#### 1AC Warming

Contention 1 is the inferno

The earth is warming – short-term trends are irrelevant

Nordhaus, professor of environment, 12 – Professor in the School of Forestry and Environmental Studies at Yale University (William D., Sterling Professor of Economics at Yale University, holds a Certificat from the Institut d'Etudes Politiques and a Ph.D. in Economics from MIT, served in the Panel on Policy Implications of Greenhouse Warming and the Committee on the Implications for Science and Society of Abrupt Climate Change in the National Academy of Sciences, former Provost and Vice President for Finance and Administration at Yale, member of the Council of Economic Advisers in the Carter Administration, foreign member of the Royal Swedish Academy of Engineering Sciences, 3/22/12, “Why the Global Warming Skeptics Are Wrong,” *The New York Review of Books*, http://www.nybooks.com/articles/archives/2012/mar/22/why-global-warming-skeptics-are-wrong/?pagination=false)

The first claim is that the planet is not warming. More precisely, “

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plus is one of the most robust findings of climate science and statistics.

It’s happening fast

Perkins, earth science writer, 12 – earth science writer for Science News (Sid, 3/25/12, “Earth Warming Faster Than Expected,” Science News, http://news.sciencemag.org/sciencenow/2012/03/earth-warming-faster-than-expected.html)

By 2050, global average temperature could be between 1.4°C and

AND

"These sorts of numbers haven't been seen in other complex climate models."

It’s reversible – we haven’t reached the tipping point and won’t do so for decades

Climate Central 8/4 – nonpartisan climate information source (Michael D. Lemonick, senior writer at Climate Central and former staff writer for Time, 8/4/12, “Study Shows Planet Keeping Pace With CO2 Emissions,” http://www.climatecentral.org/news/new-study-shows-planet-keeping-pace-with-co2-emissions)

Climate change is a serious enough problem, but it could be a lot worse

AND

, “that we can cut back on fossil fuel emissions before that.”

It’s anthropogenic

Rahmstorf, professor of physics, 8 Professor of Physics of the Oceans at Potsdam University [Richard, Global Warming: Looking Beyond Kyoto. Edited by Ernesto Zedillo. “Anthropogenic Climate Change?” Page 42-49]

It is time to address the final statement: most of the observed warming over

AND

indeed predominantly due to the human-caused increase in greenhouse gases. '

Defer to consensus

Anderegg, DoE fellow, et al. 10 – Department of Energy Office of Science Graduate Fellow (William R.L., Ph.D. Candidate in the Department of Biological Sciences at Stanford University (where he studies the effects of climate change on forests); James W. Prall, Senior Systems Programmer in the Edward S. Rogers Sr. Department of Electrical and Computer Engineering at the University of Toronto; Jacob Harold, Philanthropy Program Officer for the William and Flora Hewlett Foundation; and Stephen H. Schneider, Ph.D. in Mechanical Engineering and Plasma Physics from Columbia University, Melvin and Joan Lane Professor for Interdisciplinary Environmental Studies at Stanford University, Professor of Biology at Stanford, Professor (by courtesy) of Civil and Environmental Engineering at Stanford, Senior Fellow at the Woods Institute for the Environment at Stanford, awarded the American Association for the Advancement of Science/ Westinghouse Award for Public Understanding of Science and Technology; 7/6/10, “Expert credibility in climate change,” *Proceedings of the National Academy of Sciences of the United States of America*, Volume 107, Number 27, pp. 12107-12109, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2901439/)

Preliminary reviews of scientific literature and surveys of climate scientists indicate striking agreement with the

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discussions in media, policy, and public forums regarding anthropogenic climate change.

Scenario 1 is extinction

Deibel 7 (Terry L. Deibel, professor of IR at National War College, Foreign Affairs Strategy, “Conclusion: American Foreign Affairs Strategy Today Anthropogenic – caused by CO2”)

Finally, there is one major existential threat to American security (as well as

AND

States, but potentially to the continued existence of life on this planet.

Scenario 2 is diseases

Warming unleashes new ones

ScienceDaily 8 [June 25, “Extreme Weather Events Can Unleash A 'Perfect Storm' Of Infectious Diseases, Research Study Says,” http://www.sciencedaily.com/releases/2008/06/080625073804.htm]

An international research team, including University of Minnesota researcher Craig Packer, has found

AND

University Professor of Ecology, Evolution and Behavior at the University of Minnesota.

