Carlson communications

METRO CLIMATE SMART COMMUNITIES: LITERATURE REVIEW

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INTRODUCTION

Carlson Communications was asked by Metro to conduct a literature review of current sources and synthesize best practices in communicating about climate change.

Climate change is a communications conundrum. Despite strong scientific consensus that human behavior is linked to climate change, and clear documentation of global warming impacts around the world, greenhouse gas emissions continue to rise. National polls find that most Americans are aware of climate change, but the issue consistently appears at the bottom of public rankings of national policy priorities, eclipsed by national security, health care reform and the economy (Shome and Marx, 1). And while a majority of the public recognize that climate change is—at least partially—caused by human activity, they place it low on the list of issues they are personally concerned by or planning to take action to address (Nehrlich, et al, 106). In sum, climate change is an area of "high awareness but low personal concern" (Maibach, et al, 4).

Transforming awareness into concern—and more importantly, into action—is fundamentally a communications challenge, and an increasing number of policy-makers and advocates are examining how best to tackle it. Accordingly, there is a small but growing body of research on climate change communication strategies and messages.

While not exhaustive, this literature review includes sources by the major thought and research leaders on the topic (including Columbia University's Center for Research on Environmental Decisions, the George Mason Center for Climate Communication, the Yale Project on Climate Change, the Center for Clean Air Policy, and the Climate Leadership Initiative), as well as leading advocacy organizations (ecoAmerica and The Partnership Project). Clear themes and areas of consensus that were apparent in the body of work are included in the review. These indicate a set of best practices is emerging that promises to help mobilize the broad collective action that will ultimately be required to address climate change.

KEY FINDINGS

A growing number of scholars are looking at climate change through a social science and behavioral psychology lens, examining the history of public health issues (including smoking, drunk driving, littering, and seatbelt use) where "growing scientific evidence and public pressures led to the adoption of stricter laws, penalties and enforcement measures" (Moser and Dilling, xiii). In each of these examples, no single campaign or set of messages was responsible for the broad turnaround in culture, habit and law that ultimately (collectively) moved the needle. A key lesson from the public health analysis is that personal "engagement" is a critical element of behavior change; people must feel personally connected to an issue and have the conviction that their behavior choices will have an impact on broader outcomes in order to make a substantive change (Moser, 73).

ASSESSING THE ISSUE

Many of the assessments of climate change communications begin with an examination of what about the issue makes it difficult for people to personally engage with climate change. Key challenges include:

- **Invisibility/lack of immediacy.** Even at atmospherically significant levels, carbon dioxide and other greenhouse gases are not visible and do not have direct negative health impacts on humans (Moser and Dilling, 4).
- **Sense of geographic remoteness**. The images of climate change most commonly employed by the media are melting glaciers and polar ice caps, leading most audiences to believe that global warming's impacts are only occurring in far-away places (Leiserowitz, 49).
- **Time lags.** The human systems that contribute to climate change (transportation, emissions, etc.) will take years to change at a scale significant enough to impact levels of carbon in the atmosphere and mitigate climate change (Moser and Dilling, 6).
- **Skepticism.** During the 1980s and 90s, media coverage of climate change emphasized scientific uncertainty. Although there is now broad scientific consensus that climate change is occurring and that human behavior contributes to climate change, the sense that the "jury is out" on climate change still lingers among the public, fueled by news stories that continue to present "counterpoint" views by the small minority of contrarian scientists, as well as the recent Climategate scandal (Pike and Herr, 7).
- **The "tragedy of the commons"**. The dilemma (coined by Garrett Hardin in 1968) is that people acting rationally in their own self-interest will deplete a shared limited resource because it is in no one's individual best interest to protect it, even though it is clear that all will suffer when the resource is gone (Moser and Dilling, 7).

- **"Finite pool of worry"**. This concept from behavioral psychology suggests that people can only worry about so many things at once, and as worry increases about one risk, concern about other risks lessens; increasing concern about jobs and the economy crowds out concern about the environment (Shome and Marx, 21).
- **Incorrect/limited assumptions about effects.** Surveys show that a large percentage of Americans are confused about the difference between weather and climate, and are largely unaware of the potential consequences of climate change beyond temperature/weather impacts (Leiserowitz, et al, 4). For example, few people that recognize public health impacts like water- and food-borne illnesses or disruptions in food supply are linked to climate change (Leiserowitz, 50).

