicts with concern for acting according to duty. But, in the extreme case, we might have to go against even the strictest moral duty precisely because of the consequences. Acknowledging such a rift would post a strong challenge to the unity and simplicity of Kant’s moral theory.

#### Alt fails—Deconstruction leads to political apathy

**Wolin, 04** (Richard, B.A. from Reed College--M.A. and Ph.D. from York University in Toronto--D.D. McMurtry Professor of History at Reed College and Rice University, The seduction of unreason : the intellectual romance with fascism : from Nietzsche to postmodernism, p. 233)

With these remarks Derrida insinuates that existing democratic societies are incapable of self-reflection. Instead, they have an endemic tendency to fuse "empirical" and "normative" momentsa debatable claim. Such an interpretive approach as deconstruction is necessary, Derrida implies, to produce a critical space at a sufficient remove from the manifold failings of existing democratic practice. Derrida's writing over the last decade has been replete with analogous reassurances concerning deconstruction's political relevance. What seems less convincing, however, given deconstruction's willful lexical abstruseness, are the practical implications of such avowals. For example, how can we be sure that Derrida's self-avowed fascination with discourses on the"double bind" and the "impossible"-the paradoxical challenge of relying on a discredited metaphysical vocabulary while at the same time fully recognizing its dysfunctionality-is not merely conducive to indecision and fence-straddling rather than to meaningful political engagement?36 Moreover, in what ways might deconstruction's trademark "playfulness" be conducive to political earnestness? Lastly, since deconstruction qua political discourse seems to privilege the "negative" moments of "destabilization" and "dismantling," how might it counter the suspicion that it remains constitutionally incapable of fostering political solidarity: the democratic ideal of politics as an equitable and just framework for realizing collective goals and projects. From his very first texts, Derrida has always emphasized the positional or contextual nature of deconstruction. His recent preoccupation with politics is no exception. Since the early 1990s, Derrida has sought to reposition his thought to counter charges of apoliticism, the widespread suspicion that deconstruction is interested in little more than the "free play of signification." Nevertheless, often his efforts have failed to go beyond a few rather abstract and perfunctory invocations of "responsibility" and "openness toward the other," as in the remarks quoted above. Thus, in lieu of a more concrete specification of the meaning of openness, of the particular "others" toward whom we should open ourselves, of how we should open ourselves to the other and why, and of how we might translate the ethical maxim of "openness" into forms of practical life conduct or everyday institutional settings, we are left with a directive that, in its generality and imprecision, seems more frustrating than illuminating. As one critic has remarked, despite its apparent merits, the inordinate stress on otherness seems indicative of an endemic "other-worldliness" that suffuses deconstructionist discussions of real world politics.3? In certain respects the problematic of "otherness"-a distinctly Levinasian inheritance-raises more questions than solves. This standpoint's criticism of the modern natural law tradition-the normative basis of the contemporary democratic societies-is sweeping and total to the point that democratic ideals themselves seem indefensible, and in this way undermines a politics of "reasonable democracy." Instead, we are left with a "political existentialism," in which, given the "groundless" nature of moral and political choice, one political "decision" seems almost as good as another.

#### Engaging and discussing the state is key to warming

Held and Hervey 9 [David Held is Graham Wallas Professor of Political Science and Co-Director of LSE Global Governance at the London School of Economics. Angus Fane Hervey is a Doctoral Student and Ralph Miliband Scholar in the Department of Government at the London School of Economics. [www.policy-network.net/publications\_download.aspx?ID=3426](http://www.policy-network.net/publications_download.aspx?ID=3426)]

 The key role of the state In all of these challenges, states remain the key actors, as they hold the key to both domestic and international policymaking. The implementation of international agreements will be up to individual states, emissions trading and carbon pricing will require domestic legislation, and technological advance will need state support to get off the ground (Giddens, 2008). However, state strategies at the domestic level should involve the creation of incentives, not overly tight regulation. Governments have an important role in “editing” choice, but not in a way that precludes it altogether. This approach is represented in the form of what Giddens (2008) calls “the ensuring state,” whose primary role is help energise a diversity of groups to reach solutions to collective action problems. The state, so conceived, acts as a facilitator and an enabler, rather than as a top-down agency. An ensuring state is one that has the capacity to produce definite outcomes. The principle goes even further; it also means a state that is responsible for monitoring public goals and for trying to make sure they are realised in a visible and legitimate fashion. This will require a return to planning – not in the old sense of top down hierarchies of control, but in a new sense of flexible regulation. This will require finding ways to introduce regulation without undermining the entrepreneurialism and innovation upon which successful responses will depend. It will not be a straightforward process, because planning must be reconciled with democratic freedoms. There will be push and pull between the political centre, regions and localities, which can only be resolved through deliberation and consultation. Most importantly, states will require a long term vision that transcends the normal push and pull of partisan politics. This will not be easy to achieve. All this takes place in the context of a changing world order. The power structure on which the 1945 multilateral settlement was based is no longer intact, and the relative decline of the west and the rise of Asia raises fundamental questions about the premises of the 1945 multilateral order. Democracy and the international community now face a critical test. However, addressing the issue of climate change successfully holds out the prospect of reforging a rule-based politics, from the nation-state to the global level. Table 1 highlights what we consider to be the necessary steps to be taken along this road. By contrast, failure to meet the challenge could have deep and profound consequences, both for what people make of modern democratic politics and for the idea of rule-governed international politics. Under these conditions, the structural flaws of democracy could be said to have tragically trumped democratic agency and deliberative capacity.

#### Futurism is good in the context of climate – allows effective policy making

Schneider and Lane 6 (Stephen, Prof. Bio Sci., Senior Fellow of Institute for Int’l Studies, Co-Director of Center for Environmental Science and Policy @ Stanford, and Janica, Research Assistant to Dr. Schneider, “An Overview of ‘Dangerous’ Climate Change”, <http://www.metoffice.gov.uk/corporate/pressoffice/adcc/BookCh2Jan2006.pdf>)

Ultimately, scientists cannot make expert value judgments about what climate change risks to face and what to avoid, as that is the role of policy makers, but they can help policymakers evaluate what ‘dangerous’ climate change entails by laying out the elements of risk, which is classically defined as probability x consequence. They should also help decision-makers by identifying thresholds and possible surprise events, as well as estimates of how long it might take to resolve many of the remaining uncertainties that plague climate assessments. There is a host of information available about the possible consequences of climate change, as described in our discussion of the SRES scenarios and of the impacts of climate change, but the SRES scenarios do not have probabilities assigned to them, making risk management difficult. Some would argue that assigning probabilities to scenarios based on social trends and norms should not be done (e.g. [15]), and that the use of scenarios in and of itself derives from the fact that probabilities can’t be analytically estimated. In fact, most models do not calculate objective probabilities for future outcomes, as the future has not yet happened and ‘objective statistics’ are impossible, in principle, before the fact. However, modelers can assign subjective confidence levels to their results by discussing how well established the underlying processes in a model are, or by comparing their results to observational data for past events or elaborating on other consistency tests of their performance (e.g. [14]). It is our belief that qualified assessment of (clearly admitted) subjective probabilities in every aspect of projections of climatic changes and impacts would improve climate change impact assessments, as it would complete the risk equation, thereby giving policy-makers some idea of the likelihood of threat associated with various scenarios, aiding effective decision-making in the risk-management framework. At the same time, confidence in these difficult probabilistic estimates should also be given, along with a brief explanation of how that confidence was arrived at.

#### Nuclear technocracy is necessary for solvency

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.