Extinction

Daswani 96

[Kavita Daswani, *South China Morning Post* “Leading the way to a cure for AIDS”, 1-4, L/N]

Despite the importance of the discovery of the "facilitating" cell, it is

AND

large scale and imperil the survival of the human race," he said.

Scenario 3 is oceans

CO2 emissions cause ocean acidification

Ward, professor of geology, 10 – professor of biology and earth and space sciences at the University of Washington in Seattle (Peter D., Ph.D., Professor of geological sciences, Professor of zoology, Curator of paleontology at the University of Washington in Seattle, 6/29/10, *The Flooded Earth: Our Future In a World Without Ice Caps*, pp. 57-58, p. Google Books)

CARBON DIOXIDE AND OCEAN ACIDIFICATION¶ Not only do greenhouse gases destroy ice caps,

AND

rate is about one-hundredth of the changes we are witnessing now.

It kills ocean biodiversity

McKie 11 – science and technology editor for the Observer (Robin, 5/29/11, “Ocean acidification is latest manifestation of global warming,” The Guardian, http://www.guardian.co.uk/environment/2011/may/29/global-warming-threat-to-oceans)

But Vulcano's importance today has nothing to do with the rock and lava it has

AND

of course, are the parts that are of greatest importance to humans."

Extinction

Craig, professor of law, 3 Associate Prof Law, Indiana U School Law [McGeorge Law Review, 34 McGeorge L. Rev. 155 Lexis]

Biodiversity and ecosystem function arguments for conserving marine ecosystems also exist, just as they

AND

kill ourselves, and we will take most of the biosphere with us.

Climate change hurts agriculture

Brown, Earth Policy president, 8 – founder and President of Earth Policy Institute (Lester R., former head of the U.S. Department of Agriculture's International Agricultural Development Service, founded the Worldwatch Institute, won the 1987 United Nations Environment Prize, a MacArthur Foundation “genius award,” and the 1994 Blue Planet Prize, former tomato farmer, 2008, “Chapter 3. Rising Temperatures and Rising Seas: The Crop Yield Effect,” in *Plan B 3.0: Mobilizing to Save Civilization*, Earth Policy Institute, http://www.earth-policy.org/index.php?/books/pb3/PB3ch3\_ss3)

Agriculture as it exists today has been shaped by a climate system that has changed

AND

million people by mid-century, this is a troubling prospect. 20

#### 1AC No War

Contention 2 is impact framing

War is not an impact –

A. Integration

Deudney and Ikenberry, professors of politics, 9 – \*Professor of Political Science

AND

, Number 1, pp. 77-93, p. ProQuest)

Fortunately, this new conventional wisdom about autocratic revival is as much an exaggeration of

AND

growing incentives for states to engage in international cooperation regardless of regime type.

The resilience of autocracies calls not for abandoning or retreating from liberal internationalism but rather

AND

easily the world's current illiberal powers will choose the path of political reform.

RECALLING THE GREAT DEBATE

THE RECENT prophecies of autocratic revival mark a new stage in the debate over the

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a fundamental alternative to liberal capitalism persisted through much of the Cold War.

Two decades ago, the unexpected collapse of the Soviet Union and the international communist

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join the expanding capitalist international system gave further credibility to this liberal vision.

The debate was not simply about rival socioeconomic systems within states but also about rival

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and join, one that could reorient those states in a liberal direction.

It is against this backdrop that the recent claims of autocratic viability are being advanced

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run "may be too long to have any strategic or geopolitical relevance."

The supposed autocratic revival has also triggered a reassessment of why earlier autocratic states failed

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liberal narrative to intrinsic weaknesses of the model rather than to contingent circumstances.

This historical revisionism fails, however, to acknowledge the ways in which the relative

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the features of their political systems, giving heavy advantages to the Allies.

A WEAK REVIVAL

How compatible are authoritarian political systems with privateproperty-based capitalist economies today? The

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universal liberal peace. This thesis, however, has several profound weaknesses.

Proponents of the autocratic viability argument set up something of a straw man in their

AND

they can be ameliorated by the engagement and accommodation of the Western powers.

Contrary to the autocratic revival thesis, there are in fact deep contradictions between authoritarian

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the likelihood of severe conflict while creating strong imperatives for cooperative problem solving.

Those invoking the nineteenth century as a model for the twenty-first also fail

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international system is far more primed for peace than the autocratic revivalists acknowledge.

The autocratic revival thesis neglects other key features of the international system as well.

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inside and through the flexible and accommodating institutions of the liberal international order.

