Carlson communications

METRO CLIMATE SMART COMMUNITIES: ANNOTATED BIBLIOGRAPHY

MARCH 2, 2011

Bostrom, M. (2010, November 14). "How to Stop Global Warming, Even If You Don't Believe In It." *Washington Post*, Accessed February 25, 2011.
http://www.washingtonpost.com/wp-dyn/content/article/2010/11/12/AR2010111202800.html

This opinion piece is authored by Meg Bostrom of the consulting firm The Topos Partnership, which produced the *Climate Crossroads* guide (also included in the literature review annotated bibliography.) The piece is a concise example of the messaging approach recommended in *Climate Crossroads*, which encourages communicators to emphasize economic framing and concrete solutions. Bostrom argues that communicators should focus "less on arguing the scientific reality and more on building support for specific solutions that all sides can agree on," as debates about the science of climate change distract people with politics and "faced with this sparring, it becomes fairly easy for the average person to dismiss climate change as an open question and cross it off the list of things they need to worry about." She notes that Republicans continue to express skepticism about global warming, but simultaneously support policy initiatives that will reduce carbon emissions; two Pew Center polls conducted in 2010 find that, among Republicans surveyed:

- 73 percent favor requiring better fuel efficiency for cars, trucks and SUVs
- 64 percent want more federal funding for research on wind, solar and hydrogen technology
- 55 percent favor spending more on public transportation
- 74 percent favor requiring utilities to produce more energy from renewable sources
- 57 percent back limits on carbon and other greenhouse gas emissions.

Broder, J. (2009, May 1). "Seeking to Save the Planet, With a Thesaurus." *New York Times*, Accessed February 8, 2011.
http://www.nytimes.com/2009/05/02/us/politics/02enviro.html

Broder recaps the climate debate, talks about the move away from the term "global warming," and interviews academics and a political consultant about their reactions to the 2009 ecoAmerica report *Climate and Energy Truths: Our Common Future* (included in this literature review; see Westen Strategies and Lake Research Partners.) The report was initially intended to be confidential, but a summary was inadvertently sent to the media. Broder's column explores the role that messaging plays in motivating behavior change.

Cortright, J. (2007). *Portland's Green Dividend.* Portland, OR: Impresa, Inc.

This white paper prepared for CEOs for Cities examines the economic impacts that accrue to the Portland metro region as a result of "being green." Through an analysis of 2005 transportation data, Cortright found that Portland residents drive 20% fewer miles per day than the average number of miles per day traveled in the 33 most populous metropolitan areas in the United States: 20.3 miles per day in Portland vs. an average of 24.3 miles per day, or an aggregate of 2.9 billion fewer miles traveled annually in the Portland region.

Based on the 2005 cost of gas, this translates to out-of-pocket savings of $1.1 billion dollars per year, or about 1.5 percent of all personal income earned in the region in 2005. Factoring in the cost of people's time yields another $1.5 billion in savings, for a total of $2.6 billion in savings per year. This is what Cortright terms "the green dividend:" "The time and money saved by less driving produces more demand for other local goods and services, and so, in fact, stimulates the local economy."

Kooshian, C., and Winkelman, S. (2011). *Growing Wealthier: Smart Growth, Climate Change, and Prosperity.* Washington: Center for Clean Air Policy.

This report examines the economic benefits of smart growth strategies and vehicle miles traveled (VMT) reductions for businesses, household budgets and governments. *Growing Wealthier* examines not just the bottom line, but the quality-of-life improvements of smart growth not usually measured by traditional economic measures, including public health and well-being, community vibrancy, thriving eco-systems and global climate protection.

Growing Wealthier also questions the traditional economic mantra that more miles driven equals economic growth. While VMT and GDP growth mirrored each other from World War II until the mid-1990s, GDP began to grow faster than VMT around 1996, and travel as a component of the U.S. economy is expected to decline further by 2030.

CCAP also introduces the new concept of "empty miles"—miles driven that serve as a drag on rather than a boost to the economy.