#### Prefer scientific conclusions – they’re the only verifiable conclusions

Coyne 6 – Author and Writer for the Times (Jerry A., “A plea for empiricism”, FOLLIES OF THE WISE, Dissenting essays, 405pp. Emeryville, CA: Shoemaker and Hoard, 1 59376 101 5)

Supernatural forces and events, essential aspects of most religions, play no role in science, not because we exclude them deliberately, but because they have never been a useful way to understand nature. Scientific “truths” are empirically supported observations agreed on by different observers. Religious “truths,” on the other hand, are personal, unverifiable and contested by those of different faiths. Science is nonsectarian: those who disagree on scientific issues do not blow each other up. Science encourages doubt; most religions quash it. But religion is not completely separable from science. Virtually all religions make improbable claims that are in principle empirically testable, and thus within the domain of science: Mary, in Catholic teaching, was bodily taken to heaven, while Muhammad rode up on a white horse; and Jesus (born of a virgin) came back from the dead. None of these claims has been corroborated, and while science would never accept them as true without evidence, religion does. A mind that accepts both science and religion is thus a mind in conflict. Yet scientists, especially beleaguered American evolutionists, need the support of the many faithful who respect science. It is not politically or tactically useful to point out the fundamental and unbreachable gaps between science and theology. Indeed, scientists and philosophers have written many books (equivalents of Leibnizian theodicy) desperately trying to show how these areas can happily cohabit. In his essay, “Darwin goes to Sunday School”, Crews reviews several of these works, pointing out with brio the intellectual contortions and dishonesties involved in harmonizing religion and science. Assessing work by the evolutionist Stephen Jay Gould, the philosopher Michael Ruse, the theologian John Haught and others, Crews concludes, “When coldly examined . . . these productions invariably prove to have adulterated scientific doctrine or to have emptied religious dogma of its commonly accepted meaning”. Rather than suggesting any solution (indeed, there is none save adopting a form of “religion” that makes no untenable empirical claims), Crews points out the dangers to the survival of our planet arising from a rejection of Darwinism. Such rejection promotes apathy towards overpopulation, pollution, deforestation and other environmental crimes: “So long as we regard ourselves as creatures apart who need only repent of our personal sins to retain heaven’s blessing, we won’t take the full measure of our species-wise responsibility for these calamities”. Crews includes three final essays on deconstruction and other misguided movements in literary theory. These also show “follies of the wise” in that they involve interpretations of texts that are unanchored by evidence. Fortunately, the harm inflicted by Lacan and his epigones is limited to the good judgement of professors of literature. Follies of the Wise is one of the most refreshing and edifying collections of essays in recent years. Much like Christopher Hitchens in the UK, Crews serves a vital function as National Sceptic. He ends on a ringing note: “The human race has produced only one successfully validated epistemology, characterizing all scrupulous inquiry into the real world, from quarks to poems. It is, simply, empiricism, or the submitting of propositions to the arbitration of evidence that is acknowledged to be such by all of the contending parties. Ideas that claim immunity from such review, whether because of mystical faith or privileged “clinical insight” or the say-so of eminent authorities, are not to be countenanced until they can pass the same skeptical ordeal to which all other contenders are subjected.” As science in America becomes ever more harried and debased by politics and religion, we desperately need to heed Crews’s plea for empiricism.

#### Policy focus before reps

Adler and Haas 92 [Emanuel ADLER IR @ Hebrew Univ (Jerusalem) AND Peter HAAS Poli Sci @ UMass ’92 “Epistemic Communities, World Order, and the Creation of a Reflective Research Program” International Organization 46 (1) p. 370-37]

Our critique of the approaches mentioned above should not be interpreted as reflecting a preference for poststructuralist, postpositivist, and radical interpretive analyses, although we do hope to build a bridge between structural and interpretive approaches. Rejecting the view of international relations as the mere reflections of discourses and habits-wherein the word is power and the **only power is the word**-we nevertheless have incorporated into our reflective approach the notion that the manner in which people and institutions interpret and represent phenomena and structures makes a difference for the outcomes we can expect in international relations." Thus, we adopt an ontology that embraces historical, interpretive factors, as well as structural forces, explaining change in a dynamic way. This ontology reflects an epistemology that is based on a strong element of intersubjectivity. So long as even a tenuous link is maintained between objects and their representation, we can reject an exclusive focus on words and discourse. By defending an epistemological and ontological link between words and the objects with which they are commonly associated, we believe that learning may occur through **reflection on** empirical events **rather than through** their representation. Finally, epistemic communities should not be mistaken for a new hegemonic actor that is the source of political and moral direction in society." Epistemic communities are not in the business of controlling societies; what they control is international problems. Their approach is instrumental, and their life is limited to the time and space defined by the problem and its solutions. Epistemic communities are neither philosophers, nor kings, nor philosopher- kings.

#### Our heg advantage isn’t based on myopic security discourse- multiple independent fields support our hegemony advantage, prefer our advantage because it is interdisciplinary

Wohlforth 9 William, professor of government at Dartmouth College, “Unipolarity, Status Competition, and Great Power War”Project Muse

Mainstream theories generally posit that states come to blows over an international status quo only when it has implications for their security or material well-being. The guiding assumption is that a state’s satisfaction [End Page 34] with its place in the existing order is a function of the material costs and benefits implied by that status.24 By that assumption, once a state’s status in an international order ceases to affect its material wellbeing, its relative standing will have no bearing on decisions for war or peace. But the assumption is undermined by cumulative research in disciplines ranging from **neuroscience and evolutionary** biology **to** economics, anthropology, sociology, and psychologythat human beings are powerfully motivated by the desire for favorable social status comparisons. This research suggests that the preference for status is a basic disposition rather than merely a strategy for attaining other goals.25 People often seek tangibles not so much because of the welfare or security they bring but because of the social status they confer. Under certain conditions, the search for status will cause people to behave in ways that directly contradict their material interest in security and/or prosperity.

#### US hegemony prevents global oppression and prevents more war than it causes – all their impacts assume occasional missteps

Jacoby 11 (Jeff – Boston Globe, graduate of George Washington University and the Boston University School of Law, “The world's best policeman”, 6/22, Washington Post, Factiva)

America may be the world's "indispensable nation," as Bill Clinton said in his second inaugural address, but most Americans, most of the time, are uncomfortable with the idea of US global hegemony. John Quincy Adams wrote long ago that America "goes not abroad in search of monsters to destroy." As the polls consistently suggest, that isolationist sentiment still resonates. But in Adams's day America was not the mightiest, wealthiest, and most influential nation on the face of the earth. Today it is. The United States is the world's only superpower, and if we shirk the role of global policeman, no one else will fill it. By nature Americans are not warmongering empire-builders; their uneasiness about dominating other countries reflects a national modesty that in many ways is admirable - and that belies the caricature of Uncle Sam as arrogant bully or "great Satan." Nevertheless, with great power come great responsibilities, and sometimes one of those responsibilities is to destroy monsters: to take down tyrants who victimize the innocent and flout the rules of civilization. If neighborhoods and cities need policing, it stands to reason the world does too. And just as local criminals thrive when cops look the other way, so do criminals on the world stage. Nazi Germany had conquered half of Europe and Japan was brutalizing much of Asia by the time America finally entered World War II. If America hadn't rescued Kuwait from Saddam Hussein in 1990, no one else would have, either. If America hadn't led NATO in halting Serbia's ethnic cleansing in Kosovo, no one else would have, either. If America hadn't faced down the Soviet Union during the long years of the Cold War, no one else would have, either - and hundreds of millions of human beings might still be trapped behind the Iron Curtain. There is no realistic alternative to America as the world's policeman. It clearly isn't a job the United Nations can do. Can an organization that makes no distinction between tyranny and democracy rein in the world's monsters? As the UN's bloody trail of failure from Bosnia to Somalia to Rwanda makes clear, UN "peacekeeping" offers no protection against predators. None of this is to say that America-as-Globocop is a perfect solution to the world's ills, nor that the United States hasn't made many grievous mistakes in its actions abroad. But as the historian Max Boot argues, "America's occasional missteps should not lead us to abdicate our indispensable role, any more than the NYPD should stop doing its vital work, simply because cops occasionally do the wrong thing. On balance, the NYPD still does far more good than harm, and so does the United States of America." To say that America must be the world's policeman is not to call for waging endless wars against all the world's bad actors. Police officers carry weapons, but they fire them only infrequently. The cops' main function is not to gun down criminals, but to suppress crime and reduce fear by patrolling the streets and maintaining a visible presence in the community. Similarly, a well-policed world is one with less combat, not more. The purpose of America's nuclear umbrella and its global network of military bases is not to foment war on all fronts, but to prevent it - by deterring aggression, maintaining the flow of commerce, and upholding human rights. We don't do it perfectly, not by a long shot. We don't always live up to our own standards, we sometimes confuse police work with social work, and we are often rewarded not with thanks but resentment. A policeman's lot is not a happy one. It is, however, essential. Our world needs a policeman. And whether most Americans like it or not, only their indispensable nation is fit for the job.