The fact that these autocracies are capitalist has profound implications for the nature of their

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economic order, let alone spoilers intent on seriously damaging the existing one.

The prospects for revisionist behavior on the part of the capitalist autocracies are further reduced

AND

processes and developments suggest that there are strong tendencies toward normalization operating here.

Finally, there is an emerging set of global problems stemming from industrialism and economic

AND

, thus placing a further premium on political integration and cooperative institution building.

Analogies between the nineteenth century and the twenty-first are based on a severe mischaracterization of the actual conditions of the new era. The declining utility of war, the thickening of international transactions and institutions, and emerging resource and environmental interdependencies together undercut scenarios of international conflict and instability based on autocratic-democratic rivalry and autocratic revisionism. In fact, the conditions of the twenty-first century point to the renewed value of international integration and cooperation.

Statistics prove

Boudreux, professor of economics, 6 (Donald J., Chair of the Economics Department at George Mason University, “Want World Peace? Support Free Trade”, November 20, http://www.csmonitor.com/2006/1120/p09s02-coop.html)

During the past 30 years, Solomon Polachek, an economist at the State University

AND

are to seek, or even to tolerate, harm to these foreigners.

B. Nuclear deterrence

Tepperman, citing Waltz, professor of politics, 9 – Deputy Editor and Managing Editor at Newsweek International (Jonathan, LL.M. in International Law from NYU, former Deputy Managing Editor of *Foreign Affairs*; citing Kenneth Waltz (Adjunct Professor of Political Science at Columbia University); 8/28/09, “Why Obama Should Learn to Love the Bomb,” http://www.thedailybeast.com/newsweek/2009/08/28/why-obama-should-learn-to-love-the-bomb.html)

These efforts are all grounded in the same proposition: that, as Obama has

AND

There's just one problem with the reasoning: it may well be wrong.

A growing and compelling body of research suggests that nuclear weapons may not, in

AND

(a nuke-free planet) that's both unrealistic and possibly undesirable.

The argument that nuclear weapons can be agents of peace as well as destruction rests

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that substantial period, there has not been any war among nuclear states."

To understand why—and why the next 64 years are likely to play out

AND

and underestimate the other side—and millions of innocents pay the price.

Nuclear weapons change all that by making the costs of war obvious, inevitable,

AND

it, "Why fight if you can't win and might lose everything?"

Why indeed? The iron logic of deterrence and mutually assured destruction is so compelling

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each instance, very different leaders all came to the same safe conclusion.

Take the mother of all nuclear standoffs: the Cuban missile crisis. For 13

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war, and both sides realized that, maybe for the first time."

The record since then shows the same pattern repeating: nuclear-armed enemies slide

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leaders in each country did what they had to do to avoid it.

Nuclear pessimists—and there are many—insist that even if this pattern has

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the ultimate rogues, the thinking goes—and there's no deterring rogues.

But are Kim and Ahmadinejad really scarier and crazier than were Stalin and Mao?

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were responsible for the deaths of some 20 million of their own citizens.

Yet when push came to shove, their regimes balked at nuclear suicide, and

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oppressive, but nothing in their behavior suggests they have a death wish.

C. Miscalculation and accidents are unlikely

Quinlan, professor of war, 9 – Visiting Professor in the Department of War Studies at King's College, London (Sir Michael, Consulting Fellow for South Asia at the International Institute for Strategic Studies, former Permanent Under-Secretary of State in the UK Ministry of Defence, former Director of the Ditchley Foundation, 4/15/09, *Thinking About Nuclear Weapons: Principles, Problems, Prospects*, pp. 67-71, p. Google Books)

There have certainly been, across the decades since 1945, many known accidents involving

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more frequent, and several aspects of doctrine and readiness arrangements more tense.

Similar considerations apply to the hypothesis of nuclear war being mistakenly triggered by false alarm

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the nuclear revolution imposed an order-of-magnitude increase in caution.

It was occasionally conjectured that nuclear war might be triggered by the real but accidental

AND

cosmic holocaust might be mistakenly precipitated in this way belongs to science fiction.

One special form of miscalculation appeared sporadically in the speculations of academic commentators, though it was scarcely ever to be encountered—at least so far as my own observation went—in the utterances of practical planners within government. This is the idea that nuclear war might be erroneously triggered, or erroneously widened, through a state under attack misreading either what sort of attack it was being subjected to, or where the attack came from.

The postulated misreading of the nature of the attack referred in particular to the hypothesis

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, long associated with nuclear missions, a capability to deliver conventional warheads.