Growing Wealthier argues that smart growth has real economic benefits to the U.S. economy as an aggregate and to individual communities, citing a myriad of benefits of smart growth (outside of greenhouse gas reductions), including: enhanced return on investment (ROI) to businesses, reduced transportation costs for households, higher public revenues for governments, employee health care savings, reduced energy use and increased access to nature and recreation.

Lakoff, G. (2009, May 19). "Why Environmental Understanding, or 'Framing,' Matters: An Evaluation of the EcoAmerica Summary Report," *The Huffington Post*, http://www.huffingtonpost.com/george-lakoff/why-environmental-underst_b_205477.html

Lakoff provides a supportive view of the ecoAmerica report by helping readers understand what framing is. ("Each frame is a neural circuit, physically in our brains. We use our systems of frame-circuitry to understand everything, and we reason using frame-internal logics. Frame systems are organized in terms of values, and how we reason reflects our values, and our values determine our sense of identity.")

Lakoff also supports the idea that scientific language will not change people's frames—only values-based language will, preferably values-based frames that are already in people's minds. Lakoff believes that people have both "conservative" and "progressive" frames in existence in their minds at the same time, and that communications professionals must activate the frames they are looking for to get the behavior (and belief systems) they want.

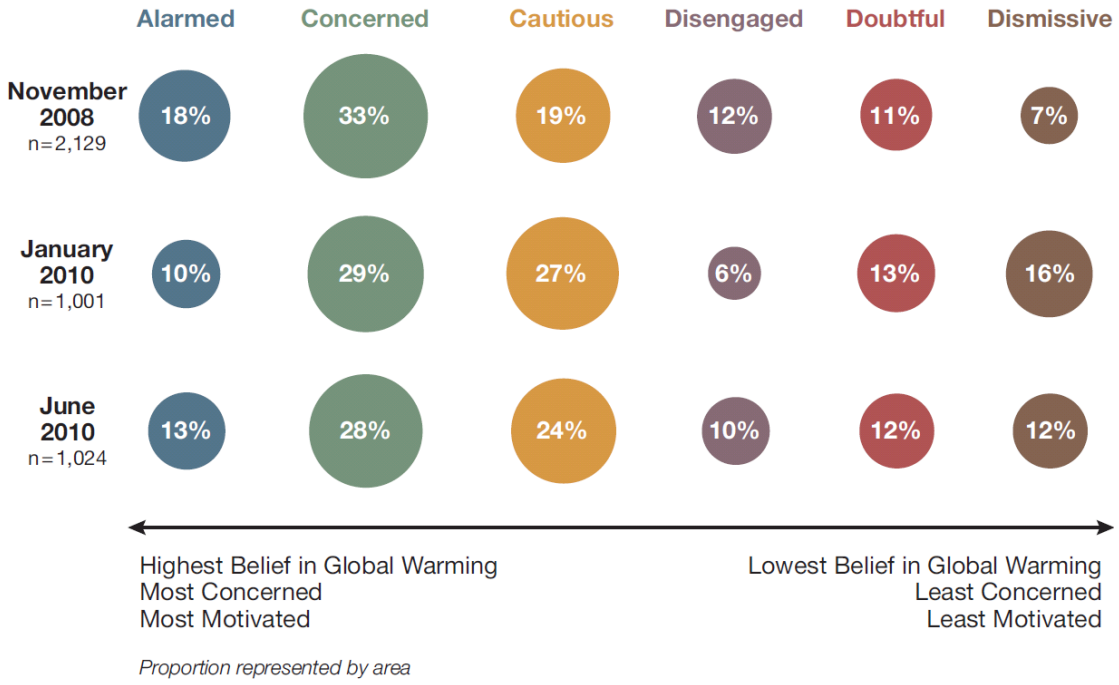
Other notable points Lakoff thinks communicators need to know:

- "Most people don't understand all the facts and figures thrown at them. People think in terms of fundamental values like freedom and responsibility, and themes that are close to their everyday lives, like health, jobs, and their children's future."
- "Polluting fuels are dirty, both physically and morally, and should be called that."
- Lakoff also believes that communicators on climate change need to help the public understand that we are "part of nature."
- Economic and ecological meltdowns are a problem of the unregulated free market.
- To successfully address climate change we must help people understand how to become systems thinkers (and to use systems thinking in our communications).

