Policy Report on

How framing of climate change can lead to improved policy actions

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Summary

The urgency of climate change

The world faces the unprecedented challenge of addressing rising global temperatures caused by anthropogenic actions (shown in Figure 1). The effect of climate change, which includes rising sea levels and extreme weather events, is a relatively gradual phenomenon (Desmet and Rossi-Hansberg, 2021). While scientists generally agree that this is happening, authorities disagree on which countries are most responsible, how to measure emission-reduction targets, and if more vulnerable countries should be prioritized (Council on Foreign Relations). This also drives a divergence of opinions on awareness of the impacts among the general population (Rudiak-Gould, 2013), and complicates the process of coordinating mitigation measures on a world-wide scale. While nations had recently committed to specific targets of reducing emissions of greenhouse gases during the Paris Accord (2015), the United Nations (UN) has warned that governments are not on track to meet these objectives (Council on Foreign Relations). This gap is shown in Figure 2. The UN Climate Change Conference is carded for December 2023 in Dubai where governments will discuss the even more urgent need to increase the global response.

Framing can be defined as "…selecting some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described…" (Entman, 1993). This paper briefly evaluates if public pressure can sway governments, discusses different modes of framing meant to appeal to the public and outlines some policy implications.

Supporting Evidence

The current perceptions about climate change can be diverse. A cross-country analysis of public opinion polls preceding 2003, determined a deficiency in knowledge regarding the causes of climate change and understanding of the commitments to the Kyoto Protocol. While Western Europe showed significant support, the US was less inclined (Brechin, 2003). Only 26% of respondents identified fossil fuel usage as the cause. Current opinions have improved with 2021 surveys showing 64% of respondents acknowledging it as an emergency (UNDP, 2021). The strongest support understandably came from Small Island Developing States (SIDS) at 74%. Public perception in the US has also improved as shown in Figure 3, where 72% of respondents acknowledge that climate change is happening. Perceived inequality has a particular positive effect on support for structural climate change policies associated with a desire for drastic change (Klebl & Jetten, 2003).

Can public pressure sway governments to act?

There is mixed evidence that public feedback has some effect on policy decisions of governments. The study by Wynes et al. (2021) shows a marginally significant relationship between constituent email communication regarding pro-climate issues and the reflection of this message by Canadian Members of Parliament via Twitter. However, the paper suggests that analog communication may have a greater effect. A study on German public policy shows that an increase in public support for a policy proposal from 40% to 70% increased the probability of an opposition part supporting the policy between 36% to 56% (Romejn, 2020). The effect was reduced for the incumbent party. Research on Spanish politicians examines their response to public feedback on gender issues through Twitter and found an increase in attention of 8.3% and 6.8% for male and female politicians respectively (Scholl et al. 2023).

Several studies have identified effective ways of framing climate change to more powerfully convey this threat. Climate change can be proposed as a human health issue (Rossa-Roccor et al., 2021). Human health appeals to the desire to protect loved ones and transcends social and racial barriers. It is personal, local and short-term and health professionals can be deemed to be more trusted than scientists and politicians. The disadvantages are that this may diminish the responsibility of authorities and may cause opposition to organize around this issue.

A pilot study using 169 students in a US Northwestern University and a main study involving 206 participants from the crowdsourcing marketplace Amazon Mechanical Turk (MTurk), examined messaging as a moral violation (Huang et al., 2022). Participants viewed a randomized short message on the impact of climate change and then answered questions to discern their opinions. Messages were based on perceived credibility, policy support and behaviour attention on a scale from 1 to 7. An example of a message was “Require automakers to increase the fuel efficiency of cars, trucks and SUVs to 54.5 mpg.” In the pilot study, only policy support was found to be significant with average differential effect of 0.11 on the scale. In the main study, moral engagement interacted with mediating effect was determined to be significant with a differential effect of 0.3. Higher credibility was associated with greater policy support, behaviour intention and moral engagement.

Shurka et al. (2018) examined the effect of emotional appeals on behavioural intentions and perceived risk. 1542 participants were exposed to one of three randomized videos about climate change using messages of fear, humour and information (neutral). Participants were subsequently asked about participation in climate change related activities. Participants reported a greater fear response than humour of information. Using OLS regressions and controlling for individual characteristics, fear was found to elicit higher activism and higher perceptions of risk compared to information.

A recurring theme is the conflict between economic growth and inequality of adverse outcomes (Rossa-Roccor et al., 2021)**.** Studies show that the net effect of a 1°C increase in temperature decreases growth rates in poor countries by -1.09 percentage points but that the effect is smaller in richer countries (Dell et al., 2012). Income convergence can reduce emission intensity of global income growth (Rao & Min, 2018). Researchers have developed vulnerability assessment tools which integrate the goals of reducing inequality and building out adaptive capacity (Tschakert, 2013). Alignment of the goals of the United Nations Sustainable Development Goals and the United Nations Framework Convention on Climate Change would increase public acceptance of these joint objectives. Framing via emotional appeals would be more powerful when combined with this theme.

