### Case

#### Warming is an existential threat

Mazo 10 (Jeffrey Mazo – PhD in Paleoclimatology from UCLA, Managing Editor, Survival and Research Fellow for Environmental Security and Science Policy at the International Institute for Strategic Studies in London, 3-2010, “Climate Conflict: How global warming threatens security and what to do about it,” pg. 122)

The best estimates for global warming to the end of the century range from 2.5-4.~C above pre-industrial levels, depending on the scenario. Even in the best-case scenario, the low end of the likely range is 1.goC, and in the worst 'business as usual' projections, which actual emissions have been matching, the range of likely warming runs from 3.1--7.1°C. Even keeping emissions at constant 2000 levels (which have already been exceeded), global temperature would still be expected to reach 1.2°C (O'9""1.5°C)above pre-industrial levels by the end of the century." Without early and severe reductions in emissions, the effects of climate change in the second half of the twenty-first century are likely to be catastrophic for the stability and security of countries in the developing world - not to mention the associated human tragedy. Climate change could even undermine the strength and stability of emerging and advanced economies, beyond the knock-on effects on security of widespread state failure and collapse in developing countries.' And although they have been condemned as melodramatic and alarmist, many informed observers believe that unmitigated climate change beyond the end of the century could pose an existential threat to civilisation." What is certain is that there is no precedent in human experience for such rapid change or such climatic conditions, and even in the best case adaptation to these extremes would mean profound social, cultural and political changes.

#### Warming is not inevitable – taking action now can lessen the impact

**Washington et al 9** [Warren M. Washington, 1 Reto Knutti, 2 Gerald A. Meehl, 1 Haiyan Teng, 1 Claudia Tebaldi, 3 David Lawrence, 1 Lawrence Buja, 1 and Warren G. Strand - National Center for Atmospheric Research, Boulder, Colorado, USA. and Institute for Atmospheric and Climate Science, ETH, Zurich, Switzerland. “How much climate change can be avoided by mitigation?”, GEOPHYSICAL RESEARCH LETTERS, VOL. 36, L08703, doi:10.1029/2008GL037074, 2009, Chetan]

**Avoiding the most serious climate change impacts will require informed policy decisions**. **This in turn will require information regarding the reduction of greenhouse gas emissions required to stabilize climate** in a state not too much warmer than today. **A new low emission scenario is simulated in a global climate model to show how some of the impacts from climate change can be averted through mitigation**. **Compared to a non-intervention reference scenario, emission reductions** of about 70% by 2100 are required to **prevent roughly half the change in temperature and precipitation that would otherwise occur.** By 2100, **the resulting stabilized global climate would ensure preservation of considerable Arctic sea ice and permafrost areas. Future heat waves would be 55% less intense, and sea level rise from thermal expansion would be about 57% lower than if a non-mitigation scenario was followed**

#### Shift to renewables is a long way off

**Alic, 12** – geopolitical analyst, co-founder of ISA Intel in Sarajevo and Tel Aviv, and the former editor-in-chief of ISN Security Watch in Zurich (Jen, 8/19. “We are Decades Away from a Cure for our Fossil Fuel Addiction.” http://oilprice.com/Energy/Energy-General/We-are-Decades-Away-from-a-Cure-for-our-Fossil-Fuel-Addiction.html)

With natural gas prices low and supplies high, we are decades away from being able to wean ourselves off fossil fuels and move to renewable energy, but there is no reason for dismay. There seems to be a knee-jerk reaction to render the renewable energy-versus-fossil fuels debate in black and white terms, in a one-or-the-other symposium. A sudden “switch” to clean energy is not possible; rather it must be a gradual introduction of renewable energy sources combined with an increase in domestic fossil fuels production. Renewable energy is a natural revolution that will indeed take place, however slowly. But for now, it is responsible for only a very small percentage of energy production. Renewable energy accounts for less than 12% of total energy consumption in the US, according to the Energy Information Administration (EIA). The EIA’s figures for 2010 show that natural gas and coal each accounted for 22% of US energy production, followed by crude oil at 12%, nuclear energy at 8%, biomass at 4%, natural gas plant liquids at 3%, hydroelectric power at 3%, and geothermal/solar/wind at 1%. Natural gas remains the dominant energy source and that will continue to increase in the coming decade. Fossil fuels will remain the key source of energy for decades to come, but at the same time, renewable energy will continue to develop until it can compete on the market. There is no way around the fact that market and environment must be in line in order to see a shift to renewable energy, and this alignment takes time. For now, the market favors natural gas and it is impossible to force big business to shift to renewable energy when natural gas prices are so low. It is also impossible to convince the average consumer to go along with this.

#### Renewables can’t solve warming fast enough – that’s the 1AC Harvey evidence, only global nuclear adoption can solve fast enough. More evidence –

#### Nuclear power is comparably better than any renewable option – solar and wind do more environmental damage and cost trillions

**Eerkens, 6 –** adjunct research professor, Nuclear Science and Engineering Institute at the University of Missouri in Columbia,

(Jeff W., “The Nuclear Imperative: a critical look at the approaching energy crises,” Springer Press)

For the USA, replacement of primary oil and coal requires an investment of $35 trillion for solar, $25 trillion for wind, and $6 trillion for nuclear power, Besides these capital cost disincentives, the enormous land areas needed for solar and wind energy cause a disturbance of local ecologies and will spoil many scenic landscapes. Exclusive use of these sources for prime energy would make them very unpopular with environmentalists, Aside from capital costs, one must consider maintenance costs. Solar cells require constant cleaning to remove dust or bird droppings, and must be replaced every ten to twenty years due to erosion and deterioration (sand storms, etc). They are made of gallium-arsenide or copper­indium-diselenide, requiring toxic silanes, arsenic, etc. for their manufacture. Toxic wastes generated in producing solar cells for global use, dwarf the amount of nuclear fuel and waste for the nuclear option. For wind-power generation, the mechanical maintenance of thousands of turbines and protective measures to avoid killing thousands of birds, seriously effects its economics. The secret of controlled nuclear power is that it is a thousand times more concentrated than any non-nuclear method .