Whatever the merit of those proposals (it is not explored here), it is

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if necessary—that there was no misinterpretation of its conventionally armed launch.

It may be objected to this analysis that in the cold war the two opposing

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that a conventional missile attack might be briefly mistaken for a nuclear one.

The other sort of misunderstanding conjectured—that of misreading the source of attack—

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the United Kingdom, and French thinking is unlikely to have been different.)

The unreality in this category of conjecture lay in the implication that such a scenario

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it would have been a different matter from misinterpretation of the initial strike.

As was noted earlier in this chapter, the arrangements under which nuclear-weapon

AND

action at short notice should be abandoned. Chapter 13 returns to this.

And nuclear war doesn’t cause extinction –

A. Number of weapons

Ball, professor of defense, 6 – Special Professor at the Strategic and Defence Studies Centre at the Australian National University (Desmond, May 2006, “The Probabilities of *On the Beach*: Assessing ‘Armageddon Scenarios’ in the 21st Century,” http://kms1.isn.ethz.ch/serviceengine/Files/ISN/18659/ipublicationdocument\_singledocument/572903b0-04ba-4180-8bcb-a249d8120feb/en/SDSC\_WP\_401.pdf)

The leading populariser of the ‘Nuclear Winter’ hypothesis was Carl Sagan, the brilliant

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100 million tonnes of smoke—for production of ‘Nuclear Winter’.7

I argued vigorously with Sagan about the ‘Nuclear Winter’ hypothesis, both in lengthy

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as to underestimate them (e.g., by omitting fallout casualties).

B. No impact to fallout

Martin, science researcher, 84 – research assistant in the Department of Applied Mathematics in the Faculty of Science at Australian National University (Brian Martin is a physicist whose research interests include stratospheric modeling, member of SANA, SANA UPDATE, MARCH)

Yet in spite of the widespread belief in nuclear extinction, there was almost no

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have left unaddressed the question of whether nuclear war inevitably means global extinction.

C. No nuclear winter

Martin, science researcher, 82 – research assistant in the Department of Applied Mathematics in the Faculty of Science at Australian National University (Brian Martin is a physicist whose research interests include stratospheric modeling, member of SANA, Current Affairs Bulletin, December, http://www.uow.edu.au/arts/sts/bmartin/pubs/82cab/index.html)

Stratospheric dust from a nuclear war seems unlikely to cause such climatic change. In

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in the stratosphere than either the Krakatoa or Mt Agung eruptions.[38]

Extinction mathematically outweighs

Bostrom, professor of philosophy, 12 (Nick, Professor in the Faculty of Philosophy at Oxford University, founding Director of the Future of Humanity Institute, founding Director of the Programme on the Impacts of Future Technology within the Oxford Martin School, Ph.D. in Philosophy from the London School of Economics, 2012, “Existential Risk Prevention as the Most Important Task for Humanity,” revised draft, forthcoming in *Global Policy*, http://www.existential-risk.org/concept.html) [we do not endorse gendered language – [hu] added]

But even this reflection fails to bring out the seriousness of existential risk. What

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is worth a hundred billion times as much as a billion human lives.

#### 1AC Plan

Thus the plan: The United States federal government should increase its investment in the construction of a backbone pipeline transportation system for captured carbon in the United States by an amount equal to a substantial increase in its investment in transportation infrastructure.

#### 1AC Solvency

CONTENTION 3 IS SOLVENCY

Peak oil makes a transition to clean energy inevitable

Holland, professor of economics, 8 – Associate Professor of Economics at the University of North Carolina at Greensboro (Stephen P., 2008, “Modeling Peak Oil,” *Energy Journal*, Volume 29, Issue 2, pp. 61-79, p. EBSCO)

Although, the peak-oil literature focuses attention on peak production, the underlying

AND

a smooth (although possibly inefficient) transition from oil to renewable resources.

But that won’t happen fast enough – CCS is the only way to stave off warming in the interim

Cohen, environment director, et al. 9 – Co-Founder and Executive

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, Issue 4, pp. 25-42, p. ScienceDirect)

II. CCS is Critical to a Zero-Carbon World¶ The title of

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organized and governed as a regulated system in its own right.