- The concept that "we own the air jointly" needs to be communicated better. Dumping carbon into the atmosphere is spoiling a joint asset, and for that, polluters should pay.

Leiserowitz, A., Maibach, Roser-Renouf, C., and Smith, N. (2010). *Global Warming's Six Americas, June 2010*. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change.

This report details the results of interviews with a random sampling of American adults between May and June 2010, which divides Americans into six "audiences" that range along a spectrum of concern and engagement from Alarmed to Dismissive. The six groups are reported to be dramatically different in their beliefs and actions about climate change, as well as their basic values and political orientations.



Notable findings of the Six Americas study include:

- Only a minority of Americans believe that most scientists think global warming is happening.
- Emotions on climate change run high: 7 out of 10 Americans say they are interested and even 42 percent of Dismissives say they are moderately or very interested.
- Outside of the Alarmed and Concerned segments, relatively few members of the other segments are worried about global warming.

- Widespread confusion between "weather" and "climate" is apparent among all audiences.
- Large numbers of Americans engage in energy conservation at home regardless of their beliefs about global warming;
- A majority of Americans supported all of the energy and climate policies assessed outside of a gas tax (funding for renewable energy research, tax rebates for solar panels/energy efficient vehicles, regulation of CO2, expanded offshore drilling, RPS standards, international climate treaty, more nuclear power, electric bill surcharge to fund energy efficiency, 25 cent gas tax).
- The Six Americas break down along party lines (the Doubtful and Dismissive are more likely to self-identify as politically conservative or Republican, while the Alarmed and Concerned were more likely to self-identify as Democrats or liberals).

Leiserowitz, A., Smith, N. and Marlon, J. (October 2010). *Americans' Knowledge of Climate Change*. New Haven, CT: The Yale Project on Climate Change.

This report details the results of a national study conducted between June and July 2010 of Americans' knowledge of how the climate system works, and the causes, impacts and potential solutions to global warming. The Yale Project found that while a majority of Americans (63 percent) believe that global warming is happening, relatively few understand the causes and most have important gaps in knowledge and misconceptions about it.

Despite the ignorance of Americans and the recent Climategate scandal, the study found that Americans overwhelmingly still trust scientists and scientific organizations over any other sources of information when it comes to global warming.

Other important findings of their research include:

- Over half (57 percent) of Americans say that if global warming is happening, it is caused by human activities.
- 38 percent feel that there is a lot of disagreement among scientists as to whether or not global warming is happening.
- 57 percent of Americans have heard of and correctly understand what the greenhouse effect is.
- A majority of people confuse "weather" with "climate" or use the terms interchangeably.
- Many Americans incorrectly believe that since scientists can't predict the weather a few days in advance, they are unable to predict the climate of the future.

- Large majorities understand the actions (including driving less, increasing public transportation and reducing our reliance on fossil fuels) that would reduce global warming if they were done worldwide.
- Roughly a quarter of Americans had visited a science, technology or natural history museum in the 12 months preceding the study, while even more (37 percent) had visited a nature center or a zoo (43 percent).
- 71 percent of Americans follow their local weather forecast very or somewhat closely.