#### SMRs spur renewable development, and integrate all energy sources into the grid

Ruth et al 11 [Mark Ruth, Mark Antkowiak, and Scott Gossett – The Joint Institute for Strategic Energy Analysis: on behalf of the U.S. Department of Energy’s National Renewable Energy Laboratory, the University of Colorado-Boulder, the Colorado School of Mines, the Colorado State University, the Massachusetts Institute of Technology, and Stanford University - A Report Prepared for the United States Department of Energy, “Nuclear and Renewable Energy Synergies Workshop: Report of Proceedings”, December 2011, <http://www.nrel.gov/docs/fy12osti/52256.pdf>, Chetan]

The U.S. Energy Freedom Center represents the end-state vision of the Initiative that closes the nuclear and carbon fuels cycles. The Center is planned as an SMR development and demonstration complex that will utilize nuclear process heat to produce hydrocarbon, synthetic, and alternative fuels, and will spawn energy related manufacturing and other supply chain vendors in the surrounding region. Together, the Center and surrounding manufacturing facilities are intended to create sustainable manufacturing and energy production jobs in the “regional energy corridor.” 2.5 Small Reactors for Energy Supply: Islanded Generation and Load Management Philip O. Moor of High Bridge Associates, with the help of his colleague Bruce Alatary, introduced the advantages that SMRs provide for the challenges and threats of the modern power system. Moor stated that one of the challenges is that mismatches between generation and load cause frequency mismatches and require a variety of sources to generate and store power (Moor and Alatary 2011). Another challenge that Moor identified is managing disruptions. The current power system includes baseload generation, spinning reserve with rapid ramp up, and other fast-start units like simple gas turbines. Any disruption to this electricity supply chain can be costly and require long recovery times. These disruptions include natural threats like earthquakes and severe weather, as well as manmade threats such as vandalism, cyberattacks, and terrorism. Furthermore, existing energy storage options only provide short-term solutions for grid disruptions. Moor defined the Smart Grid as a collective term for communication and control enhancements to the electricity grid using digital information and advanced controls technology. It dynamically optimizes grid operations and resources to get power where it is needed, when it is needed, while minimizing peaks and spinning reserve requirements. Moor identified the challenge of protection from increased susceptibility to cyberattack due to advanced computer technology. Moor advocated for SMRs as an alternative, non-fossil fuel generation source to enhance system reliability. SMRs offer secure multi-year operation that can be run independent of the grid if desired. Like other nuclear options, SMR operations are free of greenhouse gas emissions. Like other nuclear power technologies, thermal energy from SMRs can be used for ancillary purposes like district heating and industrial process heat to enhance cycle efficiency. In addition, SMRs are compatible with renewable resources like wind, solar, biomass, and tidal power. SMRs could also form the basis of a localized or “islanded” grid that is isolated from the larger power grid either geographically or by design. Moor described hypothetical micro-grids based on paired SMRs with backup diesel generators used to guarantee power to essential services. He stated that while water-cooled SMRs require automated systems, liquid-metal cooled and gascooled SMRs inherently follow load. Thus they have advantages in an islanded grid. When electricity demand is low, the SMR could provide energy to ancillary services like water purification, district heating, and hydrogen production.

Retrenchment links to all our offense- it causes aggression, triggers a power vacuum and causes global war

Poffenbarger and Schaefer 2009

[John G., Dept Social Sciences @ Wheeling Jesuit U, and Mark E., Dept History, Philosophy, Poli. Sci. and Religion @ Marietta College, "Searching for Acceptance: The United States and South America," for presentation at the 2009 International Studies Assoc. Annual Conference, February 17, AllAcademic | VP]

It is our contention that a strategy of hegemony is preferable to one of offshore balancing for several reasons. First, we believe that the depth and breadth of United States’ interests may not be best served by the use of regional proxies. The utilization of regional partners is certainly a possibility for an actor such as the United States, however off-shore balancing seems to call for an over reliance on such partners that could weaken United States power and interests. Second, the realities of the recent Bush administration’s policies may not allow for such a strategic adjustment to offshore balancing. That is not to say that the United States might not seek to reduce its exposure abroad in some areas, but a move to an off-shore balancing strategy at this time may send the wrong message to allies and potential rivals. Next, a move away from a strategy of hegemony would likely trigger a power vacuum in some areas. The European Union faces problems of unity, cohesion, willingness, and a lack of structure to deal with most of the situations currently faced by the United States. Russia, while seeing a resurgence of power in recent years, does not appear to currently have global ambitions, but more likely wishes to focus on its “near-abroad”. (This “near abroad” also seems to lie within United States’ security and economic purview.) China also appears to currently have limited global interests, as it seeks to finalize its development and gain global energy access, but it also may be searching for ways to alter its relative power in relation to the United States. Finally, it is our belief that such a dramatic change in strategy may actually trigger more balancing; as such a withdrawal may send a signal of vulnerability and a lack of willingness to latent balancers. We contend that the United States would be best served by maintaining its current position in the international system, and by simply taking steps to mitigate the motivations for balancing while seeking to attract bandwagoners.