#### Heg is the root cause of structural decline in conflict---prevents escalation of rivalries globally

**Drezner** **5**  (Daniel – professor of international politics at the Fletcher School of Law, Gregg Easterbrook, War, and the Dangers of Extrapolation, p. <http://www.danieldrezner.com/archives/002087.html>)

Daily explosions in Iraq, massacres in Sudan, the Koreas staring at each other through artillery barrels, a Hobbesian war of all against all in eastern Congo--combat plagues human society as it has, perhaps, since our distant forebears realized that a tree limb could be used as a club. But here is something you would never guess from watching the news: War has entered a cycle of decline. Combat in Iraq and in a few other places is an exception to a significant global trend that has gone nearly unnoticed--namely that, for about 15 years, there have been steadily fewer armed conflicts worldwide. In fact, it is possible that a person's chance of dying because of war has, in the last decade or more, become the lowest in human history. Is Easterbrook right? He has a few more paragraphs on the numbers: The University of Maryland studies find the number of wars and armed conflicts worldwide peaked in 1991 at 51, which may represent the most wars happening simultaneously at any point in history. Since 1991, the number has fallen steadily. There were 26 armed conflicts in 2000 and 25 in 2002, even after the Al Qaeda attack on the United States and the U.S. counterattack against Afghanistan. By 2004, Marshall and Gurr's latest study shows, the number of armed conflicts in the world had declined to 20, even after the invasion of Iraq. All told, there were less than half as many wars in 2004 as there were in 1991. Marshall and Gurr also have a second ranking, gauging the magnitude of fighting. This section of the report is more subjective. Everyone agrees that the worst moment for human conflict was World War II; but how to rank, say, the current separatist fighting in Indonesia versus, say, the Algerian war of independence is more speculative. Nevertheless, the Peace and Conflict studies name 1991 as the peak post-World War II year for totality of global fighting, giving that year a ranking of 179 on a scale that rates the extent and destructiveness of combat. By 2000, in spite of war in the Balkans and genocide in Rwanda, the number had fallen to 97; by 2002 to 81; and, at the end of 2004, it stood at 65. This suggests the extent and intensity of global combat is now less than half what it was 15 years ago. Easterbrook spends the rest of the essay postulating the causes of this -- the decline in great power war, the spread of democracies, the growth of economic interdependence, and even the peacekeeping capabilities of the United Nations. Easterbrook makes a lot of good points -- most people are genuinely shocked when they are told that even in a post-9/11 climate, there has been a steady and persistent decline in wars and deaths from wars. That said, what bothers me in the piece is what Easterbrook leaves out. First, he neglects to mention the biggest reason for why war is on the decline -- there's a global hegemon called the United States right now. Easterbrook acknowledges that "the most powerful factor must be the end of the cold war" but he doesn't understand why it's the most powerful factor. Elsewhere in the piece he talks about the growing comity among the great powers, without discussing the elephant in the room: the reason the "great powers" get along is that the United States is much, much more powerful than anyone else. If you quantify power only by relative military capabilities, the U.S. is a great power, there are maybe ten or so middle powers, and then there are a lot of mosquitoes. [If the U.S. is so powerful, why can't it subdue the Iraqi insurgency?--ed. Power is a relative measure -- the U.S. might be having difficulties, but no other country in the world would have fewer problems.] Joshua Goldstein, who knows a thing or two about this phenomenon, made this clear in a Christian Science Monitor op-ed three years ago: We probably owe this lull to the end of the cold war, and to a unipolar world order with a single superpower to impose its will in places like Kuwait, Serbia, and Afghanistan. The emerging world order is not exactly benign – Sept. 11 comes to mind – and Pax Americana delivers neither justice nor harmony to the corners of the earth. But a unipolar world is inherently more peaceful than the bipolar one where two superpowers fueled rival armies around the world. The long-delayed "peace dividend" has arrived, like a tax refund check long lost in the mail. The difference in language between Goldstein and Easterbrook highlights my second problem with "The End of War?" Goldstein rightly refers to the past fifteen years as a "lull" -- a temporary reduction in war and war-related death. The flip side of U.S. hegemony being responsible for the reduction of armed conflict is what would happen if U.S. hegemony were to ever fade away. Easterbrook focuses on the trends that suggest an ever-decreasing amount of armed conflict -- and I hope he's right. But I'm enough of a realist to know that if the U.S. should find its primacy challenged by, say, a really populous non-democratic country on the other side of the Pacific Ocean, all best about the utility of economic interdependence, U.N. peacekeeping, and the spread of democracy are right out the window. UPDATE: To respond to a few thoughts posted by the commenters: 1) To spell things out a bit more clearly -- U.S. hegemony important to the reduction of conflict in two ways. First, U.S. power can act as a powerful if imperfect constraint on pairs of enduring rivals (Greece-Turkey, India-Pakistan) that contemplate war on a regular basis. It can't stop every conflict, but it can blunt a lot ofthem. Second, and more important to Easterbrook's thesis, U.S. supremacy in conventional military affairs prevents other middle-range states -- China, Russia, India, Great Britain, France, etc. -- from challenging the U.S. or each other in a war. It would be suicide for anyone to fight a war with the U.S., and if any of these countries waged a war with each other, the prospect of U.S. intervention would be equally daunting.

#### Plan solves meltdowns

**Wheeler 10** – Workforce Planning Manager with Entergy; Producer “This Week in Nuclear” Podcast (John, 11/21 “Small Modular Reactors May Offer Significant Safety & Security Enhancements.” http://thisweekinnuclear.com/?p=1193)

They are smaller, so the amount of radioactivity contained in each reactor is less. So much less in fact, that even if the worst case reactor accident occurs, the amount of radioactive material released would not pose a risk to the public. In nuclear lingo we say SMRs have a smaller “source term.”  This source term is so small we can design the plant and emergency systems to virtually eliminate the need for emergency actions beyond the physical site boundaries.  Then, by controlling access to the site boundary, we can eliminate the need for off-site protective actions (like sheltering or evacuations). These smaller reactors contain less nuclear fuel.  This smaller amount of fuel (with passive cooling I’ll mention in a minute) slows down the progression of reactor accidents.  This slower progression gives operators more time to take action to keep the reactor cool.  Where operators in large reactors have minutes or hours to react to events, operators of SMRs may have hours or even days. This means the chance of a reactor damaging accident is very, very remote. Even better, most SMRs are small enough that they cannot over heat and melt down. They get all the cooling they need from air circulating around the reactor. This is a big deal because if SMRs can’t melt down, then they can’t release radioactive gas that would pose a risk to the public.  Again, this means the need for external emergency actions is virtually eliminated. Also, some SMRs are not water cooled; they use gas, liquid salt, or liquid metal coolants that operate at low pressures.  This lower operating pressure means that if radioactive gases build up inside the containment building there is less pressure to push the gas out and into the air.  If there is no pressure to push radioactive gas into the environment and all of it stays inside the plant, then it poses no risk to the public. SMRs are small enough to be built underground. This means they will have a smaller physical footprint that will be easier to defend against physical attacks.  This provides additional benefits of lower construction costs because earth, concrete and steel are less costly than elaborate security systems in use today, and lower operating costs (a smaller footprint means a smaller security force).

#### Meltdowns cause extinction

Lendman 11 – Research Associate of the Centre for Research on Globalization (Stephe, 3/13. “Nuclear Meltdown in Japan” The People’s Voice <http://www.thepeoplesvoice.org/TPV3/Voices.php/2011/03/13/nuclear-meltdown-in-japan>)

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

#### Science will inevitably reach absolute truth- it’s self correcting

Sankey, 8 Howard, PhD in philosophy of science from University of Melbourne and visiting professor, Studies In History and Philosophy of Science Part A Volume 39, Issue 2, June 2008, Pages 259-264

It is, however, reasonable to assume that the methods of science will continue to be improved. Science is a self-corrective enterprise. The self-corrective character of science applies not only at the level of observation and theory, but at the level of the method and practice of science. Given this, it is fair to assume that the methods of science are likely to continue to become increasingly reliable. This, in turn, may be taken to suggest that the continued application of the methods of science will ensure that science continues to move closer to the truth about the world. Does this mean it is inevitable that science will reach the truth? The answer I propose to this question is a qualified affirmative. Science is a fallible human enterprise. It is not inevitable that science will continue to be pursued by humans. Nor is it inevitable that the methods of science will continue to be improved. But, assuming that science continues to be pursued, and that the methods of science become increasingly reliable, then science will continue to acquire knowledge of the world in so doing, it will increase the quantity of truths known about the world. But will science lead to the whole, absolute truth about the world? It is unclear what this might involve. It is unclear what all the truth about anything might be, much less all the truth about everything (cf. Hacking, 1983, pp. 93–95). For this reason, I prefer not to say that it is inevitable that science will lead to the whole truth about the world. Instead, I prefer to say that, if science continues to be pursued, and its methods continue to be improved, then it is inevitable that science will continue to increase the quantity of truth known about the world. Thus, as indicated in the discussion of aim realism in Section 4, it is not inevitable that science will converge on one true theory about the world. But, if science continues to employ increasingly reliable methods, it is inevitable that it will continue to increase the truth known about the world.

