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Strategies for Communicating Climate Change to Extension Audiences

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This fact sheet is in the second in a series on climate change communication. The first, “Challenges in Communicating Climate Change to Extension Audiences,” outlines four areas of communication challenges. This fact sheet provides strategies in response to each of the four challenges presented in factsheet 1.



CHALLENGE #1: CLIMATE CHANGE IS COMPLEX, UNCERTAIN, AND VARIABLE.

Climate change is complicated, hard to simplify, and uncertain, yet likely to manifest in all facets of community life. Planning and zoning, agriculture, transportation, and public health are impacted by climatic change. Yet active campaigns by groups with a financial interest in fossil fuels (McCright and Dunlap) have led to wide-spread misperceptions in the American public about the scientific community’s agreement that climate change is happening now and that humans are contributing to it.

Strategy: Provide simple, clear messages

about the scientific consensus on human-caused climate change.

Clearly and simply communicate that 97% of climate scientists are convinced that human-caused climate change is happening.¹ Most Americans are not aware that the vast majority of climate scientists agree about climate change and its causes.² Correcting this misperception can have significant impact: those who recognize it are much more likely to agree that climate change is happening, will impact their lives, and that there is still time to take action. (Maibach et al., 2014; Kotcher et al., 2014). Consider using analogies and framing climate change agreement in terms of risk management: “If 97% of physicians agreed on a diagnosis, would you search for further evidence?” Or, “If 97% of engineers agreed that a bridge was structurally unsound, would you seek another opinion?” (van der Linden et. al. 2014)

Climate communication experts agree that, in addition to communicating the scientific consensus, these other four simple messages, repeated often by a variety of

¹Methods used to arrive at the 97% consensus include surveys of climate scientists and reviews of peer-reviewed literature. See Doran and Zimmerman, 2009; Cook et al., 2013, Oreskes, 2004; Anderegg et al., 2010; Cook et al., 2013. In 2013, only 42% of American adults agreed that, “Most scientists agree that global warming is happening,” and 33% believed that “there is widespread disagreement among scientists about whether or not global warming is happening.” (Leiserowitz, 2014)

trusted messengers, make a difference:

1. Climate change is real
2. People are causing it
3. Climate change is harmful to people
4. People can limit it. (Maibach et. al., 2014)

Oversimplifying climate science can lead to misunderstandings and confusion. Yet it is not difficult to reduce the scientific consensus down to a few key sentences, and then point people to reliable sources (some of which are detailed here in this fact sheet).

CHALLENGE #2: PEOPLE LEARN AND REMEMBER SELECTIVELY.

Daily, we are deluged with information and problems competing for our attention. One way we filter and decide which issues deserve our attention is to seek out information that confirms what we already believe (known as “confirmation bias”), and tune out information about problems we think don’t affect us personally. *Strategy: Harness participant observations and reflections about local climate change impacts. Lectures and presentations on climate change should include ample time for discussion, so participants can learn from those who are both like them, and who have varying opinions and experiences.*

Extension agents frequently are viewed as trusted messengers, because we reflect the values of the stakeholders we serve. Therefore, we are able to convene discussions and facilitate conversations around a variety of contentious topics, including climate change. Consider hosting climate change education sessions that link what the audience already knows to new information about climate science. One option is to use a timeline, where participants collectively remember major weather events in their community from the last 30 years. While it is important to differentiate weather from climate, this exercise can begin a conversation about that distinction.

Often, climate change education sessions can turn into debating the finer points of the science. Many times these arguments about scientific uncertainties are actually substitutions for disagreements about underlying values. During well-facilitated discussions, however, values can be openly aired, rather than couched in debates about

the science. Consider using small group discussion and ground rules that encourage open exchange and encourage deliberation. In addition, stories and scenarios are good strategies for introducing new information in a way that leads to consideration and discussion, rather than defensive posturing.

CHALLENGE #3: PEOPLE PAY ATTENTION TO THOSE WHO ARE LIKE THEM.