BARRIERS TO ACTION

Another common area of analysis in climate change communications are the barriers that prevent people from taking effective action to mitigate climate change even if they consider it a serious issue. Reasons for the "value-action" or "attitude-behavior" gap (Ockwell et al, 310) include:

- **Structural constraints.** Even if people want to make climate-friendly choices, the options may be inconvenient, cost-prohibitive or unavailable. For example, a lack of direct public transportation routes requires a significantly longer commute time, existing housing stock is old and energy inefficient and energy efficient upgrades are too expensive (Ockwell, et al, 308).
- **"Single action bias."** Once people take one small action to address climate change, such as changing their light bulbs or purchasing an energy-efficient washing machine, they may actually be less likely to take additional actions because they feel they have already done their part (Shome and Marx, 21).
- **Threats to values and self-interests.** Large homes, large cars and consumption in general are signs of status and financial well-being; shifting away from these feels like making a sacrifice under the prevailing value system (Ockwell, et al, 308).
- **"Free rider" effect.** People consider it pointless to change their behavior because the vast majority of people are doing nothing (Ockwell, et al, 311).
- **"Drop in a bucket" effect.** People believe that the problem is so large that individual action will not make a difference.

There is a clear consensus in the literature that communication "for communications' sake" is not enough; to drive change, messages and information must be combined with reduction of barriers. As Moser and Dilling state: "For communication to be effective, i.e., to facilitate a desired social change, it must accomplish two things: sufficiently *elevate and maintain the motivation* to change a practice or policy and at the same time *contribute to lowering the barriers* to doing so" (494).

UNDERSTANDING CLIMATE CHANGE

Nearly all of the reviewed sources note that the mechanisms of climate change are poorly understood by most lay audiences (even including people who self-define as environmentalists) (Leiserowitz, Smith, and Marlon, 2). The sources agree that little would be gained by trying to educate the general public on the finer points of climate change science, and that communications campaigns aimed solely at filling "information gaps" will not personally engage most audiences or motivate them to make changes (Nerlich, et al, 98).

However, many of the sources also note that it is important for audiences to possess an accurate, basic "mental model" of what causes climate change in order to identify and undertake appropriate solutions. As Bostrom and Lashof write: "If we hold in our minds a mental model that wrongly captures what causes a problem, our response to the problem will be equally inappropriate. For example, a 'heartburn' mental model of chest pains leads some people to take a digestive aid rather than seek timely medical care for heart attacks. The same holds true for the ways in which we might think about global warming" (31). In order to drive audiences toward an accurate mental model and appropriate solutions, experts agree that messages about climate change should emphasize the basic principle that "too much carbon" is the primary cause of climate change, and that solutions should be framed in terms of how we manage carbon.

The sources also emphasize the importance of deliberately and strategically selecting the "frame" in which climate change is presented. As Shome and Marx explain: "Framing is the setting of an issue within an appropriate context to achieve a desired interpretation or perspective… since it is impossible not to frame an issue, climate change communicators need to ensure they consciously select a frame that will resonate with their audience" *(*Shome and Marx, 6). Frames are a connected set of ideas that are activated via language and visual imagery, and invoke people's emotions and value systems (Lakoff, 12).

REACHING THE AUDIENCE

Finally, several of the sources address the best outlets through which to reach audiences in order to motivate behavior change. There is broad agreement that traditional media sources (newspapers, television news, PSAs, etc.) are not the most effective way to influence behavior. Media studies find that although people gather information through these sources, they are unlikely to interpret the information as relevant to them personally and unlikely to make changes based on such information (Gianelli Pratt and Rabkin, 93).

Further, several authors note the decline in sources of "independent" media. Given the proliferation of alternative and niche sources on both television and the web, people tend to self-select sources that reflect their existing perspective and tune out things that don't confirm what they already believe (Shome and Marx, 4).

Interestingly, the one exception to this trend appears to be with respect to local weather forecasts. In a 2010 national study, the Yale Project on Climate Change found that 71 percent of Americans follow their local weather forecast very or somewhat closely (Leiserowitz, Smith and Marlon, 8). A 2010 survey of television weathercasters by the George Mason Center for Climate Change Communication found that 94 percent reported that their stations do not have anyone covering science or the environment full-time, and that by default, "science stories become the domain of the only scientifically trained person in the newsroom—weathercasters" (Maibach, et al, 3). This combination of audience attention to weathercasters, and the increasing role of weathercasters as the go-to science expert for their stations, suggests an opportunity for weathercasters to reach audiences with basic climate change information, particularly with respect to "non-controversial" topics such as the difference between weather and climate change, and local climate trends over time.

The gold-standard in behavior change communication appears to be interpersonal communications. As Gianelli Pratt and Rabkin note: "When it comes to risk issues, 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… if a person cannot grasp the personal implications of the greenhouse effect, she may still be responsive to pressure from relevant others" (99). Even if individuals aren't convinced of the science of climate change or don't consider it a personal priority, they may still take climate-friendly action if it is the expected norm among those whose opinions matter to them.

Shome and Marx emphasize the power of engaging people's affiliations-– reaching people with climate-change messages in contexts where they feel affiliated with and accountable to others (such as churches or neighborhood associations). By doing so, communicators activate their audience's "community" frame, helping overcome the tragedy of the commons by reminding them that there are already instances where they act on behalf of a greater good and tapping into those motivations (Shome and Marx, 30).