#### Heg solves proliferation – liberalism and security umbrella

Deudney et. al 11 [Daniel is associate professor of Political Science at John’s Hopkins University. Edited by Michael Mastanduno, Professor of Government and Dean of Faculty at Dartmouth College, and G. John Ikenberry, Professor of Politics and International Affairs at Princeton University, William Wolforth, the Daniel Webster Professor at Dartmouth College, where he teaches in the Department of Government, “Unipolarity and nuclear weapons” 2011 International Relations Theory and the Consequences of Unipolarity pg. 305]

The diffusion of nuclear weapons in the international system is significantly entangled with the role of the unipolar hegemonic state. The existence of a unipolar state playing the role of a liberal hegemon has arguably been a major constraint on the rate and extent of proliferation. The extended military alliance system of the United States has been a major reason why many potentially nuclear states have forgone acquisition. Starting with Germany and Japan, and extending to a long list of European and East Asian states, the American alliances are widely understood to provide a “nuclear umbrella.” Overall, without such a state playing this role, proliferation would likely have been much more extensive.

The liberal features of the American hegemonic sate also have contributed to constrain the rate and extent of proliferation. American leadership, and the general liberal internationalist vision of law-governed cooperative international politics, both enabled and infuses the non-proliferation regime. Similarly, the robust and inclusive liberal world trading system that has been a distinctive and salient feature of the American liberal hegemonic system offers integrating states paths to secure themselves that make nuclear acquisition less attractive.

#### Impact’s inevitable – the US will always intervene

Shalmon and Horowitz 9(Dan, Mike, Total B.A.’s, Orbis, Spring)

It is important to recognize at the outset two key points about United States strategy and the potential costs and benefits for the United States in a changing security environment. First, the United States is very likely to remain fully engaged in global affairs. Advocates of restraint or global withdrawal, while popular in some segments of academia, remain on the margins of policy debates in Washington D.C. This could always change, of course. However, at present, it is a given that the United States will define its interests globally and pursue a strategy that requires capable military forces able to project power around the world. Because ‘‘indirect’’ counter-strategies are the rational choice for actors facing a strong state’s power projection, irregular/asymmetric threats are inevitable given America’s role in the global order.24

and interdependent nations hold visions of the world severely at odds with one another, the world grows dangerous.

#### Absence of hegemony causes multiple hotspots for conlflict – China/Taiwan, Russia/Georgia, India/Pakistan, and Middle Eastern states – that’s Kagan 7

#### Transition away from heg goes nuclear

Posen and Ross 97 [Barry Posen, Professor of Political Science in the Defense and Arms Control Studies Program at MIT, Andrew Ross, Professor of National Security Studies at the Naval War College, International Security, Winter 1997]

The United States can, more easily than most, go it alone. Yet we do not find the arguments of the neo-isolationists compelling. Their strategy serves U.S. interests only if they are narrowly construed. First, though the neo-isolationists have a strong case in their argument that the United States is currently quite secure, disengagement is unlikely to make the United States more secure, and would probably make it less secure. The disappearance of the United States from the world stage would likely precipitate a good deal of competition abroad for security. Without a U.S. presence, aspiring regional hegemons would see more opportunities. States formerly defended by the United States would have to look to their own military power; local arms competitions are to be expected. Proliferation of nuclear weapons would intensify if the U.S. nuclear guarantee were withdrawn. Some states would seek weapons of mass destruction because they were simply unable to compete conventionally with their neighbors. This new flurry of competitive behavior would probably energize many hypothesized immediate causes of war, including preemptive motives, preventive motives, economic motives, and the propensity for miscalculation**. There would** like **be more war. W**eapons of **m**ass **d**estruction **might be used in** some of **the wars**, with unpleasant effects even for those not directly involved.

#### Unipolarity is the only check on conflicts

Wohlforth 9 **[**William Wohlforth (professor of government at Dartmouth College) 2009 “Unipolarity, Status Competition, and Great Power War”Project Muse]

The evidence suggests that narrow and asymmetrical capabilities gaps foster status competition even among states relatively confident of their basic territorial security for the reasons identified in social identity theory and theories of status competition. Broad patterns of evidence are consistent with this expectation, suggesting that unipolarity shapes strategies of identity maintenance in ways that dampen status conflict. The implication is that unipolarity helps explain low levels of military competition and conflict among major powers after 1991 and that a return to bipolarity or multipolarity would increase the likelihood of such conflict. This has been a preliminary exercise. The evidence for the hypotheses explored here is hardly conclusive, but it is sufficiently suggestive to warrant further refinement and testing, all the more so given [End Page 56] the importance of the question at stake. If status matters in the way the theory discussed here suggests, then the widespread view that the rise of a peer competitor and the shift back to a bipolar or multipolar structure present readily surmountable policy challenges is suspect. Most scholars agree with Jacek Kugler and Douglas Lemke’s argument: “[S]hould a satisfied state undergo a power transition and catch up with dominant power, there is little or no expectation of war.” 81 Given that today’s rising powers have every material reason to like the status quo, many observers are optimistic that the rise of peer competitors can be readily managed by fashioning an order that accommodates their material interests. Yet it is far harder to manage competition for status than for most material things. While diplomatic efforts to manage status competition seem easy under unipolarity, theory and evidence suggest that it could present much greater challenges as the system moves back to bipolarity or multipolarity. When status is seen as a positional good, efforts to craft negotiated bargains about status contests face long odds. And this positionality problem is particularly acute concerning the very issue unipolarity solves: primacy. The route back to bipolarity or multipolarity is thus fraught with danger. With two or more plausible claimants to primacy, positional competition and the potential for major power war could once again form the backdrop of world politics. [End Page 57]