#### US-lead development of nuclear power solves poverty – solves structural violence

**Robinson and Orient 4** - Professor of Chemistry and Founder of Oregon Institute of Science and Medicine AND \*\* executive director of the Association of American Physicians and Surgeons (Arthur and Jane, 6/14. The New American, “Science, Politics and Death.” <http://www.thenewamerican.com/node/358>)

Easily usable energy is the currency of human progress. Without it, stagnation, regression and untold human deaths will result. The lamentations of the popular press notwithstanding, there is no shortage of energy. Scientists define everything that man can perceive in the natural world as forms of "energy," including all physical objects. These forms of energy differ, however, in how easily mankind can make use of them by means of current technology. Nuclear power plants convert mass into electrical energy. This converted "nuclear energy" is, by far, the safest, cleanest and least expensive energy source available with current technology. Its use improves the standard of living, increases the quality and length of human life, and maximizes technological progress. The United States was once the world leader in the production of useful energy. Had that American leadership continued, our country and our world would be very different. Technological miracles that are only dreams today would have already taken place. Moreover, very large portions of the world's poor and underdeveloped people would have been able to lift themselves from poverty - provided they had a laboratory of liberty in which to do so - and to escape the horrible conditions in which they lead lives of desperation, constantly at the edge of death. Many people strongly desire to help humanity. They spend their lives in efforts to increase the quantity and quality of human life. Most other people, even though they do not work actively toward these goals, share the same values. They passively support things that improve human life. Those who understand energy production and its link to technological progress and who have positive humanitarian values support nuclear power. They are also in favor of hydrocarbon power derived from coal, oil and natural gas, and of hydroelectric power. Their interest in solar power, biofuel power, wind power and other alternatives is less because those methods cannot yet generate large quantities of inexpensive useful energy.

#### Ongoing poverty outweighs nuclear war and genocide—only our impact evidence is comparative

Spina 00 (Stephanie Urso, Ph.D. candidate in social/personality psychology at the Graduate School of the City University of New York, Smoke and Mirrors: The Hidden Context of Violence in Schools and Society, p. 201)

This sad fact is not limited to the United States. Globally, 18 million deaths a year are caused by structural violence, compared to 100,000 deaths per year from armed conflict. That is, **approximately every five years, as many people die because of relative poverty as would be killed in a nuclear war that caused 232 million deaths**, and **every single year, two to three times as many people die from poverty throughout the world as were killed by the Nazi genocide of the Jews over a six-year period**. This is, in effect, **the equivalent of an ongoing, unending, in fact accelerating, thermonuclear war or genocide**, perpetuated on the weak and the poor every year of every decade, throughout the world. (See James Gilligan, Violence: Reflections on a National Epidemic, New York: Vintage Books, 1997, 196).

#### Criticisms of science are used to justify atrocity

Latour 4 Elected fellow of the American Academy of Arts and Sciences in Cambridge (Bruno, 2004, “Why Has Critique Run out of Steam?”, Critical Inquiry, V.30, no. 2)

In which case the danger would no longer be coming from an excessive confidence in ideological arguments posturing as matters of fact–as we have learned to combat so efficiently in the past–but from an excessive distrust of good matters of fact disguised as bad ideological biases! While we spent years trying to detect the real prejudices hidden behind the appearance of objective statements, do we have now to reveal the real objective and incontrovertible facts hidden behind the illusion of prejudices? And yet entire Ph.D programs are still running to make sure that good American kids are learning the hard way that facts are made up, that there is no such thing as natural, unmediated, unbiased access to truth, that we are always the prisoner of language, that we always speak from one standpoint, and so on, while **dangerous extremists** are using the very same argument of social construction **to destroy hard-won evidence that could save our lives**. Was I wrong to participate in the invention of this field known as science studies? Is it enough to say that we did not really mean what we meant? Why does it burn my tongue to say that global warming is a fact whether you like it or not? Why can't I simply say that the argument is closed for good? Should I reassure myself by simply saying that bad guys can use any weapon at hand, naturalized facts when it suits them and social construction when it suits them? Should we apologize for having been wrong all along? Should we rather bring the **sword of criticism to criticism itself** and do a bit of soul-searching here: What were we really after when we were so intent on showing the social construction of scientific facts? Nothing guarantees, after all, that we should be right all the time. There is no sure ground even for criticism.4 Is this not what criticism intended to say: that there is no sure ground anyway? But what does it mean, when this lack of sure ground is taken out from us by the worst possible fellows as an argument against things we cherished? Artificially maintained controversies are not the only worrying sign. What has critique become when a French general, no, a marshal of critique, namely, Jean Baudrillard, claims in a published book that the World Trade Towers destroyed themselves under their own weight, so to speak, undermined by the utter nihilism inherent in capitalism itself–as if the terrorist planes were pulled to suicide by the powerful attraction of this black hole of nothingness?5 What has become of critique when a book can be a best-seller that claims that no plane ever crashed into the Pentagon? I am ashamed to say that the author was French too.6 Remember the good old days when revisionism arrived very late, after the facts had been thoroughly established, decades after bodies of evidence had accumulated? Now we have the benefit of what can be called instant revisionism? The smoke of the event has not yet finished settling before dozens of conspiracy theories are already revising the official account, adding even more ruins to the ruins, adding even more smoke to the smoke. What has become of critique when my neighbor in the little Bourbonnais village where I have my house looks down on me as someone hopelessly naive because I believe that the United States had been struck by terrorist attacks? Remember the good old days when university professors could look down on unsophisticated folks because those hillbillies naively believed in church, motherhood, and apple pies? Well, things have changed a lot, in my village at least. I am the one now who naively believes in some facts because I am educated, while it is the other guys now who are too unsophisticated to be gullible anymore: "Where have you been? Don't you know for sure that the Mossad and the CIA did it?" What has become of critique when someone as eminent as Stanley Fish, the "enemy of promise" as Lindsay Waters calls him, believes he defends science studies, my field, by comparing the law of physics to the rules of baseball?7 What has become of critique when there is a whole industry denying that the Apollo program landed on the Moon? What has become of critique when DARPA uses for its Total Information Awareness project the Baconian slogan Scientia est potentia? Have I not read that somewhere in Michel Foucault? Has Knowledge-slash-Power been co-opted of late by the National Security Agency? Has Discipline and Punish become the bedside reading of Mr. Ridge? Let me be mean for a second: what's the real difference between conspiracists and a popularized, that is a teachable, version of social critique inspired for instance by a too-quick reading of, let's say, a sociologist as eminent as Pierre Bourdieu–to be polite I will stick with the French field commanders? In both cases, you have to learn to become suspicious of everything people say because "of course we all know" that they live in the thralls of a complete illusion on their real motives. Then, after disbelief has struck and an explanation is requested for what is "really" going on, in both cases again, it is the **same appeal to powerful agents** hidden in the dark acting always consistently, continuously, relentlessly. Of course, we, in the academy, like to use more elevated causes–society, discourse, knowledge-slash-power, fields of forces, empires, capitalism–while conspiracists like to portray a miserable bunch of greedy people with dark intents, but I find something troublingly similar in the structure of the explanation, in the first movement of disbelief and, then, in the wheeling of causal explanations coming out of the deep Dark below. What if explanations resorting automatically to power, society, discourse, had outlived their usefulness, and deteriorated to the point of now feeding also the most gullible sort of critiques?8 Maybe I am taking conspiracy theories too seriously, but I am worried to detect, in those mad mixtures of knee-jerk disbelief, punctilious demands for proofs, and free use of powerful explanation from the social neverland, many of the weapons of social critique. Of course conspiracy theories are an absurd deformation of our own arguments, but, like weapons smuggled through a fuzzy border to the wrong party, these are our weapons nonetheless. In spite of all the deformations, it is easy to recognize, still burnt in the steel, our trade mark: MADE IN CRITICALLAND.