Maibach, E., Wilson, K., and Witte, J. (2010). ***A National Survey of Television Meteorologists about Climate Change: Preliminary Findings.*** **George Mason University. Fairfax, VA: Center for Climate Change Communication.**

This report details the results of a 2010 survey of all of the broadcast TV members of the American Meteorological Society (AMS) and the National Weather Association (NWA). The survey results show that TV weathercasters can play an important role as climate change educators. Ninety-four percent reported that their stations do not have anyone covering science or the environment full-time, and they are frequently called on—as the only scientifically trained people in the newsroom—to comment or report on science-related stories. Eighty-seven percent reported that they had discussed climate change as part of their duties (most commonly through community speaking engagements and on-air "chit-chat" with anchors before and after weather segments). Only a third of respondents said they had discussed climate change as part of their weather report, primarily because of time constraints.

The most common reasons cited for not covering climate change were: lack of time in the newscast (79%), lack of time for field reporting (75%), scientific uncertainty about climate change (68%), lack of news management support (64%), lack of access to appropriate visuals/graphics (60%), lack of general management or owner support (55%), lack of viewer support (50%), lack of sufficient knowledge in the subject (48%), and lack of access to trusted scientific information (46%).

Two-thirds of those surveyed said they were interested in reporting on climate change, and indicated that four resources would be helpful to them: (1) access to climate scientists for on camera interviews; (2) access to high-quality graphics/ animations to use on-air; (3) access to peer-reviewed journals; and (4) access to PowerPoint presentations to use in community speaking events.

Moser, S., and Dilling, L., editors. (2007) *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*. New York: Cambridge University Press.

This book is a collection of writings that resulted from a grant by the MacArthur Foundation to the National Center for Atmospheric Research (NCAR) to help improve communication about climate change.

The multidisciplinary collection of 32 articles includes contributions by academics as well as practitioners, and aims to address the conundrum (evident in many national polls) that the majority of Americans view climate change as a "serious" issue but very few of them see it as personally important or rate it as a priority for policy-makers.

Key themes that emerge in the collection include:

- Communications about climate change should aim to "make the global local", and focus on present (not just future) effects of climate change.
- Communicators should use simple, consistent metaphors and anecdotes to explain the causes of climate change, and "having a simple, correct mental model of the process is critical in promoting effective action." Research suggests that the metaphor of a "thickening blanket of carbon dioxide" that "traps heat" in the atmosphere is the most successful at helping lay audiences quickly grasp climate change and support appropriate solutions.
- Although information campaigns through traditional mass media channels help the public become more informed about climate change, they do not increase individuals' likeliness to make behavior changes. Interpersonal contact and social pressure are much more likely to change behavior; "one of the most important predictors of behavior change is an individual's perception that relevant others expect him to care about the issue and to behave appropriately."

Nerlich, B., Koteyko, N. and Brown, B. (2010). "Theory and Language of Climate Change Communication," *Wiley Interdisciplinary Reviews: Climate Change* 4:1 (97–110).

This is a scholarly review of applied and research case studies on climate change communication, focusing primarily on studies conducted in the United Kingdom and the United States. The authors conclude that one-dimensional communications efforts aimed at increasing the public's knowledge about the scientific facts of climate change are ineffective. So, too, are communications efforts that appeal only to people's short term interests, because both approaches fail to address the values that contribute to people's behavior (e.g. messages encouraging people to save energy in order to save money do not "address prevailing cultural values or social norms such as using cars for transport even when walking or cycling is feasible.")

Instead, the authors argue that successful communications of climate change should engage three facets: "understanding, emotion, and behavior."

They cite opinion research conducted in several countries that, cumulatively, demonstrate that people tend to assume that global warming affects other parts of the globe, rather than their own communities. They argue that effective climate change communications strategies should reflect and incorporate specific, local values, and encourage incorporating local opinion polling into the development of communications initiatives.

Nisbet, M. (2009). "Communicating Climate Change: Why Frames Matter for Public Engagement," *Environment Magazine* 51 (12-23).

This article focuses on the frames used to describe climate change in federal policy debates and national media campaigns. The author argues that the reason significant climate change legislation has not yet been enacted under the Obama administration is that the public is not engaged enough with the issue of climate change, and that climate change must be reframed in order to make "the complex policy debate understandable, relevant, and personally important."The author cites research findings that people's response to ambiguous information is greatly impacted by the way it is presented and described (or framed), and calls climate change the "ultimate ambiguous situation" because of the issue's complexity, scientific uncertainty and long-range timeframe.