#### Reducing reliance on forward deployment causes a shift to PGS, causes nuclear miscalc

**Woolf 11** [Amy F. Woolf Specialist in Nuclear Weapons Policy, “Conventional Prompt Global Strike and Long-Range Ballistic Missiles: Background and Issues”, 6/21/11, <http://fpc.state.gov/documents/organization/167962.pdf>]

Prompt global strike (PGS) would allow the United States to strike targets anywhere on earth with conventional weapons in as little as an hour. This capability may bolster U.S. efforts to deter and defeat adversaries by allowing the United States to attack high-value targets or “fleeting targets” at the start of or during a conflict. Congress has generally supported the PGS mission, but it has restricted funding and suggested some changes in funding for specific programs. Many analysts believe that the United States should use long-range ballistic missiles armed with conventional warheads for the PGS mission. These weapons would not substitute for nuclear weapons in the U.S. war plan but would, instead, provide a “niche” capability, with a small number of weapons directed against select, critical targets, which might expand the range of U.S. conventional options. Some analysts, however, have raised concerns about the possibility that U.S. adversaries might misinterpret the launch of a missile with conventional warheads and conclude that the missiles carry nuclear weapons. DOD is considering a number of systems that might provide the United States with long-range strike capabilities. The Air Force and Navy have both considered deploying conventional warheads on their longrange ballistic missiles. The Navy sought to deploy conventional warheads on a small number of Trident II submarine-launched ballistic missiles. In FY2008, Congress rejected the requested funding for this program. The Air Force and DARPA are developing a hypersonic glide delivery vehicle that could deploy on a modified Peacekeeper land-based ballistic missile—a system known as the Conventional Strike Missile (CSM). In FY2008, Congress created a single, combined fund for the conventional prompt global strike (CPGS) mission. This fund is supporting research and development into the Air Force CSM and two possible hypersonic glide vehicles. The Obama Administration has requested $239.9 million for the CPGS program in FY2011. Congress may consider a number of issues when it reviews the budget requests for CPGS weapons. It may question DOD’s rationale for the mission, **reviewing whether the United States might face circumstances in conflicts where it would have to attack targets promptly at the start of or during a conflict, and when it could not rely on forward-based land or naval force**s. It might also review whether this capability would reduce U.S. reliance on nuclear weapons or whether, as some critics have asserted, it might upset stability and possibly increase the risk of a nuclear response to a U.S. attack. This risk derives, in part, from the possibility that nations detecting the launch of a U.S. PGS weapon would not be able to determine whether the weapon carried a nuclear or conventional warhead. Congress has raised concerns about this possibility in the past.

### 2AC: T – Procurement ≠ Financial Incentive

#### We meet – we provide financial incentives for investors to build SMRs, the procurement is just a guarantee

#### CI - Financial incentives induce behaviors using cash

Webb 93 – lecturer in the Faculty of Law at the University of Ottawa (Kernaghan, “Thumbs, Fingers, and Pushing on String: Legal Accountability in the Use of Federal Financial Incentives”, 31 Alta. L. Rev. 501 (1993) Hein Online)

In this paper, "financial incentives" are taken to mean disbursements 18 of public funds or contingent commitments to individuals and organizations, intended to encourage, support or induce certain behaviours in accordance with express public policy objectives. They take the form of grants, contributions, repayable contributions, loans, loan guarantees and insurance, subsidies, procurement contracts and tax expenditures.19 Needless to say, the ability of government to achieve desired behaviour may vary with the type of incentive in use: up-front disbursements of funds (such as with contributions and procurement contracts) may put government in a better position to dictate the terms upon which assistance is provided than contingent disbursements such as loan guarantees and insurance. In some cases, the incentive aspects of the funding come from the conditions attached to use of the monies.20 In others, the mere existence of a program providing financial assistance for a particular activity (eg. low interest loans for a nuclear power plant, or a pulp mill) may be taken as government approval of that activity, and in that sense, an incentive to encourage that type of activity has been created.21 Given the wide variety of incentive types, it will not be possible in a paper of this length to provide anything more than a cursory discussion of some of the main incentives used.22 And, needless to say, the comments made herein concerning accountability apply to differing degrees depending upon the type of incentive under consideration. By limiting the definition of financial incentives to initiatives where *public funds are either disbursed or contingently committed*, a large number of regulatory programs with incentive *effects* which exist, but in which no money is forthcoming,23 are excluded from direct examination in this paper. Such programs might be referred to as *indirect* incentives. Through elimination of indirect incentives from the scope of discussion, thedefinition of the incentive instrument becomes both more manageable and more particular. Nevertheless, it is possible that much of the approach taken here may be usefully applied to these types of indirect incentives as well.24 Also excluded from discussion here are social assistance programs such as welfare and *ad hoc* industry bailout initiatives because such programs are not designed primarily to *encourage* behaviours in furtherance of specific public policy objectives. In effect, these programs are assistance, but they are not incentives.

