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Pearce, W. [orcid.org/0000-0001-6884-3854](https://orcid.org/0000-0001-6884-3854), Grundmann, R., Hulme, M. et al. (3 more authors) (2017) *A reply to cook and Oreskes on climate science consensus messaging*. *Environmental Communication: a journal of nature and culture*, 11 (6). pp. 736-739. ISSN 1556-7400

<https://doi.org/10.1080/17524032.2017.1392109>

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**To cite this article:** Warren Pearce, Reiner Grundmann, Mike Hulme, Sujatha Raman, Eleanor Hadley Kershaw & Judith Tsouvalis (2017) A Reply to Cook and Oreskes on Climate Science Consensus Messaging, *Environmental Communication*, 11:6, 736-739, DOI: [10.1080/17524032.2017.1392109](https://doi.org/10.1080/17524032.2017.1392109)

**To link to this article:** <https://doi.org/10.1080/17524032.2017.1392109>



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Published online: 14 Nov 2017.



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## A Reply to Cook and Oreskes on Climate Science Consensus Messaging

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In their replies to our paper (Pearce et al., 2017), both Cook (2017) and Oreskes (2017) agree with our central point: that deliberating and mobilizing policy responses to climate change requires thinking beyond public belief in a scientific consensus. However, they both continue to defend consensus messaging, either because of “the dangers of neglecting to communicate the scientific consensus” (Cook, 2017, p. 1) or because “‘no consensus’ ... remains ... a contrarian talking point” (Oreskes, 2017, p. 1). Both highlight previously conducted market research by fossil fuel companies which suggested that scientific uncertainty provided a political weapon in fighting regulation, concluding that incorrect public perceptions of the scientific consensus weaken support for policy action (Oreskes, 2017, p. 2).

It is odd that scholars accept corporate research as proof of a claim about the relation between knowledge and decision-making, when the academic evidence cited in our Commentary provides numerous examples to the contrary. Grundmann and Stehr (2012) examined the literature regarding the relation between scientific information and policies (including climate policy), finding that what matters most for effective policy is the identification, and use, of levers for action such as taxes, regulation, incentives or public investment, not scientific consensus.

Public opinion data also cast doubt on the importance of consensus messaging. In Table 1, we summarize relevant 2017 national survey data of US public attitudes and knowledge (Leiserowitz, Maibach, Roser-Renouf, Rosenthal, & Cutler, 2017; Marlon, Fine, & Leiserowitz, 2017). Although one should be cautious interpreting such surveys, the data shows a clear majority position among Americans: that climate change is real, important and worrisome, and that the US should take policy action and invest in public education. These positions have been reached in the absence of accurate knowledge about the scientific consensus. There is little evidence here that supports the notion shared by Cook, Oreskes and various fossil fuel companies: that disinformation about scientific consensus begets public opposition to policy.

Despite this evidence, Cook (2017) and Oreskes (2017) appear convinced that public understanding of scientific consensus is essential for developing effective climate policies. Even if this “gateway belief model” could be proved in laboratory studies,<sup>1</sup> it holds questionable significance in the real world where sources of competing information always exist (Kahan & Carpenter, 2017). Science itself provides fertile ground for such discrepancies, as two current examples demonstrate. First, the debate over the hiatus/pause in global temperature increase was not invented by fossil fuel interests, but is a subject of genuine scientific disagreement (Medhaug, Stolpe, Fischer, & Knutti, 2017). Second, there is increasing expert debate regarding how much carbon dioxide can be emitted while keeping global temperature rise below 1.5°C (Millar et al., 2017a, 2017b; Peters, 2017; Rathi, 2017). For climate scientists, there is no obvious consensus about questions such as these. On the other

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**Table 1.** US public attitudes about climate change compared to accurate knowledge of scientific consensus.

Global warming beliefs and policy preferences	%
Agree that schools should teach causes, consequences and potential solutions to global warming <sup>a</sup>	78
Think global warming is happening <sup>a</sup>	70
Say US should participate in Paris Agreement <sup>b,c</sup>	69
Say global warming is at least “somewhat” personally important <sup>a</sup>	63
Think global warming is affecting US weather <sup>a</sup>	59
Think global warming is mostly caused by human activities <sup>a</sup>	58
Say they are at least “somewhat” worried about global warming <sup>a</sup>	57
<hr/>	
Knowledge of scientific consensus	%
Believe that over 90% of climate scientists think human-caused global warming is happening <sup>a,d</sup>	13

<sup>a</sup>Leiserowitz et al. (2017).