Noting that frames should not be construed as policy positions (since the same frame can be used for a pro, con or neutral stance on an issue), the author describes the typology of frames that have been employed in the climate change policy debate: social progress; economic development and competitiveness; morality and ethics; scientific and technical uncertainty; Pandora's Box/Frankenstein's monster/runaway science; public accountability and governance; middle way/alternative path; and conflict/debate and strategy. He discusses the limitations of these frames, the ways they have been employed by various constituencies, and the potential unintended consequences of several of the frames.

The author concludes that the frames in the climate change typology each suggest storylines that can "bring diverse audiences together on common ground, shape personal behavior, or mobilize collective action." Citing the fact that audiences increasingly self-select media sources that are sympathetic to their existing view, he argues that traditional news sources may not be the best way to motivate public engagement, but suggests that a better way to "reach audiences is to recruit their influential peers to pass on selectively framed information about climate change that resonates with the background of the targeted audience and that addresses their personal information needs."

Ockwell, D., Whitmarsh, L., and O'Neill, S. (2009). "Reorienting Climate Change Communication for Successful Mitigation," *Science Communication* 30 (305-327).

This article reviews communications initiatives aimed at increasing public engagement in addressing climate change and assesses what communications approaches are most likely to result in individual action, focusing primarily on the United Kingdom. The authors argue that raising awareness alone is not sufficient to drive change, citing psychology research on the "value-action" or "attitude-behavior" gap – i.e., "people often do not act in accordance with what they know or feel." The authors describe that this gap exists because structural constraints, social norms and even unconscious habits limit individual behavior.

In order to be effective, they argue that communications efforts must be combined with structural changes that make behavior change possible. As an example of a successful initiative that achieves this combination, they cite the example of Hood River, Oregon, "where a 15% reduction in energy use was achieved via a combination of a communication campaign to raise awareness and the provision of financial incentives and in-house assistance to adopt energy-saving devices."

The authors also argue that neither a top-down regulatory approach or a bottom-up grassroots-building approach will ultimately solve the problem of climate change. They advocate for an approach that combines the two, through communications initiatives that aim to foster public demand for environmental regulation: "In this way, change comes about via a process where the public engages with the issue and take voluntary action (bottom-up). But this action also involves demanding the government take (top-down) action by introducing regulations to control high carbon behavior."

Perkowitz, R. (2009). "Climate Communication: Conflicts and Opportunities," *Environmental Communication: A Journal of Nature and Culture* 4:1 (66-69).

This is a response to the *New York Times'* column on ecoAmerica's 2009 climate change communications research report *Climate and Energy Truths: Our Common Future* (both sources are also included in this literature review; see Broder, J., and Westen Strategies and Lake Research Partners), authored by the founder and president of ecoAmerica. Perkowitz explains that ecoAmerica is primarily a marketing firm that develops campaigns to shift the attitudes and behaviors of "environmentally agnostic Americans," and that the purpose of ecoAmerica's communications research study was to "bridge the massive conceptual, temporal and spatial distance between the accelerating climate crisis and Americans' everyday lives."

Perkowitz argues that most polling and research conducted on Americans' views of climate change does not provide the kind of information marketers need: market testing of specific messages, information about which audiences are more or less favorably disposed to behavior changes, and data on where Americans get their information. The ecoAmerica study aimed to gather such data. A variety of blogs and news sources picked up the story after the *New York Times* piece was published, repeating the criticism of an academic quoted in the *Times* piece that the ecoAmerica report aimed to use "advertising techniques to manipulate public opinion." Perkowitz argues that the debate ignited by the report is itself valuable, because it highlights the still-unmet need for effective strategies and techniques to engage the American public in climate solutions.