People generalize from their own experience and, when that isn’t available, from the stories of those whom they trust. They tend to seek out information and sources that confirm their own beliefs and values. *Strategy: Engage learners around group norms and values.*

Because climate change affects so many aspects of our daily lives, it is possible to frame the problems and solutions in ways that speak to a broad spectrum of stakeholders. It is helpful to think about the importance of values when framing climate change. (Nesbit, 2009). Values are core belief sets about the world that guide actions and decisions. They include beliefs such as fairness, compassion, and justice; are relatively stable throughout one’s life; and are ordered by relative importance. (Schwartz SH, Bilsky W (1987). They reflect what one wants in the *ideal world*.

Research has shown that values cluster into two main categories: individualistic and egalitarian. Those who value individualism more than egalitarian tend to favor business solutions rather than government action, as they believe competition leads to better and fairer outcomes. (Kahan, 2010). Those with egalitarian values tend to favor government action, as they believe government puts more people on equal footing. For individualistic audiences, consider framing messages around the benefits associated with more renewable energy, such as American innovation and less dependence on foreign oil. For egalitarian audiences, consider the frames of biodiversity, and global interconnectedness.

No matter the audience, framing climate change with fear-based messages has been shown to be ineffective at motivating behavior change. People across all spectrums, even those in the “Alarmed” category, end up feeling hopeless and helpless when they hear messages about how climate change will be the end of us all.



Instead, provide examples of local solutions and benefits to adapting to and mitigating climate change. Give local case studies of how businesses, governments, individuals, and communities have reduced their energy consumption or greenhouse gas emissions, or how they are implementing climate adaptation plans. Raising fear without providing solutions only leads to ignoring the problem.

CHALLENGE #4: AUDIENCES VARY.

Communication experts remind us to target our message

to the audiences. In Extension, however, in any given audience we are likely to encounter people from a variety of backgrounds and attitudes concerning climate change. If that is the case, research has shown that these value-based frames resonate well with most people:

1. Changing to cleaner energy and reducing emissions will result in a better future for our children.
2. We have a responsibility to conserve finite resources.
3. Transitioning to a greener economy will make (our community, our country) more competitive.

In the event you are able to determine which of the “Six Americas” audience segment your stakeholders reflect, consider framing education around these key messages and

Six Americas Audience Categories	Description of audience segment	Frames and key messages	Examples and resources
Alarmed	Convinced global warming is a serious and urgent threat; highly engaged; most likely to change behavior	<ul style="list-style-type: none"> • “We can solve this problem.” Specific actions they can take to reduce harmful effects of cc. • Encourage discussing climate change with friends and family. 	Examples of community-wide reduction of carbon footprint, from the EPA state, local, or climate webpage. Extension’s Climate Change handbook, available at Oregon State University, www.cof.orst.edu/cof/extended/sustain/Plan C, Community Solutions , www.communitysolution.org/index/html .
Concerned	Convinced global warming is a serious threat; somewhat engaged; less likely to change behavior	<ul style="list-style-type: none"> • “Small actions do add up”. Provide information about taking steps to reduce carbon footprint. • Provide resources for contacting state and federal legislators 	EPA Household Carbon Footprint Calculator: includes sections to explore actions to reduce greenhouse gas emissions and to determine savings: EarthLab Carbon Footprint Calculator (get your score, take action to reduce your score, track your score)
Cautious	Believe global warming is a problem but not a personal or urgent threat	<ul style="list-style-type: none"> • “Climate change is happening now, here” • Ask for examples of how weather patterns have changed in their lifetimes • Cautious audiences mostly interested in how scientists know climate change is occurring and that humans are causing it. Provide Q/A or discussion with scientists. 	Climate Matters contains interactive, regional tools on climate change in the U.S., Citizen Science, and Phrenology. www.usanpn.org/ For simple explanations, see www.skepticalscience.org or “Frequently Asked Questions about Climate Change,” by MSU Extension.
Disengaged	Give little thought to global warming; change beliefs easily; not perceived as a problem for them	Appeal to social norms, use narratives and humor. Personalize it. Use highly credible sources.	Emphasize that “acting green” is widespread, growing in popularity, and characteristic of admired individuals: This is popular and it's socially approved. Emphasize local impacts and local solutions.
Doubtful	Not sure if global warming is happening	“Sometimes life calls on us to act responsibly, even when we are not 100% certain.”	Second lowest in egalitarian, second highest in individualism (of the 6 Americas). Would like to know how scientists know that climate change is real. A six-minute video (https://www.youtube.com/watch?v=FxaWVlzgkX4&lr=1) from the National Academy of Sciences, “America’s Climate Choices,” explains how we know that climate change is real.
Dismissive	Firmly believe global warming is not occurring; highly engaged in preventing change in policies; very knowledgeable	Individual responsibility, choice, American ingenuity. Health frame: reducing ghg emissions would lessen smog and improve air quality.	Lowest in egalitarian, highest in individualism. Unlikely to be persuaded that climate change is happening. May believe scientists receive funding to prove climate change. Any chance to engage with them using the words “climate change” may reinforce dismissive attitudes. Engage around adapting to increased variability and ways others like them are adapting.