#### Our definition’s from the DoE

Waxman 98 **–** Solicitor General of the US (Seth, Brief for the United States in Opposition for the US Supreme Court case HARBERT/LUMMUS AGRIFUELS PROJECTS, ET AL., PETITIONERS v. UNITED STATES OF AMERICA, http://www.justice.gov/osg/briefs/1998/0responses/98-0697.resp.opp.pdf)

2 On November 15, 1986, Keefe was delegated “the authority, with respect to actions valued at $50 million or less, to approve, execute, enter into, modify, administer, closeout, terminate and take any other necessary and appropriate action (collectively, ‘Actions’) with respect to Financial Incentive awards.” Pet. App. 68, 111-112. Citing DOE Order No. 5700.5 (Jan. 12, 1981), the delegation defines “Financial Incentives” as the authorized financial incentive programs of DOE, “including direct loans, loan guarantees, purchase agreements, price supports, guaranteed market agreements and any others which may evolve.” The delegation proceeds to state, “[h]owever, a separate prior written approval of any such action must be given by or concurred in by Keefe to accompany the action.” The delegation also states that its exercise “shall be governed by the rules and regulations of [DOE] and policies and procedures prescribed by the Secretary or his delegate(s).” Pet. App. 111-113

#### Here’s a list of financial incentives we allow

Manage 6 (12 Manage, management portal which contains over 400 methods and theories along with more than 1500 management terms, “Incentives,” 3-9, http://www.12manage.com/description\_incentives.html)

Definition Incentives. Description.

An Incentive is any extrinsic reward factor that motivates an employee or manager or team to achieve an important business goal on top of his/her/their intrinsic motivation. It is a factor aiming to shape or direct behavior. In an optimal form, executives and employees should be remunerated well (but cost-effectively) where they deserve it, and not where they do not. Pay-offs for failure should be kept to a minimum. Furthermore, to be effective, a layered or gradual approach is better than an all-or-nothing incentive. A smart executive reward scheme is one of the pillars to ensure entrepreneurial behavior and maximizing shareholder value (Compare: Value Based Management). An incentive is unlike coercion, in that coerced work is motivated by the threat or use of violence, punishment or negative action, while an incentive is a positive stimulation. Incentives can also be used as Anti Hostile Takeover Mechanisms.

categories of incentives. Classes

 Financial Incentive. Also called, Remunerative Incentive, this category involves offering a material reward (often in the form of money) in exchange for certain results or behavior. In business, this is the most important category. The many variants include:

 Profit sharing (the traditional, oldest approach).

 Merit pay (merit wage or salary increase, often depending on the results of an appraisal).

 Scientific Management (Taylor) and Piece-Rate systems (very effective on productivity, but may lead to quality issues).

 Pay for Performance or Gain Sharing.

 Moral Incentive. Where a particular behavior is widely regarded as the right thing to do, or as particularly admirable, or where the failure to act in a certain way is condemned as indecent.

 Coercive Incentive. Where a failure to behave in a certain way or to achieve certain results can be expected to result in physical force being used.

Furthermore, incentives can be either a:

 Personal Incentive (motivating a specific individual person).

 Social Incentive (motivating any individual in certain circumstances).

#### Prefer it

#### Ground – allows a wider variety of incentive mechanisms which are key since the reduce restrictions part of the topic is the biggest– forcing the aff to spend government money is the only stable mechanism for disad links and counterplan competition.

#### Predictable – it’s the only big SMR aff, you should be prepared to debate it

#### Prefer reasonability – they can always find the most limiting interpretation to exclude any aff – kills topic education because teams will go for T instead of researching the topic

### 2AC – Geo engineering CP

#### Doesn’t solve warming – they can’t solve a global transition away from fossil fuel use, geo eningeering by one country isn’t sufficient to stop runaway warming – only we solve global transition which is the Solan and King evidence

#### CP definitely links to heg bad – unilateral action to change the world wtf

#### Reducing fossil fuel reliance is key – geo-engineering probably won’t work and might even causes something worse than global warming

Guardian Unlimited 8, 2008, September 5, 2008, (HEADLINE: Necessity's inventions, p. Lexis)

The infant science of geo-engineering - one that so many would gladly see strangled in its cradle - could grow into the best job creation scheme for universities ever invented. Every one of the contributors to the Royal Society's Philosophical Transactions special on how to confront global warming with gee-whizz technology warns that the engineering is difficult, the outcome unpredictable, the side-effects possibly perilous and the expense prodigious. And that before any of it gets attempted, more research will be necessary. For those who have been asleep in the back of the class: a tiny rehearsal. Geo-engineering is one of the get-out-of-jail-free cards routinely played by the climate change sceptics when it begins to look, even to them, as though global warming might after all be a reality and that profligacy with human resources might - just might - have played some marginal role. Well, they say: why give up our cars, our technology, our cheap air travel and our patio heaters? Human ingenuity will surely find a way out of the situation. What's wrong with uncontrolled growth? Surely more wealth means more technological potential, higher population levels mean an even bigger crop of really clever people to find future solutions. And, they point out, so many doomsayers have been wrong in the past, who says the current bunch will be right now? So according to this argument, geo-engineering could be the perfect technological response to a problem fuelled in the first place by profligate technological invention. Why not place a tier of sunshades a million miles from Earth, at a strategic point between the planet and the sun to deflect or absorb a proportion of the solar radiation? Why not erect thousands of vast structures to absorb surplus carbon dioxide and bury it, the way trees soak up the stuff and turn it into wood? Why not darken the clouds with sulphur particles, and recreate the murk of acid rain, but at least stop the poles from melting? Why not cruise across the oceans in robot wind-powered sailing vessels spraying fine particles of brine toward the clouds, to seed condensation and make them whiter and more reflective? Why not dust the oceans with iron filings and trigger carbon-consuming plankton blooms, or achieve the same effect by mixing deep and surface ocean waters, with an array of vast floating funnels? Some or all these things would bring the planetary thermometer tumbling to comfortable levels, and then we could go on as before. And this is the point at which the scientists published by the Royal Society become embarrassed cheerleaders for the technological fix. It would be so much better, they all agree, if the world changed its ways, reduced its dependence on fossil fuels, and tried to live sustainably. But since almost nobody shows any real signs of wishing to adopt the sustainable answer - and that includes most of the nations that have signed up to the Kyoto protocol, never mind the ones that have no intention of doing so - then we had better think about some other options now, they argue, because a decade down the line it will be too late. It may seem daft to mitigate the challenge of energy profligacy by expending even more energy, of responding to uncontrolled economic growth by spending even more money on even more ambitious projects, but - they argue - tough. What else should we do? Let us at least look at the technological challenges. So in each paper, in the preface and in the critiques, the ideas come with explicit or implied intellectual health warnings. The stratagems may not work at all, or they may work too well and threaten to **tip the world into an ice age**, or they may seem to work for a while but just trigger some other, **unforeseen chain reaction** in the great climate machine, and so **make things worse**, or they may alleviate global warming in one of the few areas of the planet where people would welcome it but make things even worse for rival or partner nations across the sea or on the other side of the mountain range. The ideas might be sound, but the proposed technologies might not be up to the challenge, and require rethinking. The energy costs might be too high (although hardly as high as the cost of doing nothing and letting global warming run away) or the scientific understanding behind the logic of temperature manipulation on a planetary scale might turn out to be incomplete