#### There is no totalizing assumption – extend the loudermilk evidence and lynas evidence, nuclear is SCIENTIFICALLY the only viable alternative to be able to solve warming, you’ve read no IL defense otherwise

#### Turn—rejecting our threat predictions makes them inevitable and causes ideology fill in

**Fitzsimmons 7** [Michael, Washington DC defense analyst, “The Problem of Uncertainty in Strategic Planning”, Survival, Winter 06-07, online]

But handling even this weaker form of uncertainty is still quite challeng- ing. If not sufficiently bounded, a high degree of variability in planning factors can exact a significant price on planning. The complexity presented by great variability strains the cognitive abilities of even the most sophisticated decision- makers.15 And even a robust decision-making process sensitive to cognitive limitations necessarily sacrifices depth of analysis for breadth as variability and complexity grows. It should follow, then, that in planning under conditions of risk, variability in strategic calculation should be carefully tailored to available analytic and decision processes. Why is this important? What harm can an imbalance between complexity and cognitive or analytic capacity in strategic planning bring? Stated simply, where analysis is silent or inadequate, **the personal beliefs of decision-makers** **fill the void**. As political scientist Richard Betts found in a study of strategic sur- prise, in ‘an environment that lacks clarity, abounds with conflicting data, and allows no time for rigorous assessment of sources and validity, ambiguity allows intuition or wishfulness to drive interpretation ... The greater the ambiguity, the greater the impact of preconceptions.’16 The decision-making environment that Betts describes here is one of political-military crisis, not long-term strategic planning. But a strategist who sees uncertainty as the central fact of his environ- ment brings upon himself some of the pathologies of crisis decision-making. He invites ambiguity, takes conflicting data for granted and **substitutes a priori skepticism about the validity of prediction** for time pressure as a rationale for discounting the importance of analytic rigour. It is important not to exaggerate the extent to which data and ‘rigorous assessment’ can illuminate strategic choices. Ambiguity is a fact of life, and scepticism of analysis is necessary. Accordingly, the intuition and judgement of decision-makers will always be vital to strategy, and attempting to subordinate those fa.ctors to some formulaic, deterministic decision-making model would be both undesirable and unrealistic. All the same, there is danger in the opposite extreme as well. Without careful analysis of what is relatively likely and what is relatively unlikely, what will be the possible bases for strategic choices? A decision-maker with no faith in prediction is left with little more than a set of worst-case scenarios and his existing beliefs about the world to confront the choices before him. Those beliefs may be more or less well founded, but if they are not made explicit and subject to analysis and debate regarding their application to particular strategic contexts, they remain only beliefs and premises, rather than rational judgements. Even at their best, such decisions are likely to be poorly understood by the organisations charged with their implementation. At their worst, such decisions may be poorly understood by the decision-makers themselves.

**We aren’t shoving anything down the public’s throat – there’s overwhelming public support for nuclear power**

**WNA 12** (WNA is the World Nuclear Association. “US Nuclear Power Policy” August, 2012. http://www.world-nuclear.org/info/inf41\_US\_nuclear\_power\_policy.html)

**Public opinion regarding nuclear power has generally been fairly positive, and has grown more so as people have had to think about security of energy supplies. Different polls show continuing increase in public opinion favorable to nuclear power in the USA. More than three times as many strongly support nuclear energy than strongly oppose it**. Two-thirds of self-described environmentalists favor it. A May 2008 survey (N=2925) by Zogby International showed 67% of Americans favored building new nuclear power plants, with 46% registering strong support; 23% were opposed[10](http://www.world-nuclear.org/info/inf41_US_nuclear_power_policy.html#References). Asked which kind of power plant they would prefer if it were sited in their community, 43% said nuclear, 26% gas, 8% coal. Men (60%) were more than twice as likely as women (28%) to be supportive of a nuclear power plant. A March 2010 Bisconti-GfK Roper survey showed that strong public support for nuclear energy was being sustained, with 74% in favor of it[11](http://www.world-nuclear.org/info/inf41_US_nuclear_power_policy.html#References). In particular, **87% think nuclear will be important in meeting electricity needs in the years ahead, 87% support license renewal for nuclear plants, 84% believe utilities should prepare to build more nuclear plants, 72% supported an active federal role in encouraging investment in "energy technology that reduces greenhouse gases", 82% agree that US nuclear plants are safe and secure, 77% would support adding a new reactor at the nearest nuclear plant, and 70% say that USA should definitely build more plants in the future.** Only 10% of people said they strongly opposed the use of nuclear energy. In relation to recycling used nuclear fuel, 79% supported this (contra past US policy), and the figure rose to 85% if "a panel of independent experts" recommended it. Although 59% were confident that used reactor fuel could be stored safely at nuclear power plant sites, 81% expressed a strong desire for the federal government to move used nuclear fuel to centralized, secure storage facilities away from the plant sites until a permanent disposal facility is ready. Half of those surveyed considered themselves to be environmentalists. A February 2011 Bisconti-GfK Roper survey showed similar figures, and that 89% of Americans agree that all low-carbon energy sources – including nuclear, hydro and renewable energy – should be taken advantage of to generate electricity while limiting greenhouse gas emissions. Just 10% disagreed. Also some **84% of respondents said that they associate nuclear energy "a lot" or "a little" with reliable electricity;** 79% associate nuclear energy with affordable electricity; 79% associate nuclear energy with economic growth and job creation; and 77% associate nuclear energy and clean air. A more general March 2010 Gallup poll (N=1014) on energy showed 62% in favor of using nuclear power, including 28% strongly so, and 33% against, the most favorable figures since Gallup began polling the question in 1994. However, only 51% of Democrat voters were in favor[12](http://www.world-nuclear.org/info/inf41_US_nuclear_power_policy.html#References). An early March 2011 Gallup poll just before the Fukushima accident showed 57% in favor and 38% against, and in March 2012 (N=1024) still 57% in favor with 40% against (men: 72%-27%, women 42%-51%). **Regarding plant safety, the polls showed consistent 56-58% positive views over 2009-12, but men-women split similar. A survey conducted in September 2011** by Bisconti Research Inc. with GfK Roper **showed that although support for nuclear power decreased following the Fukushima accident** and compared with a year earlier (a survey carried out in March 2010 by Bisconti Research found 74% of Americans favored nuclear power), **62%** of the 1000 **adults** surveyed in the latest poll **were supportive of utilizing nuclear power** while 35% expressed opposition. The survey found that **82% of Americans believed that lessons had been learned from** Fukushima and 67% of respondents considered US nuclear power plants safe (the same level as reported one month before the nuclear accident in Japan occurred). Also **85% of said that an extension of commercial operation should be granted to those plants that comply with federal safety standards**, and 59% believed more nuclear power plants should definitely be built in the future, while 75% contend that “Electric utilities should prepare now so that new nuclear power plants could be built if needed in the next decade.” Finally, further expansion of the site of the nearest already operating nuclear power plant is supported by 67% and opposed by 28%. By February 2012 support had increased slightly to 64% supported using nuclear power, while 33% opposed it. Some 81% of respondents believed that nuclear energy will be important in meeting the USA's future electricity needs (compared with 80% in September), and 82% thought the USA should "take advantage of all low-carbon energy sources, including nuclear, hydro and renewable energy." Significantly, 74% believed that nuclear power plants operating in the USA are safe, up from 67% in both 2011 surveys. However, a Harris survey in February 2012 (N=2056) showed that only 40% of US adults believed that the benefits of nuclear outweigh its risks, while 41% thought the reverse. A similar poll conducted in 2011 before the Fukushima accident occurred, indicated that 42% thought that the benefits outweighed the risks, while 37% believed the opposite. In a 2009 poll, 44% thought the benefits outweighed the benefits, while 34% thought they did not. The southern states had the highest percentage of people believing the benefits outweigh the risks (at 43%), compared with 33% in the East and 41% in the Midwest and West. Some 42% of Americans thought that the benefits of using coal outweighed the risks (up from 38% positive in 2011), while 40% said the risks outweighed the benefits.