Pike, C., and Herr., M. (2009). *Climate Crossroads: A Research-Based Framing Guide*. The Topos Partnership.

This guide is designed to present a communications approach to climate change that the authors argue will best engage and activate existing environmental supporters, based on the notion that reaching and motivating the sympathetic audience (vs. trying to educate the public at large) is the first critical step. It presents a "common message platform" with specific suggested messages, based on literature reviews, panel discussions with environmental organizations, research and polling.

Key recommendations include:

- Use the current economic climate to develop long-term support for addressing climate change – present information in an "economic frame."
- Emphasize the role of "too much carbon" in causing climate change, and frame solutions in terms of managing carbon.
- Expand the issue beyond the "terrarium" view global warming's impact on plants and animals (e.g. the image of the polar bear on the melting ice cap); put people back into the picture and emphasize "a broader and more concrete picture of what means for the climate to change" (food production, water supplies, health, etc.)
- Balance discussions of impacts with concrete suggestions for action .
- Connect the issue with supporters' identities: "eliminate the sense of 'distance' by showing supporters how global warming is connected to their current actions, priorities and beliefs" and "make it a natural extension of their current interests."

The guide also argues that "teaching is persuading" and recommends addressing people's fundamental knowledge of climate change. The authors cite research that even people who consider themselves in favor of addressing climate change do not understand the basic science – and they argue that people's understanding of the causes of climate change will have an impact on which solutions they are likely to support and employ.

Finally, the guide recommends that the foundation of communications about global warming should be the basic message that "humans are putting too much carbon into the atmosphere/air." This provides a conceptual framework to link the policies that address climate change, quantifies the problem, and gives people a clearer sense of what they should take responsibility for.

Pike, C., Doppelt, B., and Herr, M. (2010). ***Climate Communications and Behavior Change: A Guide for Practitioners*****. Eugene, OR: The Social Capital Project at the Climate Leadership Initiative.**

This guide provides messaging and framing advice for communications practitioners charged with helping move public audiences from knowledge to action on climate change through several steps.

Step 1 provides guidance on creating "tension" about climate change that motivates people along the continuum to action. Pike, Doppelt and Herr suggest that to create this tension, communicators are tasked with:

- **Illustrating** what it means for the climate to change;
- Leveraging the idea of "**Too Much Carbon**;"
- Convey the link between **energy and global warming**; and
- Emphasizing that **we are at a crossroads**.

How to build a sense of efficacy around our ability to address global warming is Step 2. The guide recommends:

- Connecting global warming to **other priority issues**;
- **Avoiding pollution** as a leading idea;
- **Focusing on solutions**; and
- Giving the audience **a role** in the efficacy story.

Theories of behavior change indicate that people need to directly experience or observe positive benefits before their behavior changes, so conveying the benefits of action on climate change is another key step. This step includes:

- Tying energy choices to **economic prosperity**; and
- Creating a connection to the **identities** of audiences' personal concerns.

Last, Pike, Doppelt and Herr recommend that communicators for climate change connect to their various audiences where they are along the continuum of change, recognizing that some people are already changing their behavior while others need to be given a reason to begin.

Reaching people early in their behavior change process (up to 50 percent of Americans are in the "disinterested" or "deliberation" stages of climate change) is difficult, but possible if people are reached in the correct way. **Creating a "disturbance"** in people's daily lives sometimes moves them to take stock of their habits and behaviors and consider change. **Building awareness** is a matter of using the **tension, efficacy and benefits** method of framing in ways that resonate with different audiences. Breaking down large climate goals into bite-sized pieces provides audiences with **choice expansion** that can motivate action.
Using **supportive relationships** (church groups, peer groups, thought leaders) can help messages get delivered to key audiences.

Reaching Americans in the middle of the behavior change process (those moving from 'deliberation' to 'design') is a matter of providing **emotional inspiration**, giving this audience opportunities for **self-evaluation** of activities that reduce carbon, and helping them make a **public commitment**.