<sup>b</sup>Marlon et al. (2017).

<sup>c</sup>Sample includes just registered voters, rather than general population.

<sup>d</sup>In a web-based survey, respondents were asked: “To the best of your knowledge, what percentage of climate scientists think that human-caused global warming is happening? Please click on the slider bar below to indicate your answer. You can slide the indicator to the position that best describes your opinion. If the slider does not work, you can enter a number in the number box.”

hand, Cook, Oreskes and others persist in messaging the minimalist fact that human influence on a changing climate is uncontroversial amongst scientists.

To reiterate our Commentary, we agree there are occasions where this consensus is worth stating. However, there will always be public voices of dissent, and drowning them out with consensus messaging is implausible (Aklın & Urpelainen, 2014). Far better to design sustained public engagement on climate change around possible policy options, rather than allowing the needle to get stuck on consensus messaging which offers little when it comes to planning policy responses. Instead, it is necessary to open up the normative dimensions of policies such as carbon taxes, geoengineering or radical societal transitions to public scrutiny and debate (Nisbet, 2014), and to find new policy measures that can attract cross-partisan support (Ryan, 2015).

Cook (2017) interprets our argument as playing into the hands of climate disinformers. Far from it. It is the insistent demand that publics will only engage in relevant policy debates once they have adopted a “gateway belief” that is playing into the hands of those who wish to slow-down climate policy design and implementation.

Greater public participation in defining policy solutions will help challenge the current system, where policy interventions are presented as value-free responses to scientific facts, leaving science vulnerable to political attacks that scientists and their allies are ill-equipped to repel (Jasanoff, 2010; Pearce, Brown, Nerlich, & Koteyko, 2015; Raman, 2017; Wynne, 2010). Starting with specific policy proposals, and exploring their normative assumptions, is likely to prove a better public engagement strategy than the promotion of consensus messaging.

For example, the UK Government’s “My2050” online tool enabled members of the public to design their own energy pathway to the UK’s 2050 carbon reduction target. Participants adjusted different elements of energy generation and demand within their pathway, revealing the normative assumptions regarding energy trade-offs embedded in the policy target (Mohr, Raman, & Gibbs, 2013). Complementary deliberative dialogues allowed participants to reflect more extensively on the target’s demands, with the results informing recommendations for decision-making (Sciencewise, 2012). In this model, members of the public are assumed to have something to contribute to crafting societal responses to climate change, rather than seeking to correct some deficiency in their understanding of the issue (Nuccitelli, Cook, van der Linden, Leiserowitz, & Maibach, 2017). Also, Pidgeon, Demski, Butler, Parkhill, and Spence (2014) report that in their deliberative workshops, some participants who were sceptical about climate change were nevertheless enthusiastic about transition beyond fossil fuels.

Publics around the world possess a rich understanding of the climates they live with, the risks they face, and the potential changes they would like to see. Mobilizing and engaging these views are the

proper building blocks for public debate, not an insistence that knowledge of a single number is a pre-condition for political progress.

## Note

1. Note that no consensus exists on whether the experimental evidence for the model is convincing (Kahan, 2016).

## Acknowledgements

The authors acknowledge the funding support of the Leverhulme Trust Making Science Public programme (RP2011-SP-013). WP acknowledges the support of the Economic and Social Research Council Future Leaders Research programme Making Climate Social project ES/N002016/1.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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## References