#### Pumping Sulphur doesn’t solve ocean acidification

Economist.Com, 2007, January 15, 2007 Monday, (HEADLINE: Dr Strangelove saves the earth;
Green.view, How big science might fix climate change, p. Lexis)

Schemes of this kind may sound half-crazy; and, admittedly, they do tend to have some technical and aesthetic complications. Deliberately polluting the stratosphere would make the sky less blue, although sunsets would probably be prettier. Blocking out the sun might keep the planet cool, but it would do little to address other effects of high carbon-dioxide levels, such as the acidification of the oceans.

#### CO2 Acidification causes Extinction

NYT, 2006, 31 October 2006, (Nicholas D. Kristof, Scandal below the surface)

If you think of the earth’s surface as a great beaker, then it’s filled mostly with ocean water. It is slightly alkaline, and that’s what creates a hospitable home for fish, coral reefs and plankton — and indirectly, higher up the food chain, for us. But scientists have discovered that the carbon dioxide we’re spewing into the air doesn’t just heat up the atmosphere and lead to rising seas. Much of that carbon is absorbed by the oceans, and there it produces carbonic acid — the same stuff found in soda pop. That makes oceans a bit more acidic, impairing the ability of certain shellfish to produce shells, which, like coral reefs, are made of calcium carbonate. A recent article in Scientific American explained the indignity of being a dissolving mollusk in an acidic ocean: “Drop a piece of chalk (calcium carbonate) into a glass of vinegar (a mild acid) if you need a demonstration of the general worry: the chalk will begin dissolving immediately.” The more acidic waters may spell the end, at least in higher latitudes, of some of the tiniest variations of shellfish — certain plankton and tiny snails called pteropods. This would disrupt the food chain, possibly killing off many whales and fish, and rippling up all the way to humans. We stand, so to speak, on the shoulders of plankton.

#### Geo-engineering doesn’t stop warming and takes decades

Bijal Trivedi, 2008, June 5, 2008, Popular Mechanics, Hacking Earth Against Warming, Scientists Favor Fake Volcanoes)

In the future, they say, successful geoengineering projects could provide **a false sense of security**, and diminish the urgency of reducing greenhouse gas emissions. And should the fix unexpectedly fail, high CO2 levels from unabated emissions could trigger **the worst-case scenario** for global warming. To be fair, no one on Tuesday's panel proposed geoengineering as a silver bullet, but something to be considered among a suite of steps that include reducing emissions and increasing R&D for [carbon sequestration](http://www.popularmechanics.com/science/earth/4267140.html). "Anyone who says that geoengineering offers a policy solution to climate change is decades ahead of the science," Gulledge says. "And that's not a safe place to be."

#### SMR’s are key to successful desalination – solves water wars

Solan et al 10 – Assistant Professor of Public Policy & Administration and Director of the Energy Policy Institute at Boise State University (David, June. “Economic and Employment Impacts of Small Modular Nuclear Reactors.” Energy Policy Institute, Center for Advanced Energy Studies. http://epi.boisestate.edu/media/3494/economic%20and%20employment%20impacts%20of%20smrs.pdf)

Besides electricity generation, additional applications may be well-suited for SMR systems in the future. While the applicability of nuclear energy to additional applications is not dependent on facility size, the actual use of large nuclear facilities does not occur due to economic considerations. Currently, only a few countries utilize nuclear energy for non-generation purposes, primarily desalination and district heating (IAEA, 2008). A brief overview of the application possibilities for SMRs is provided below. Desalination.&&The IAEA has identified desalination as possibly the leading non-electric civilian use for nuclear energy. Water scarcity is becoming an increasingly problematic global issue in both developed and developing countries. As noted in an IAEA (2007) report, Because of population growth, surface water resources are increasingly stressed in many parts of the world, developed and developing regions alike. Water stress is counter to sustainable development; it engenders disease; diverts natural flows, endangering flora and fauna of rivers, lakes wetlands, deltas and oceans; and it incites regional conflicts over water rights. In the developing world, more than one billion people currently lack access to safe drinking water; nearly two and a half billion lack access to adequate sanitation services. This would only get worse as populations grow. Water stress is severe in the developed world as well…In light of these trends, many opportunities in both developed and developing countries are foreseen for supply of potable water generated using nuclear process heat or off-peak electricity (p. 23).