For the "action stages" of climate change (those who are already making changes and want to do more), basic information campaigns are not sufficient. People in this stage of change want advice on lower-carbon **substitution** for their behavior; evidence that **structural change** is underway; mechanisms for **self-evaluation** and the opportunity for a more **public commitment**.

Shome, D., and Marx, S. (2009). ***The Psychology of Climate Change Communication: A Guide for Scientists, Journalists, Educators, Political Aides, and the Interested Public.*** **New York: Center for Research on Environmental Decisions.**

The guide uses social science research on how people process information and make decisions to suggest communications strategies that will maximize people's likelihood to take action on climate change. Many of the guides' strategies are aimed at helping people make a personal connection to climate change. Key suggestions include:

- Identify the audience's key misconceptions in their **mental models** of climate change and replace them with new facts (e.g. correct the faulty assumption that the winter storms on the east coast in early 2011 were a sign that global warming isn't actually occurring.)
- Prepare numerous **frames** for the information that make it relevant to diverse audiences (i.e. climate change as a religious, youth or economic issue.)
- Present messages in both **promotion** (e.g. how recycling benefits the community) and **prevention** (e.g. how not recycling hurts the community) orientations.

- Highlight current and potential impacts of climate change that are significant for the **local region** (e.g. how earlier frost would affect cherry crop in the Gorge; how 2 degrees higher average annual temperature would affect the ski season at Mt. Hood.)
- When creating presentations on climate change, use tools that appeal to people's **experiential processing** (film footage, metaphors, personal accounts, concrete comparisons, and messages designed to create/recall/highlight relevant personal experience.)
- Recognize that people have a "**finite pool of worry**" and connect climate change issues to other things they are already concerned about (economy, etc.)
- Counteract the "**single action bias**" (people are likely to only take one action to address climate change and then "check it off their list") . Present sequential checklists or incremental opportunities to encourage people to make multiple changes.
- Put scientific uncertainty into context; help the audience understand what scientists know with a high degree of confidence and ensure that poorly worded explanations of uncertainty don't undermine the message.
- Wherever possible, present climate change information in **informal group** settings where people are free to ask questions and discuss issues with the speaker and each other.
- Tap into **social identities and affiliations** to motivate people to undertake behavior beyond their basic self interest -- people are more likely to take action when they feel a sense of affiliation with the individual or institution making the request. Local messengers may get a stronger response for calls to action.
- Encourage early participation in the decision-making process.
- Take advantage of **default effects** – the human tendency to stick with an option that is selected automatically instead of choosing an alternative affiliation (e.g. make the climate-friendly option the default and require people to actively select an alternative.)