- Akin, M., & Urpelainen, J. (2014). Perceptions of scientific dissent undermine public support for environmental policy. *Environmental Science & Policy*, 38(Suppl. C), 173–177.
- Cook, J. (2017). Response by Cook to “beyond counting climate consensus”. *Environmental Communication*. Advance online publication. doi:10.1080/17524032.2017.1377095
- Grundmann, R., & Stehr, N. (2012). *The power of scientific knowledge: From research to public policy*. Cambridge: Cambridge University Press.
- Jasanoff, S. (2010). A new climate for society. *Theory, Culture & Society*, 27(2–3), 233–253.
- Kahan, D. M. (2016). The “gateway belief” illusion: Reanalyzing the results of a scientific-consensus messaging study. *Journal of Science Communication*. Retrieved from <https://papers.ssrn.com/abstract=2779661>
- Kahan, D. M., & Carpenter, K. (2017). Out of the lab and into the field. *Nature Climate Change*, 7(5), 309–311. doi:10.1038/nclimate3283
- Leiserowitz, A., Maibach, E. W., Roser-Renouf, C., Rosenthal, S., & Cutler, M. (2017). *Climate change in the American mind: May, 2017*. New Haven, CT: Yale University/George Mason University.
- Marlon, J. R., Fine, E., & Leiserowitz, A. (2017). A majority of Americans in every state say the U.S. should participate in the Paris Climate Agreement. Retrieved from [http://climatecommunication.yale.edu/publications/paris\\_agreement\\_by\\_state/](http://climatecommunication.yale.edu/publications/paris_agreement_by_state/)
- Medhaug, I., Stolpe, M. B., Fischer, E. M., & Knutti, R. (2017). Reconciling controversies about the “global warming hiatus”. *Nature*, 545(7652), 41–47.
- Millar, R. J., Fuglestedt, J. S., Friedlingstein, P., Rogelj, J., Grubb, M. J., Matthews, H. D., ... Allen, M. R. (2017a). Emission budgets and pathways consistent with limiting warming to 1.5°C. *Nature Geoscience*. Advance online publication. doi:10.1038/ngeo3031
- Millar, R. J., Fuglestedt, J. S., Friedlingstein, P., Rogelj, J., Grubb, M. J., Matthews, H. D., ... Allen, M. R. (2017b, September 20). Clarification on recent press coverage of our “1.5 degrees” paper in Nature Geoscience. Retrieved from <http://www.oxfordmartin.ox.ac.uk/opinion/view/379>
- Mohr, A., Raman, S., & Gibbs, B. (2013). *Which Publics? When? Didcot: Sciencewise*. Retrieved from <http://www.sciencewise-erc.org.uk/cms/assets/Uploads/Which-publics-FINAL-VERSION.pdf>
- Nisbet, M. C. (2014). Disruptive ideas: Public intellectuals and their arguments for action on climate change. *Wiley Interdisciplinary Reviews: Climate Change*, 5(6), 809–823.
- Nuccitelli, D., Cook, J., van der Linden, S., Leiserowitz, T., & Maibach, E. (2017, October 2). Why the 97% climate consensus is important. *The Guardian*. Retrieved from <http://www.theguardian.com/environment/climate-consensus-97-per-cent/2017/oct/02/why-the-97-climate-consensus-is-important>
- Oreskes, N. (2017). Response by Oreskes to “Beyond counting climate consensus”. *Environmental Communication*. Advance online publication. doi:10.1080/17524032.2017.1377094

- Pearce, W., Brown, B., Nerlich, B., & Koteyko, N. (2015). Communicating climate change: Conduits, content, and consensus. *Wiley Interdisciplinary Reviews: Climate Change*, 6(6), 613–626.
- Pearce, W., Grundmann, R., Hulme, M., Raman, S., Kershaw, E. H., & Tsouvalis, J. (2017). Beyond counting climate consensus. *Environmental Communication*. Advance online publication. doi:10.1080/17524032.2017.1333965
- Peters, G. (2017, September 19). Did 1.5°C suddenly get easier? – Cicero. Retrieved from <http://www.cicero.uio.no/no/posts/nyheter/commentary-did-15c-suddenly-get-easier>
- Pidgeon, N., Demski, C., Butler, C., Parkhill, K., & Spence, A. (2014). Creating a national citizen engagement process for energy policy. *Proceedings of the National Academy of Sciences*, 111(Suppl. 4), 13606–13613.
- Raman, S. (2017, October 4). Making space for connective truths. *Discover Society*. Retrieved from <http://discoversociety.org/2017/10/04/making-space-for-connective-truths/>
- Rathi, A. (2017, September 21). Did we just buy decades more time to hit climate goals? Retrieved from <https://qz.com/1080883/the-breathtaking-new-climate-change-study-hasnt-changed-the-urgency-with-which-we-must-reduce-emissions/>
- Ryan, D. (2015). From commitment to action: A literature review on climate policy implementation at city level. *Climatic Change*, 131(4), 519–529.
- Sciencewise. (2012). *Case study. Energy 2050 pathways: A public dialogue with young people and community leaders*. Sciencewise. Retrieved from <http://www.sciencewise-erc.org.uk/cms/assets/Publications/SWEnergy-2050-PathwaysFINAL.pdf>
- Wynne, B. (2010). When doubt becomes a weapon. *Nature*, 466(7305), 441–442.