#### Security allows for emancipation that creates surival

Ken Booth, visiting researcher - US Naval War College, 2005, Critical Security Studies and World Politics, p. 22

The best starting point for conceptualizing security lies in the real conditions of insecurity suffered by people and collectivities. Look around. What is immediately striking is thatsome degree of insecurity, as a life-determining condition, is universal. To the extent an individualor groupis insecure, to the extent their life choices and changes are taken away; thisis because of the resources and energy they need to invest in seeking safety from domineering threats–whether these are the lack of food for one’s children, or organizing to resist a foreign aggressor.The corollary of the relationship between insecurity and a determined life is that a degree of security creates life possibilities. Security might therefore be conceived as synonymous with opening up space in people’s lives. This allows for individual and collective human becoming–the capacity to have some choice about living differently–consistent with the same but different search by others.Two interrelated conclusion follow from this. First, security can be understood as an instrumental value; it frees its possessors to a greater or lesser extent from life-determining constraints and so allows different life possibilities to be explored. Second,security is not synonymous simply with survival. One can survive without being secure (the experience of refugees in long-term camps in war-torn parts of the world, for example). Security is therefore more than mere animal survival(basic animal existence). It is survival-plus, the plus being the possibility to explore human becoming. As an instrumental value, security is sought because it free people(s)to some degree to do other than deal with threats to their human being. The achievementof a levelof security–and security is always relative –gives to individuals and groups some time, energy, and scope to choose to beor become,other than merely survivingas human biological organisms. Security is an important dimension of the process by which the human species can reinvent itselfbeyond the merely biological.

#### Rejection of securitization causes the state to become more interventionist—turns the K, and the alt is useless without the plan

**McCormack 10** [Tara is a lecturer in International Politics at the University of Leicester and has a PhD in International Relations from the University of Westminster, “Critique, Security and Power: The political limits to emancipatory approaches”pg. 127-129, Chetan]

In chapter 7 I engaged with the human security framework and some of the problematic implications of ‘emancipatory’ security policy frameworks. In this chapter I argued that the shift away from the pluralist security framework and the elevation of cosmopolitan and emancipatory goals **has served to** **enforce international power inequalities rather than lessen them** Weak. or unstable states are subjected to greater international scrutiny and international institutions and other states have greater freedom to intervene, but the citizens of these states have **no way of controlling or influencing** these international institutions or powerful states. This shift away from the pluralist security framework has **not challenged the status quo**, which may help to explain why major international institutions and states **can easily adopt** a more cosmopolitan rhetoric in their security policies. As we have seen, the shift away from the pluralist security framework has entailed a shift towards a more openly hierarchical international system, in which states are differentiated according to, for example, their ability to provide human security for their citizens or their supposed democratic commitments. In this shift, the old pluralist international norms of (formal) international sovereign equality, non-intervention and ‘blindness’ to the content of a state are overturned. Instead, international institutions and states have more freedom to intervene in weak or unstable states in order to ‘protect’ and emancipate individuals globally. Critical and emancipatory security theorists argue that the goal of the emancipation of the individual means that security must be reconceptualised away from the state. As the domestic sphere is understood to be the sphere of insecurity and disorder, the international sphere represents greater emancipatory possibilities, as Tickner argues, ‘if security is to start with the individual, its ties to state sovereignty must be severed’ (1995: 189). For critical and emancipatory theorists there must be a shift towards a ‘cosmopolitan’ legal framework, for example Mary Kaldor (2001: 10), Martin Shaw (2003: 104) and Andrew Linklater (2005). For critical theorists, one of the fundamental problems with Realism is that it is unrealistic. Because it prioritises order and the existing status quo, Realism attempts to impose a particular security framework onto a complex world, ignoring the myriad threats to people emerging from their own governments and societies. Moreover, traditional international theory serves to obscure power relations and omits a study of why the system is as it is: [O]mitting myriad strands of power amounts to exaggerating the simplicity of the entire political system. Today’s conventional portrait of international politics thus too often ends up looking like a Superman comic strip, whereas it probably should resemble a Jackson Pollock. (Enloe, 2002 [1996]: 189) Yet as I have argued, contemporary critical security theorists seem to show a marked lack of engagement with their problematic (whether the international security context, or the Yugoslav break-up and wars). **Without concrete engagement and analysis**, however, **the critical project is undermined and critical theory becomes nothing more than a request that people behave in a nicer way to each other**. Furthermore, whilst contemporary critical security theorists argue that they present a more realistic image of the world, through exposing power relations, for example, their lack of concrete analysis of the problematic considered **renders them actually unable to engage** with existing power structures and the way in which power is being exercised in the contemporary international system. For critical and emancipatory theorists the central place of the values of the theorist mean that it cannot fulfil its promise to critically engage with contemporary power relations and emancipatory possibilities. Values must be joined with engagement with the material circumstances of the time.

#### Not paranoia - Cyberterror coming against the grid now, that’s Robatallie, you’ve read no impact defense here to show otherwise, only we have evidence on that question

####  – we already know that they’ve been able to infiltrate the system

CNN 10-13 [Pam Benson – “Panetta: Cyber threat is pre 9/11 moment”, October 13th, 2012, http://security.blogs.cnn.com/2012/10/12/panetta-cyber-threat-is-pre-911-moment/?hpt=hp\_t3, Chetan]

The United States must beef up its cyber defenses or suffer as it did on September 11, 2001 for failing to see the warning signs ahead of that devastating terrorist attack, the Secretary of Defense told a group of business leaders in New York Thursday night. Calling it a “pre-9/11 moment,” Leon Panetta said he is particularly worried about a significant escalation of attacks. In a speech aboard a decommissioned aircraft carrier, Panetta reminded the Business Executives for National Security about recent distributed denial of service attacks that hit a number of large U.S. financial institutions with unprecedented speed, disrupting services to customers. And he pointed to a cyber virus known as Shamoon which infected the computers of major energy firms in Saudi Arabia and Qatar this past summer. More than 30-thousand computers were rendered useless by the attack on the Saudi state oil company ARAMCO. A similar incident occurred with Ras Gas of Qatar. Panetta said the attacks were probably the most devastating to ever hit the private sector. The secretary did not say who is believed responsible for those attacks, but senior defense officials who briefed reporters on the speech, said the United States knows, however they would not divulge the suspect. And he warned America's critical infrastructure - its electrical power grid, water plants and transportation systems - are threatened by foreign actors. "We know of specific instances where intruders have successfully gained access to these control systems," Panetta said. "We also know they are seeking to create advanced tools to attack those systems and cause panic, destruction and even loss of life."

**Cyber-attack’s coming now---actors are probing US electricity weaknesses**

**Reed 10/11** John, Reports on the frontiers of cyber war and the latest in military technology for Killer Apps at Foreign Policy, "U.S. energy companies victims of potentially destructive cyber intrusions", 2012, killerapps.foreignpolicy.com/posts/2012/10/11/us\_energy\_companies\_victims\_of\_potentially\_destructive\_cyber\_attacks

Foreign actors are probing the networks of key American companies in an attempt to gain control of industrial facilities and transportation systems, Defense Secretary Leon Panetta revealed tonight. "We know that foreign **cyber actors are probing America's critical infrastructure networks**," said Panetta, disclosing previously classified information during a speech in New York laying out the Pentagon's role in protecting the U.S. from cyber attacks. "They are targeting the computer control systems that operate chemical, **electricity** and water plants, and those that guide transportation thorough the country." He went on to say that the U.S. government knows of "specific instances where intruders have gained access" to these systems -- frequently known as Supervisory Control and Data Acquisition (or SCADA) systems -- and that "they are seeking to create advanced tools to attack these systems and cause panic, destruction and even the loss of life," according to an advance copy of his prepared remarks. The secretary said that **a coordinated attack on enough critical infrastructure could be a "cyber Pearl Harbor" that would "cause physical destruction and loss of life, paralyze and shock the nation, and create a profound new sense of vulnerability.**" While there have been reports of criminals using 'spear phishing' email attacks aimed at stealing information about American utilties, Panetta's remarks seemed to suggest more sophisticated, nation-state backed attempts to actually gain control of and damage power-generating equipment. Panetta's comments regarding the penetration of American utilities echo those of a private sector cyber security expert Killer Apps spoke with last week **who said that the networks of American electric companies were penetrated, perhaps in preparation for a Stuxnet-style attack**. Stuxnet is the famous cyber weapon that infected Iran's uranium-enrichment centrifuges in 2009 and 2010. Stuxnet is believed to have caused some of the machines to spin erratically, thereby destroying them. "**There is hard evidence** that there has been penetration of our power companies, and given Stuxnet, that is a staging step before destruction" of electricity-generating equipment, the expert told Killer Apps. Because uranium centrifuges and power turbines are both spinning machines, "**the attack is identical -- the one to take out the centrifuges and the one to take out our power systems is the same attack**." "If a centrifuge running at the wrong speed can blow apart" so can a power generator, said the expert. "If you do, in fact, spin them at the wrong speeds, you can blow up any rotating device." Cyber security expert Eugene Kaspersky said two weeks ago that one of his greatest fears is someone reverse-engineering a sophisticated cyber weapon like Stuxnet **-- a relatively easy task** -- and he noted that Stuxnet itself passed through power plants on its way to Iran. "Stuxnet infected thousands of computer systems all around the globe, I know there were power plants infected by Stuxnet very far away from Iran," Kaspersky said.