#### Extinction

Weiner 90 (Jonathan, Pulitzer Prize winning author, “The Next One Hundred Years”, p. 270)

If we do not destroy ourselves with the A-bomb and the H-bomb, then we may destroy ourselves with the C-bomb, the Change Bomb. And in a world as interlinked as ours, one explosion may lead to the other. Already in the Middle East, from North Africa to the Persian Gulf and from the Nile to the Euphrates, tensions over dwindling water supplies and rising populations are reaching what many experts describe as a flashpoint. A climate shift in that single battle-scarred nexus might trigger international tensions that will unleash some of the 60,000 nuclear warheads the world has stockpiled since Trinity.

#### 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.

### 2AC – K

#### 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.

#### Their double bind makes no sense – the harms of the 1AC can both be true and we can solve them, the role of the judge is a policymaker and has agency to embrace the plan to avert inevitable climate change and grid instability

#### Their apocalyptism arguments are all inidicative of pre-Iraq fear mongering

#### Threats are real

#### Somerville = warming is happening now, factually true means we need to do something about it

#### Andres and Breetz, the grid is fragile and there are increasing attacks, more evidence

#### Cyberterror threats are increasing – non-state actors have easy access to hacking technology

Information Week 12 [“Cyber Attacks Becoming Top Terror Threat, FBI Says”, February 1st, 2012, <http://www.informationweek.com/government/security/cyber-attacks-becoming-top-terror-threat/232600046>, Chetan]

Cyber attacks against government agencies and businesses in the United States continue to rise, and cyber threats will one day surpass the danger of terrorism to the United States, intelligence community officials said in an open hearing of the Senate select intelligence community Tuesday. "Stopping terrorists is the number one priority," said FBI director Robert Mueller. "But down the road, the cyber threat will be the number one threat to the country. I do not think today it is necessarily [the] number one threat, but it will be tomorrow." The rare open hearing of the Senate's intelligence committee, an annual one that surveys the threats to the United States from around the globe, included testimony by Mueller, director of national intelligence James Clapper, and CIA director David Petraeus. Tuesday's hearing looked at the broad spectrum of threats to the nation, but numerous administration officials will brief Congress in a classified hearing today that will focus more pointedly on cybersecurity. Congress' interest in cybersecurity remains high. Both the House and Senate continue to work toward comprehensive legislation on the issue. The House Committee on Homeland Security is marking up cybersecurity legislation Wednesday, and the Senate will move to consider a comprehensive cybersecurity bill later this month, though industry has raised concerns about cost over the Senate bill. The Senate homeland security and governmental affairs committee has indicated that it may hold a hearing on that bill within the next two weeks. Clapper said that cybersecurity is already at the forefront of national security concerns, right there with terrorism, proliferation of weapons, and espionage. "In the last year, we observed increased breadth and sophistication of computer network operations by both state and non-state actors," he said in prepared testimony. The greatest challenges to protecting against cyber threats, Clapper said, are the difficulty of providing timely and actionable warning of attacks--he cautioned that "many intrusions into U.S. networks are not being detected"--and the complex vulnerabilities within the IT supply chain. Attribution remains a difficult technical challenge, but the government is increasingly sharing threat information among government agencies and with the private sector. Vulnerabilities in the IT supply chain have been a concern for the Department of Defense for several years, but the issue has not been raised to the same level of public discourse as information sharing and the range of cybersecurity technologies that agencies are implementing to thwart attacks. Clapper singled out attacks from China and Russia as the biggest threats from state actors and said that those two countries have been responsible for "extensive illicit intrusions" into U.S. networks, but also said that Iran's cyber capabilities have "increased in depth and complexity" in recent years. China and Russia have been high on cyber-watchers' lists of concerns for several years now, but Iran is a relatively new addition. Iran's military recently claimed that it brought down an American drone by hacking into its guidance systems. The intelligence community isn't concerned only with threats from other countries, however. Clapper said that non-state actors are increasingly gaining in prominence, and in fact already have "easy access to potentially disruptive and even lethal technology." For example, he noted that hacker groups like Anonymous and LulzSec have been carrying out a consistent campaign of distributed denial of service attacks and website defacements, and that intrusions into NASDAQ and the International Monetary Fund "underscore the vulnerability of key sectors of the economy." Targets against security technologies themselves, such as last year's attack against security company RSA, which led to several other attacks, are also of particular concern, Clapper said. He also lashed out against "wholesale plundering" of American intellectual property. At the hearing, senators also sparred with witnesses about which agencies would take charge in the event of a major cyber-attack, and what the role of the president would be. For example, Sen. Barbara Mikulski, D-Md., raised concerns about what would happen in the event of an attack on the electrical grid of a city hosting a political convention. While representatives from the DHS and FBI both said the initial response would fall to DHS, FBI director Mueller said that the FBI or NSA would be the ones to determine attribution.

#### Framework – evaluate the aff vs. status quo or a competitive policy option. That’s best for fairness and predictability – there are too many frameworks to predict and they moot all of the 1ac – makes it impossible to be aff. Only our framework solves activism.