CCS is feasible and doesn’t leak – empirics prove

Cohen, environment director, et al. 9 – Co-Founder and Executive

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, p. ScienceDirect) [note: italics added for personal reference]

III. CCS Technologies: Ready for Prime Time, but Scale-Up Needed

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present, is below the detection limit of 170 tonnes per year.54

Federal pipeline construction is a prerequisite to CCS, and the plan leads to better regulations

IRGC 8

International Risk Governance Council, “Regulation of Carbon Capture and Storage,” http://www.irgc.org/IMG/pdf/Policy\_Brief\_CCS.pdf

Large-scale CCS deployment cannot proceed until extensive pipeline infrastructure is in place.

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of investment, potentially inﬂuencing the ultimate organisational structure of the CCS industry.

Normal means involves better regulations

Mack and Endemann, environment lawyers, 10 – \*partner in the environment, land, and resources department at Latham & Watkins, LLP in San Diego AND \*\*lawyer with Latham and Watkins, LLP (Joel and Buck, February 2010, “Making carbon dioxide sequestration feasible: Toward federal regulation of CO2 sequestration pipelines,” *Energy Policy*, Volume 38, Issue 2, pp. 735-743, p. ScienceDirect)

The United States is embarking for the first time on examining and reducing CO2 emissions

AND

predictability and confidence to invest in this very important part of our infrastructure.

The plan leads to cost reductions through enhanced oil recovery

MIT 10 (MIT Energy Initiative, 7/23/2010, “Role of Enhanced Oil Recovery in Accelerating the Deployment of Carbon Capture and Sequestration,” p. 40-41)

Continental-Scale CO2 Pipeline Network Requirements The analyses of the scale of the CO2

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capacity could facilitate the breakthrough of the “chicken and egg” problem.

R&D will make CCS cost-competitive

Rubin, professor of environment, et al. 12 – Alumni Chair Professor of Environmental Engineering and Science at the Departments of Engineering and Public Policy and Mechanical Engineering at Carnegie Mellon University (Edward S., Director at the Center for Energy and Environmental Studies at Carnegie Mellon University, Professor of Engineering and Public Policy and Professor of Mechanical Engineering at CMU; Hari Mantripragada, Graduate Research Assistant in the Department of Engineering and Public Policy at Carnegie Mellon University; Aaron Marks, Research Assistant Department of Engineering and Public Policy Carnegie Mellon University; Peter Versteeg, Graduate Research Assistant in the Department of Engineering and Public Policy at Carnegie Mellon University; John Kitchin, Assistant Professor of Chemical Engineering at CMU; October 2012, “The outlook for improved carbon capture technology,” *Progress in Energy and Combustion Science*, Volume 38, Issue 5, pp. 630-671, http://www.cmu.edu/epp/iecm/rubin/PDF%20files/2012/Rubin%20et%20al\_CO2%20capture%20outlook\_PECS\_2012.pdf)

The 2006 DOE analysis also included four oxy-combustion cases (not shown in

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PC plant the CCS cost penalty falls by about half in this analysis.

The plan gets modeled globally

MIT 7 (“MIT PANEL PROVIDES POLICY BLUEPRINT FOR FUTURE OF USE OF COAL AS POLICYMAKERS WORK TO REVERSE GLOBAL WARMING,” March 14, 2007, http://web.mit.edu/coal)

Washington, DC – Leading academics from an interdisciplinary Massachusetts Institute of Technology (MIT

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simulation of the comparative performance of integrated technology systems should be greatly enhanced.

The federal government is key

-eminent domain, single regulator, encourages broader CCS investment and *guarantees* uniformity

Horne 10 – JD @ U of Utah

Jennifer, “Getting from Here to There: Devising an Optimal Regulatory Model for CO<2> Transport in a New Carbon Capture and Sequestration Industry,” 30 J. Land Resources & Envtl. L. 357, Lexis

Siting regulations affect companies' ability to build where pipelines are needed, or wanted.

AND

, a uniform set of requirements for access will be far more workable.

Our discourse is good

Stephens, professor of environment, 6 – Assistant Professor of Environmental Science and Policy at Clark University (Jennie C., Ph.D. in Environmental Science and Engineering at the California Institute of Technology, associate with the Energy Technology Innovation Policy research group in the Belfer Center for Science and International Affairs at the John F. Kennedy School of Government at Harvard University, Fall 2006, “Growing interest in carbon capture and storage (CCS) for climate change mitigation,” Sustainability: Science, Practice, & Policy, Volume 2, Issue 2, pp. 4-13, http://sspp.proquest.com/static\_content/vol2iss2/0604-016.stephens-print.html)

Minimal Public Awareness and the Role of Environmental Advocacy Groups¶ Throughout the recent period

AND

their response have been identified (McCright & Dunlap, 2000; 2003).