#### Perm do the plan and do the alternative in all other instances

#### Plan solves colonization

O’Neil 11[Ian, PhD from University of Wales, founder and editor of Astroengine, space producer for Discovery News “'Suitcase' Nuclear Reactors to Power Mars Colonies,” August 30th, <http://news.discovery.com/space/mars-colonies-powered-by-mini-nuclear-reactors-110830.html>]

Nuclear power is an emotive subject -- particularly in the wake of the Fukushima power plant disaster after Japan's March earthquake and tsunami -- but in space, it may be an essential component of spreading mankind beyond terrestrial shores. On Monday, at the 242nd National Meeting and Exposition of the American Chemical Society (ACS) in Denver, Colo., the future face of space nuclear power was described. You can forget the huge reactor buildings, cooling towers and hundreds of workers; the first nuclear reactors to be landed on alien worlds to support human settlement will be tiny. Think less "building sized" and more "suitcase sized." "People would never recognize the fission power system as a nuclear power reactor," said James E. Werner, lead of the Department of Energy's (DOE) Idaho National Laboratory. "The reactor itself may be about 1 feet wide by 2 feet high, about the size of a carry-on suitcase. There are no cooling towers. A fission power system is a compact, reliable, safe system that may be critical to the establishment of outposts or habitats on other planets. Fission power technology can be applied on Earth's Moon, on Mars, or wherever NASA sees the need for continuous power." The joint NASA/DOE project is aiming to build a demonstration unit next year. Obviously, this will be welcome news to Mars colonization advocates; to have a dependable power source on the Martian surface will be of paramount importance. The habitats will need to have a constant power supply simply to keep the occupants alive. This will be "climate control" on an unprecedented level. Water extraction, reclamation and recycling; food cultivation and storage; oxygen production and carbon dioxide scrubbing; lighting; hardware, tools and electronics; waste management -- these are a few of the basic systems that will need to be powered from the moment humans set foot on the Red Planet, 24 hours 39 minutes a day (or "sol" -- a Martian day), 669 sols a year. Fission reactors can provide that. However, nuclear fission reactors have had a very limited part to play in space exploration up until now. Russia has launched over 30 fission reactors, whereas the US has launched only one. All have been used to power satellites. Radioisotope thermoelectric generators (RTGs), on the other hand, have played a very important role in the exploration of the solar system since 1961. These are not fission reactors, which split uranium atoms to produce heat that can then be converted into electricity. RTGs depend on small pellets of the radioisotope plutonium-238 to produce a steady heat as they decay. NASA's Pluto New Horizons and Cassini Solstice missions are equipped with RTGs (not solar arrays) for all their power needs. The Mars Science Laboratory (MSL), to be launched in November 2011, is powered by RTGs for Mars roving day or night. RTGs are great, but to power a Mars base, fission reactors would be desirable because they deliver more energy. And although solar arrays will undoubtedly have a role to play, fission reactors will be the premier energy source for the immediate future. "The biggest difference between solar and nuclear reactors is that nuclear reactors can produce power in any environment," said Werner. "Fission power technology doesn't rely on sunlight, making it able to produce large, steady amounts of power at night or in harsh environments like those found on the Moon or Mars. A fission power system on the Moon could generate 40 kilowatts or more of electric power, approximately the same amount of energy needed to power eight houses on Earth." "The main point is that nuclear power has the ability to provide a power-rich environment to the astronauts or science packages anywhere in our solar system and that this technology is mature, affordable and safe to use." Of course, to make these "mini-nuclear reactors" a viable option for the first moon and Mars settlements, they'll need to be compact, lightweight and safe. Werner contends that once the technology is validated, we'll have one of the most versatile and affordable power resources to support manned exploration of the solar system.

#### Colonization solves extinction

Schulze-Makuch and Davies 10 (Dirk Schulze-Makuch, Ph.D., School of Earth and Environmental Sciences, Washington State University and Paul Davies, Ph.D., Beyond Center, Arizona State University, “To Boldly Go: A One-Way Human Mission to Mars”, <http://journalofcosmology.com/Mars108.html>)

There are several reasons that motivate the establishment of a permanent Mars colony. We are a vulnerable species living in a part of the galaxy where cosmic events such as major asteroid and comet impacts and supernova explosions pose a significant threat to life on Earth, especially to human life. There are also more immediate threats to our culture, if not our survival as a species. These include global pandemics, nuclear or biological warfare, runaway global warming, sudden ecological collapse and supervolcanoes (Rees 2004). Thus, the colonization of other worlds is a must if the human species is to survive for the long term. The first potential colonization targets would be asteroids, the Moon and Mars. The Moon is the closest object and does provide some shelter (e.g., lava tube caves), but in all other respects falls short compared to the variety of resources available on Mars. The latter is true for asteroids as well. Mars is by far the most promising for sustained colonization and development, because it is similar in many respects to Earth and, crucially, possesses a moderate surface gravity, an atmosphere, abundant water and carbon dioxide, together with a range of essential minerals. Mars is our second closest planetary neighbor (after Venus) and a trip to Mars at the most favorable launch option takes about six months with current chemical rocket technology.

#### Science doesn’t exclude non-expert political groups- their dedication towards following the established rules for research enhances public confidence in Science

Evans and Plows, 2007, Robert and Alexander, Social Studies of Science, Sage publications “Listening without Prejudice? Re-Discovering the Value of the Disinterested Citizen,” JSTOR

Although many activists may not possess formal certificates to validate their claims to expertise, they have, as a result of their prolonged engagement with a particular debate or controversy, developed **substantial interactional expertise** in these areas. That they do develop such expertise is evidenced by the sustained and detailed technical critiques made by activist groups in which they use peer-reviewed scientific literature to, for example, question the link between genetic information and the subsequent development of many common diseases implied by the proponents of genetic testing.19 Finally, it is important to remember that the activist and scientific communities do not exist in separate universes. Activists, in particular, monitor scientific innovations in a range of ways. In some cases, specialist organizations do the hard work of tracking research and policy. In other cases, continued personal contact with the scientific community provides a valuable resource through which 'insider' knowledge filters back to the wider network. Expert-activists thus act as 'boundary shifters' (Pinch & Trocco, 2002), moving between different social networks and, sometimes, crossing these boundaries in unexpected places: I've got lots of informal ties with kind of- well, activists, scientists doing stuff at the [Research Institute], people in my old lab doing medical genetics. I'm 838 Social Studies of S also a life model as well and a lot of biologists and medics like to draw, and especially when they get older, because, they've always wanted to draw and paint. So, you know, they've headed labs and stuff all their lives and [then] they retire and keep a hand in at the lab and draw. And so I get kind of ... chatting to these people, you know, you mention some place and he goes 'Oh yes, I used to be director of that!'20 This constant networking, dissemination and research is a key part of what activists do, and viewed this way the activist community is much like the scientific community - networks are very close, ties are invariably personal, the production and circulation of texts is endemic and there are regular meetings where membership is displayed and confirmed.21 There are also strategic attempts to organize and influence politicians and research hinders, with the European Science Social Forum that formed during the European Social Forum meeting at London in October 2004 being a notable example.22 Recognizing these similarities provides a rationale for a more inclusive approach to expert debates in which questions relating to risk or safety could be addressed in terms that meet both the standards of mainstream science and the concerns of those citizens and stakeholders most directly affected. Clearly this process will take considerable time, so recognizing a question as an expert/technical one does not solve the immediate problem of what the regulatory response should be. Nonetheless, including additional expert representation within the long-term decision-making should go some way **to ensuring public confidence** in any recommendations that do emerge as these statements should no longer be seen as the product of a single interest group.