SUMMARY

Climate change is unlike other educational topics Extension professionals encounter. The complexity of climate science, the seemingly distant and vague impacts of climate change, and the political polarization on the topic result in many people tuning out, disengaging, or learning selectively. Simplifying the message to scientific consensus, facilitating dialogue and discussion, and engaging stakeholders around local impacts and solutions can result in increased adaptation and mitigation behaviors.

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REFERENCES

Anderegg, W. R., J. W. Prall, J. Harold, and S. H. Schneider. 2010. "Expert credibility in climate change." *Proc Natl Acad Sci U S A* no. 107 (27):12107-9. doi: 10.1073/pnas.1003187107.

Cook, J. 2014. Communicating Scientific Consensus: John Cook responds. The Cultural Cognition Project at Yale Law School 2013b. Available from <http://www.culturalcognition.net/john-cook-on-communicating-con/>

Doran, Peter T., and Maggie Kendall Zimmerman. 2009. "Examining the Scientific Consensus on Climate Change." *Eos, Transactions American Geophysical Union* no. 90 (3):22-23. doi: 10.1029/2009EO030002.

Cohen, G.L., Aronson, J and Steele, C., *Person Soc Psychol Bull* 26, 1151-1164 (2000).

Jones, M., and R. Sugden. 2001. Positive confirmation bias in the acquisition of information. *Theory and Decision* 50, no. 1: 59-99.

Kahan, Dan M., Fixing the Communications Failure (June 24, 2010). *Nature*, Vol. 463, pp. 296-297, 2010. Available at SSRN: <http://ssrn.com/abstract=1630002>

Kaplan, S. and R. Kaplan. 1982. *Cognition and environment: Functioning in an uncertain world*. NY: Praeger.

Kotcher, J., T. Meyers, E. Maibach, and A. Leiserowitz. 2014. Correcting misperceptions about the scientific consensus on climate change: Exploring the role of providing an explanation for the erroneous belief. In *The International Communication Association*.

van der Linden, S.A., Leiserowitz, A., Feinberg, G., and Maibach, E.G. How to communicate the scientific consensus on climate change: plain facts, pie charts or metaphors? 2014. In *Climatic Change*, July.

Leiserowitz, A., E. Maibach, C. Roser-Renouf, and J. Hmielowski. 2012. *Global Warming's Six Americas*, March 2012 & Nov. 2011. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change Communication. Available at: <http://environment.yale.edu/climate/files/Six-Americas-March-2012.pdf>

Maibach, E., T. Myers, and A. Leiserowitz (2014), Climate scientists need to set the record straight: There is a scientific consensus that human-caused climate change is happening, *Earth's Future*, 2, doi:10.1002/2013EF000226.

McCright, A. M., & Dunlap, R. E. (2003). Defeating Kyoto: The conservative movement's impact on US climate change policy. *Social Problems*, 50(3), 348-373.

Nesbit, M. C. 2009. Communicating climate change: Why frames matter for public engagement. *Environment*.

Moser, S. C., & Dilling, L. (2004). Making Climate HOT. *Environment: Science and Policy for Sustainable Development*, 46(10), 32-46. doi:10.1080/00139150409605820

Shome, D., and S. Marx. 2009. *The psychology of climate change communication: A guide for scientists, journalists, educators, political aides, and the interested public*. Columbia University, New York.

Schwartz SH, Bilsky W (1987). Toward a universal psychological structure of human values. *Journal of Personal Social Psychology* 53(3); 550-562).