AREAS OF CONTINUED DEBATE

There are two areas where there conflicting viewpoints are expressed in the literature.

CLIMATE CHANGE VS. GLOBAL WARMING

The first area of conflict is the label given to the issue itself ("climate change" vs. "global warming"). Many of the sources do not specifically address what the issue should be called; they simply use one term or the other (with the majority of the sources using "climate change.") Two of the sources—*The Psychology of Climate Change* (Shome and Marx) and *Climate Crossroads* (Pike and Herr)—specifically address the issue of terminology and arrive at opposite conclusions.

Shome and Marx argue that "climate change" is a better choice because "it avoids the misleading implications that every region of the world is warming uniformly and that the only dangerous outcome of growing greenhouse gas emissions is higher temperatures, when that, in fact, is just the tipping point for a cascade of changes in the earth's ecosystems" (2).

In contrast, Pike and Herr state that, while they view both terms as flawed, "global warming" is preferable because "'climate' is not a strong image in people's minds. It can easily trigger an assumption that we are talking about long-range cycles or simply 'weather'" (31). While they acknowledge that the term may overly emphasize temperature change, Pike and Herr argue that "global warming" is more motivating for existing supporters, and conveys a stronger sense of human contribution to the problem (32).

We agree that both terms have inherent strengths and weaknesses. We are inclined to recommend that Metro use "climate change," because it conveys a broader range of potential impacts and mirrors Metro's "Climate Smart Communities" brand. Further, our review of the ecoAmerica report *Climate and Energy Truths* and the associated commentary on the report (see Broder, J.; Lakoff, G.; and Westen Strategies and Lake Research Partners) indicates that "global warming" may be perceived as a politically loaded term by some audiences, particularly those who are skeptical of human contributions to climate change.

Metro may wish to further explore which term resonates best with their target audiences as they conduct focus groups and polling.

POLLUTION AS A LEADING MESSAGE

The second area where there is not a clear consensus is whether pollution should be emphasized in climate change messaging.

Many of the sources argue that climate change should be framed in an economic context, as the current economic recession is clearly at the top of the nation's "worry" list. By emphasizing pollution messages, climate change is framed as an environmental issue—and thus, falls down the priority list for many audiences. Pike and Herr cite findings that "for the first time in at least 25 years, more people would prioritize the economy over the environment if forced to choose" (22).

Pike and Herr also note that pollution is broadly understood to refer to all of the human activities that negatively impact nature; focusing generally on pollution instead of specifically on carbon may make the problem seem more vague and overwhelming (25). Further, it may lead people "to mistake a clear blue sky for evidence of progress on global warming or to imagine that global warming (despite its name) is a local phenomenon—something that happens over Beijing or Los Angeles" (36). Finally, because pollution generally refers to toxic or harmful substances, they note that leading with a pollution message "is also susceptible to opposition arguments that carbon dioxide is actually clean, natural and harmless" (55).

However, Pike and Herr acknowledge that polling shows that pollution is a motivating idea to most Americans (22). In an opinion piece authored for *The Washington Post* Meg Bostrom (Pike and Herr's Topos Partnership colleague and collaborator on the *Climate Crossroads* report) notes that even self-proclaimed "climate skeptics" support public policies to address pollution, and that "strong majorities of Republicans, Democrats and independents firmly support… mandating better fuel efficiency, increasing federal funding for clean-energy research, spending more for mass transit, raising efficiency standards for homes and other buildings, and requiring utilities to produce more energy from renewable sources. They even support limits on emissions of carbon dioxide and other greenhouse gases - just as long as they are seen as anti-pollution measures, not 'caps.'" (Bostrom, 2010).

The upshot of the discussion of "pollution" as a leading message is that communicators should tread a fine line. Policy initiatives to support clean and renewable energy appear to have broad support, but over-emphasizing pollution-based messages may distract people from the goal of carbon reduction and move the issue lower down their priority list. We recommend that, prior to using pollution-based messaging, Metro test it in polling and/or focus groups to see how (and whether) it resonates with local audiences. In the interim, we also recommend that Metro communications clearly establish the idea of "too much carbon" before moving to the idea of pollution.

BEST PRACTICES

Following are the eight best practices in climate change communications that emerged from our literature review. These best practices integrate the perspectives, research and messaging from the body of sources, distilling the information discussed above into concrete recommendations for communicators...

1. **Make climate change and solutions relevant, local and urgent.**

   Recommendations:
   - Incorporate vivid visual images, metaphors and anecdotes to help people personally engage with climate change.
   - Use local examples of climate change impacts to replace the association with melting glaciers and polar ice caps and the common assumption that climate

change is happening "somewhere else." Some potential local impacts can already be predicted with a relatively high degree of certainty.[1]
- Prepare multiple "frames" for different contexts in which the message will be delivered (i.e., climate change as an economic, business, religious, youth issue).
- Include discussions of public health and food supply impacts to ensure that people don't assume climate change is just about weather and temperature.