#### Public advocacy of climate solutions key to change governmental policy---individual change insufficient

CAG 10—Climate Change Communication Advisory Group. Dr Adam Corner School of Psychology, Cardiff University - Dr Tom Crompton Change Strategist, WWF-UK - Scott Davidson Programme Manager, Global Action Plan - Richard Hawkins Senior Researcher, Public Interest Research Centre - Professor Tim Kasser, Psychology department, Knox College, Galesburg, Illinois, USA. - Dr Renee Lertzman, Center for Sustainable Processes & Practices, Portland State University, US. - Peter Lipman, Policy Director, Sustrans. - Dr Irene Lorenzoni, Centre for Environmental Risk, University of East Anglia. - George Marshall, Founding Director, Climate Outreach , Information Network - Dr Ciaran Mundy, Director, Transition Bristol - Dr Saffron O’Neil, Department of Resource Management and Geography, University of Melbourne, Australia. - Professor Nick Pidgeon, Director, Understanding Risk Research Group, School of Psychology, Cardiff University. - Dr Anna Rabinovich, School of Psychology, University of Exeter - Rosemary Randall, Founder and director of Cambridge Carbon Footprint - Dr Lorraine Whitmarsh, School of Psychology, Cardiff University & Visiting Fellow at the, Tyndall Centre for Climate Change Research. (Communicating climate change to mass public audience, <http://pirc.info/downloads/communicating_climate_mass_audiences.pdf>)

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

#### Long-term social and environmental effects of nuclear power are subject to empirical testing – their Welsh evidence NOT about SMRs

#### No resource impact – natural resources will be available

Sagoff 97 (Mark – Pew Scholar in Conservation and the Environment and awarded a Fellowship at the Woodrow Wilson International Center for Scholars. He is a Fellow of the American Association for the Advancement of Science and of the Hastings Center. , “Do We Consume Too Much”, June 1997, <http://www.theatlantic.com/past/docs/issues/97jun/consume.htm>)

IN the 1970s Paul Ehrlich, a biologist at Stanford University, predicted that global shortages would soon send prices for food, fresh water, energy, metals, paper, and other materials sharply higher. "It seems certain," Paul and Anne Ehrlich wrote in The End of Affluence (1974), "that energy shortages will be with us for the rest of the century, and that before 1985 mankind will enter a genuine age of scarcity in which many things besides energy will be in short supply." Crucial materials would near depletion during the 1980s, Ehrlich predicted, pushing prices out of reach. "Starvation among people will be accompanied by starvation of industries for the materials they require." Things have not turned out as Ehrlich expected. In the early 1990s real prices for food overall fell. Raw materials -- including energy resources -- are generally more abundant and less expensive today than they were twenty years ago. When Ehrlich wrote, economically recoverable world reserves of petroleum stood at 640 billion barrels. Since that time reserves have increased by more than 50 percent, reaching more than 1,000 billion barrels in 1989. They have held steady in spite of rising consumption. The pre-tax real price of gasoline was lower during this decade than at any other time since 1947. The World Energy Council announced in 1992 that "fears of imminent [resource] exhaustion that were widely held 20 years ago are now considered to have been unfounded." The World Resources Institute, in a 1994-1995 report, referred to "the frequently expressed concern that high levels of consumption will lead to resource depletion and to physical shortages that might limit growth or development opportunity." Examining the evidence, however, the institute said that "the world is not yet running out of most nonrenewable resources and is not likely to, at least in the next few decades." A 1988 report from the Office of Technology Assessment concluded, "The nation's future has probably never been less constrained by the cost of natural resources." It is reasonable to expect that as raw materials become less expensive, they will be more rapidly depleted. This expectation is also mistaken. From 1980 to 1990, for example, while the prices of resource-based commodities declined (the price of rubber by 40 percent, cement by 40 percent, and coal by almost 50 percent), reserves of most raw materials increased. Economists offer three explanations. First, with regard to subsoil resources, the world becomes ever more adept at discovering new reserves and exploiting old ones. Exploring for oil, for example, used to be a hit-or-miss proposition, resulting in a lot of dry holes. Today oil companies can use seismic waves to help them create precise computer images of the earth. New methods of extraction -- for example, using bacteria to leach metals from low-grade ores -- greatly increase resource recovery. Reserves of resources "are actually functions of technology," one analyst has written. "The more advanced the technology, the more reserves become known and recoverable." Second, plentiful resources can be used in place of those that become scarce. Analysts speak of an Age of Substitutability and point, for example, to nanotubes, tiny cylinders of carbon whose molecular structure forms fibers a hundred times as strong as steel, at one sixth the weight. As technologies that use more-abundant resources substitute for those needing less-abundant ones -- for example, ceramics in place of tungsten, fiber optics in place of copper wire, aluminum cans in place of tin ones -- the demand for and the price of the less-abundant resources decline. One can easily find earlier instances of substitution. During the early nineteenth century whale oil was the preferred fuel for household illumination. A dwindling supply prompted innovations in the lighting industry, including the invention of gas and kerosene lamps and Edison's carbon-filament electric bulb. Whale oil has substitutes, such as electricity and petroleum-based lubricants. Whales are irreplaceable. Third, the more we learn about materials, the more efficiently we use them. The progress from candles to carbon-filament to tungsten incandescent lamps, for example, decreased the energy required for and the cost of a unit of household lighting by many times. Compact fluorescent lights are four times as efficient as today's incandescent bulbs and last ten to twenty times as long. Comparable energy savings are available in other appliances: for example, refrigerators sold in 1993 were 23 percent more efficient than those sold in 1990 and 65 percent more efficient than those sold in 1980, saving consumers billions in electric bills. Amory Lovins, the director of the Rocky Mountain Institute, has described in these pages a new generation of ultralight automobiles that could deliver the safety and muscle of today's cars but with far better mileage -- four times as much in prototypes and ten times as much in projected models (see "Reinventing the Wheels," January, 1995, Atlantic). Since in today's cars only 15 to 20 percent of the fuel's energy reaches the wheels (the rest is lost in the engine and the transmission), and since materials lighter and stronger than steel are available or on the way, no expert questions the feasibility of the high-mileage vehicles Lovins describes. Computers and cameras are examples of consumer goods getting lighter and smaller as they get better. The game-maker Sega is marketing a hand-held children's game, called Saturn, that has more computing power than the 1976 Cray supercomputer, which the United States tried to keep out of the hands of the Soviets. Improvements that extend the useful life of objects also save resources. Platinum spark plugs in today's cars last for 100,000 miles, as do "fill-for-life" transmission fluids. On average, cars bought in 1993 have a useful life more than 40 percent longer than those bought in 1970. As lighter materials replace heavier ones, the U.S. economy continues to shed weight. Our per capita consumption of raw materials such as forestry products and metals has, measured by weight, declined steadily over the past twenty years. A recent World Resources Institute study measured the "materials intensity" of our economy -- that is, "the total material input and the hidden or indirect material flows, including deliberate landscape alterations" required for each dollar's worth of economic output. "The result shows a clearly declining pattern of materials intensity, supporting the conclusion that economic activity is growing somewhat more rapidly than natural resource use." Of course, we should do better. The Organization for Economic Cooperation and Development, an association of the world's industrialized nations, has proposed that its members strive as a long-range goal to decrease their materials intensity by a factor of ten. Communications also illustrates the trend toward lighter, smaller, less materials-intensive technology. Just as telegraph cables replaced frigates in transmitting messages across the Atlantic and carried more information faster, glass fibers and microwaves have replaced cables -- each new technology using less materials but providing greater capacity for sending and receiving information. Areas not yet wired for telephones (in the former Soviet Union, for example) are expected to leapfrog directly into cellular communications. Robert Solow, a Nobel laureate in economics, says that if the future is like the past, "there will be prolonged and substantial reductions in natural-resource requirements per unit of real output." He asks, "Why shouldn't the productivity of most natural resources rise more or less steadily through time, like the productivity of labor?"