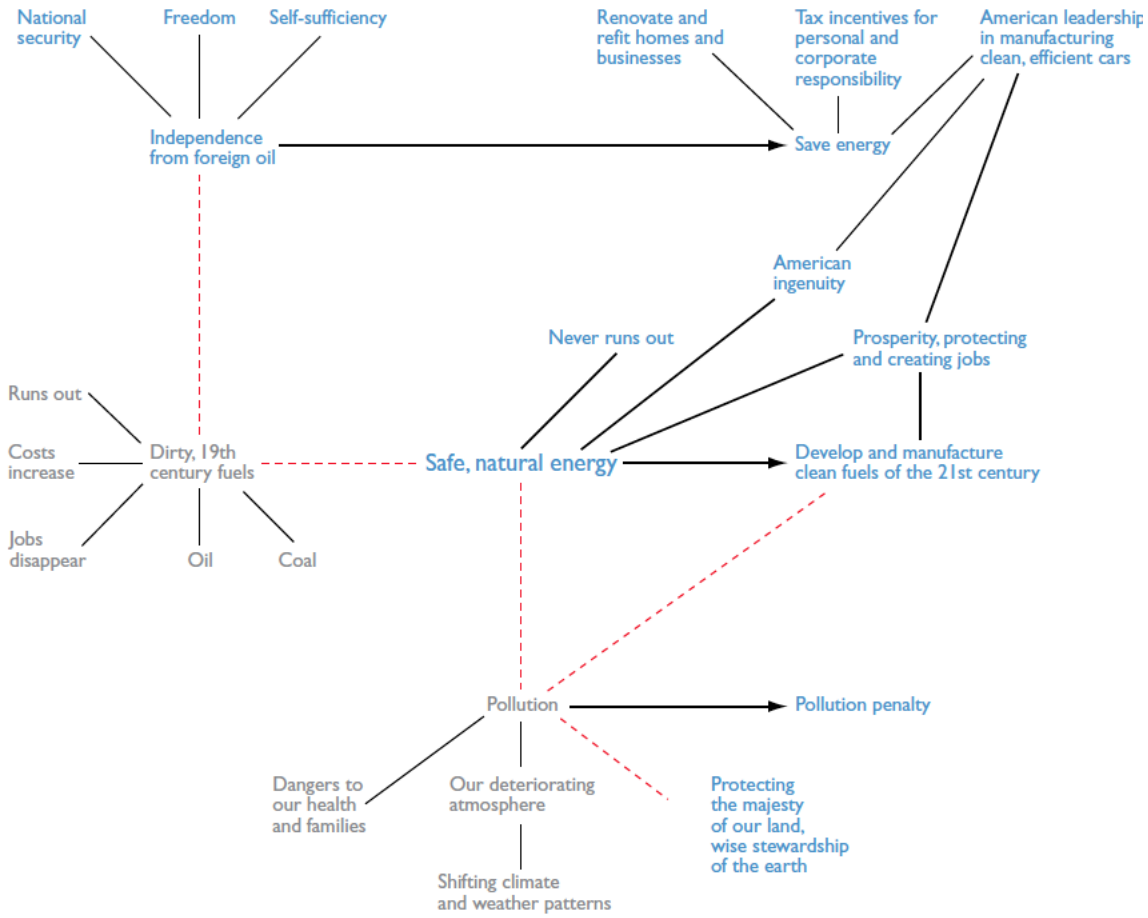
Westen Strategies and Lake Research Partners (2009). ***Climate and Energy Truths: Our Common Future*****. Washington: ecoAmerica.**

EcoAmerica wrote this paper in 2009 as a preface to the cap and trade discussions in Congress and prior to the COP15 in Copenhagen. Some of the content is thus focused on language and framing of the national debate around policy initiatives like cap and trade and a climate bill. This paper was designed specifically to address the fossil fuel industry's "moderate" messaging about supporting all kinds of energy (including oil, coal and natural gas) as a way to address climate change. However, through phone polls, focus groups and a nationwide dial survey, ecoAmerica does make some recommendations about language and framing for climate change.

Of note is their call to speak in **aspirational language** that invokes American values (**freedom, prosperity, independence and self-sufficiency**) and to focus the debate through the lens of economic security, energy independence and jobs. EcoAmerica strongly discourages those seeking to move minds and hearts about climate change from speaking about technology in specific language or about specific policy. Their polling and focus groups also show that conservative/ independent voters tend to be turned off when communications about climate start out with the climate crisis or the severity of its impacts.

Other notable findings:

- Climate change messaging works best when it's linked to other concerns, e.g. **health, pollution and "our deteriorating atmosphere"** (which is EcoAmerica's substitute phrase for "climate crisis.");
- Attitudes on climate are **highly malleable** with the right messaging;
- Climate messages are more powerful when linked to other messages about **energy independence**, **reducing our dependence** on foreign oil, **energy** that never runs out and family **health;**
- Communicators should stay away from **debating weather**.



What is clear from this network is the wide range of values that can be associated with comprehensive energy solutions and addressing climate change ("our deteriorating atmosphere"). What is also clear, however, is why climate change cannot be the primary point of entry into the debate, because it is too distant from the central values that energize voters. The network suggests why, in both energy and climate, all roads lead to safe, natural energy (or at least through it).