#### 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.

#### Perm do the plan and reject all other instances of apocalyptic rhetoric

#### Apocalyptic rhetoric shocks the public into environmentalism

Killingsworth and Palmer 96 (Jimmie, Professor of English – Southwest Educational Development, and Jacqueline, Researcher – Southwest Educational Development, “Millenial Ecology”, Green Culture)

At least partly, the new millennialism represents a radical attempt to replace the ideology of progress and to dislodge from power its primary perpetuators and beneficiaries in big business, big government, and big science-to overturn the technocapitalist enterprise that fuels the economy of the developed world. In this essay, however, we argue that, contrary to initial impressions, literal readings, and the assumptions of antienvironmentalists, the most influential apocalyptic narratives do not undertake a wholesale attack on the ideology of progress or its attendant faith in science, technology, and liberal democracy. These texts appear not as the rhetorical equivalent of total war but as **shock tactics** to win the hearts and minds of the general public at crucial historical periods in which the need is perceived to extend and broaden commitments to the environmental movement. One such historical watershed formed in the 1960s, when the environmental movement enjoyed its first surge of public support under the inspiration of Rachel Carson's visionary polemic Silent Spring. By charting the responses and reactions to Carson's influential use of apocalyptic narrative in the literature of environmental advocacy, we argue that millennial rhetoric bears a **dialectical relation** to public support for the environmental movement. It alternately reflects and builds a growing public awareness. It aims to transform the consciousness that a problem exists into acceptance of action toward a solution by prefacing the solution with a future scenario of what could happen if action is not taken, if the problem goes untreated.

#### B) Multiple examples prove

 --Silent Spring --Quit Crisis --Nader --Population Bomb --Science and Survival

Coglianese 1 (Cary, Associate Professor of Public Policy – JFK School, 150 U. Pa. L. Rev. 85, November)

In the 1960s, the American environmental movement reawakened. Controversies in the midcentury had erupted over public dams in the West and the dangers of nuclear conflict, but the movement's renaissance fully blossomed in the 1960s. In 1962, Rachel Carson published Silent Spring, dramatically warning of the long-term dangers of pesticide use. n18 In succeeding years, Carson's book was joined by others that warned of environmental and social decay precipitated by unregulated industrial activity, including Stewart Udall's The Quiet Crisis, n19 Ralph Nader's Unsafe at Any Speed, n20 Paul Ehrlich's The Population Bomb, n21 and Barry Commoner's Science and Survival. n22 These popular books of the time not only warned of dangers from industrial activities, but also provided the public with a **new conceptual apparatus** for understanding ecological relationships and for **constructing a broad-scale political movement**. n23 Moreover, messages of ecological alarm and activism found a receptive audience during the sixties, when there was broader social unrest over civil rights and the Vietnam War. This sense of alarm was further fueled by several highly visible environmental disasters, including a major oil spill in Santa Barbara in 1969, and the infamous burning of the Cuyahoga River in Ohio. n24

#### Fear spurs compassion and mobilizing action

Greenspan 3 (Miriam Greenspan – Pioneer in the Area of Women’s Psychology – 2003 (“An Excerpt from Healing through the Dark Emotions: The Wisdom of Grief, Fear, and Despair by Miriam Greenspan,” www.spiritualityhealth.com/newsh/excerpts/bookreview/excp\_5513.html)

"Fear is a very powerful emotion. When you feel fear in your body, it's helpful to relate to it as an energy that can be mobilized for life. It may feel like a constriction in your chest, throat, or abdomen. Breathe through it without judgment and allow yourself to feel it as a very strong force. If you pray for help, you can begin to expand this energy we call 'fear' and use it for healing and transformation. "In this regard, we can take our model from the heroes of Flight 93 who. realizing that they were bound for death, stormed the plane and brought it down without hitting a civilian target. One cannot even imagine being able to do this without fear. Fear for the lives of others was the energy that mobilized them to do something meaningful with their last moments of life. Some of these people said good-bye to their husbands and wives and wished them happiness before they left this earth. They had found some peace in their last moments, peace in the midst of turbulence. And they found it through their last wish, which they heroically put into action: to help others live. "Perhaps there is nothing that can redeem the dead but our own actions for the good. This is a time to find out what we want to do for the world and do it. And, as every trauma survivor knows, this is the way to make meaning out of pain, perhaps the most effective way: to draw something good out of evil. The heroes of September 11 point us to the choice we each have: to help create a state of global peace and justice that we, like they, will not see before we die. It is in giving ourselves to this vision, out of love for this world that we inhabit together, that we stand a chance of transcending the human proclivity to damage life. And that we honor those we have brought into this world and who must inherit it. . . . "Our only protection is in our interconnectedness. This has always been the message of the dark emotions when they are experienced most deeply and widely. Grief is not just "my" grief; it is the grief of every motherless child, every witness to horror in the world. Despair is not just "my" despair; it is everyone's despair about life in the twentyfirst century. Fear is not just 'my' fear; it is everyone's fear — of anthrax, of nuclear war, of truck bombs, of airplane hijackings, of things falling apart, blowing up, sickening and dying. "If fear is only telling you to save your own skin, there's not much hope for us. But the fact is that in conscious fear, there is a potentially revolutionary power of compassion and connection that can be mobilized en masse. This is the power of fear. Our collective fear, which is intelligent, is telling us now: Find new ways to keep this global village safe. Find new forms of international cooperation that will root out evil in ways that don't create more victims and more evil. Leap out of the confines of national egos. Learn the ways of peace. Find a ceremony of safety so that not just you and I but all of us can live together without fear."

#### US-lead development of nuclear power solves poverty – clean, affordable energy is key

**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).