2. **Correct basic misconceptions.**

   Recommendations:
   - Employ a simple metaphor/analogy that explains how climate change happens (e.g., a "thickening blanket of heat" trapping carbon) to provide people with a mental model of climate change that attributes it to the right cause (too much carbon) and triggers appropriate solutions (I need to reduce the carbon I am producing.)
   - Use clear, non-scientific language and avoid scientific terms that may be potentially misleading because they have different "lay" meanings (e.g., "uncertain," "theory," "bias".)
   - Distinguish between weather and climate so people understand that short-term weather events are distinct from long-term climate change.

3. **Focus on carbon.**

   Recommendations:
   - Emphasize the role of "too much carbon" in causing climate change.
   - Frame solutions in terms of managing carbon.

4. **Connect climate change with the economy.**

   Recommendations:
   - Tie energy choices to economic prosperity.
   - Demonstrate the non-climate benefits of smart growth such as enhanced return on investment (ROI) to businesses, reduced transportation costs for households, higher public revenues for governments, employee health care savings, reduced energy use.
   - Emphasize the economic and competitive benefits that come with focusing on solutions to climate change including creating green jobs and, becoming a regional leader in emerging markets such as renewable energy.
   - Be careful not to lose the economic frame with messages that focus on pollution.

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[1] For examples of anticipated local impacts, see the January 2011 report "*Building Climate Resiliency in the Lower Willamette Region of Western Oregon: Summary for Decision Makers*", prepared by The Resource Innovation Group's Climate Leadership Initiative.

5. **Align messages with supportive structural changes.**

   Recommendations:
   - Always accompany messages that warn about climate change with concrete actions that people should take.
   - Break down large climate goals into smaller, manageable actions.
   - Present a continuum of behavior changes so people understand that one change isn't enough. Engage people's budgeting frame: if your household uses a financial budget, you know you have to take many small actions to have a large impact.
   - Connect individual actions with the incentives, tools and structural changes that will help them succeed; don't communicate "for communication's sake".

6. **Tap into people's identities and values.**

   Recommendations:
   - Frame the message in a way that taps into a person's identity and group affiliations – and match the frame to the context.
   - Help people make a public commitment.

7. **Communicate about Climate Smart Communities through or with trusted, local sources, and reach people through their existing networks.**
   - Use supportive relationships (church groups, peer groups, thought leaders) to present information.

8. **Celebrate success and make the benefits tangible..**

   Recommendations:
   - Use the narratives of communities that are already implementing Climate-Smart development (e.g., City of Portland as the first city in the nation to reduce emissions to 1990 levels; transit-oriented developments such as Orenco Station).
   - Help make benefits that are already accruing to these communities visible.

ADDITIONAL DATA NEEDS

In the course of this review, we have identified several areas where additional research would be beneficial to help further refine Metro's communications strategies and tactics.

LOCAL ECONOMIC DATA

First, there is a noticeable lack of empirical research on the economic implications of tackling climate change (Kooshian and Winkelman, 66). In particular, it would be helpful to have an exploration of how climate change policies affect local economies, and the potential economic benefits that may accrue to communities in the region from policies and investments designed to mitigate climate change. Our instincts tell us that Climate Smart Communities will keep more money in the local economy and gain additional economic benefits--and a "Neighborhood Dividend" study would test this hypothesis.

In addition, it would be helpful to be able to assign a dollar value or numerical scale to rate "livability" in a way that allows us to quantify the benefits of Climate Smart Communities in order to better connect climate change with audience's values and help people understand these benefits.

LOCAL VALUES

Much work has been done on connecting "American" values (e.g., independence, self-reliance, leadership) to the success of climate change messaging. What's not clear is whether these values resonate as strongly in the Portland Metro region, or whether other values (community, livability) are actually more motivating.

Further, because existing data shows that people believe climate change's impact will be felt in other parts of the globe, it would be helpful to communicators to know which predicted local impacts resonate most strongly with local audiences.

We recommend that Metro incorporate this exploration of local values and impacts into upcoming survey/focus group efforts, to ensure that future communications reflect the regional values that best align with climate change messaging for Metro's target audiences.

CONCLUSION

There are two overarching themes in the literature reviewed: climate change communications should **connect to the audience's local values**, and should be **linked with local solutions.**

By framing climate change in the context of the other benefits that people care about (e.g., livable neighborhoods, good jobs, clean air and water, public health, etc.), communicators will help their audiences personally engage with the issue. And by accompanying messages about climate change with concrete action opportunities (as well as the structures needed to facilitate action), communicators will help their audiences translate motivation into action.

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