Policy Recommendations

1. Given the mixed evidence that public pressure has a positive effect on the positions of elected officials and, by extension, policy decisions, more research is required. This could take the form of lab experiments or surveys, analyzed using econometrics. Different modes of framing should be investigated.
2. Integrate the objectives of economic development, inequality reduction and climate change mitigation and adaptation. This can only happen when governments and international organizations cooperate.
3. Develop public awareness campaigns using the framing modes examined and incorporate messages related to development and inequality. The level and sophistication of these activities need to be improved and possibly centralized. There needs to be a feedback loop whereby as public support for climate initiatives improves, the resulting pressure on decision-makers shifts the agenda in this direction.

References

1. Brechin, Steven & Bhandari, Medani. (2011). Perceptions of Climate Change Worldwide. Wiley Interdisciplinary Reviews: Climate Change. 2. 10.1002/wcc.146.
2. Council on Foreign Relations. (n.d.). Global climate agreements: Successes and failures. Council on Foreign Relations. https://www.cfr.org/backgrounder/paris-global-climate-change-agreements#:~:text=Governments%20generally%20agree%20on%20the,rising%20by%201.5%C2%B0C.
3. Dell, M., Jones, B. F., & Olken, B. A. (2012). Temperature shocks and economic growth: Evidence from the last half century. American Economic Journal: Macroeconomics, 4(3), 66–95. https://doi.org/10.1257/mac.4.3.66
4. Entman, Robert. (1993). Framing: Toward Clarification of A Fractured Paradigm. The Journal of Communication. 43. 51-58. 10.1111/j.1460-2466.1993.tb01304.x.
5. Huang J, Yang JZ, Chu H. (2022). Framing Climate Change Impacts as Moral Violations: The Pathway of Perceived Message Credibility. Int J Environ Res Public Health. Apr 25;19(9):5210. doi: 10.3390/ijerph19095210. PMID: 35564601; PMCID: PMC9104518.
6. J. Timmons Roberts. (2001).Global Inequality and Climate Change, Society & Natural Resources, 14:6, 501-509, DOI: 10.1080/08941920118490
7. Klebl, C., & Jetten, J. (2023). Perceived inequality increases support for structural solutions to climate change. Social Psychological and Personality Science, 194855062311693. https://doi.org/10.1177/19485506231169328
8. Rao, N. D., & Min, J. (2018). Less global inequality can improve climate outcomes. WIREs Climate Change, 9(2). https://doi.org/10.1002/wcc.513
9. Romeijn, J. (2020). Do political parties listen to the(ir) public? Public opinion–party linkage on specific policy issues. Party Politics, 26(4), 426-436. https://doi.org/10.1177/1354068818787346
10. Rossa-Roccor V, Giang A, Kershaw P. (2021) Framing climate change as a human health issue: enough to tip the scale in climate policy? Lancet Planet Health. Aug;5(8):e553-e559. doi: 10.1016/S2542-5196(21)00113-3. PMID: 34390673.
11. Rudiak-Gould, P. (2013). We Have Seen It with Our Own Eyes: Why We Disagree about Climate Change Visibility. Weather, Climate, and Society, 5(2), 120-132. https://doi.org/10.1175/WCAS-D-12-00034.1

12. Schöll, Nikolas & Le Mens, Gaël. (2023). How Politicians Learn from Citizens' Feedback: The Case of Gender on Twitter. 10.1111/ajps.12772.
13. Skurka, C., Niederdeppe, J., Romero-Canyas, R., & Acup, D. (2018). Pathways of influence in emotional appeals: Benefits and tradeoffs of using fear or humor to promote climate change-related intentions and risk perceptions. Journal of Communication, 68(1), 169–193. https://doi.org/10.1093/joc/jqx008
14. The Peoples' Climate Vote. UNDP.org. United Nations Development Programme. 26 January 2021. https://www.undp.org/publications/peoples-climate-vote
15. Tol, Richard S J. (2009). The Economic Effects of Climate Change. Journal of Economic Perspectives, 23 (2): 29-51.
16. Tschakert, Petra & van Oort, Bob & Clair, Asuncion & LaMadrid, Armando. (2013). Inequality and transformation analyses: a complementary lens for addressing vulnerability to climate change. Climate and Development. 5. 10.1080/17565529.2013.828583.
17. Wynes, S., Kotcher, J. & Donner, S.D. (2021). Can citizen pressure influence politicians' communication about climate change? Results from a field experiment. Climatic Change 168, 6 . https://doi.org/10.1007/s10584-021-03215-9

Appendix

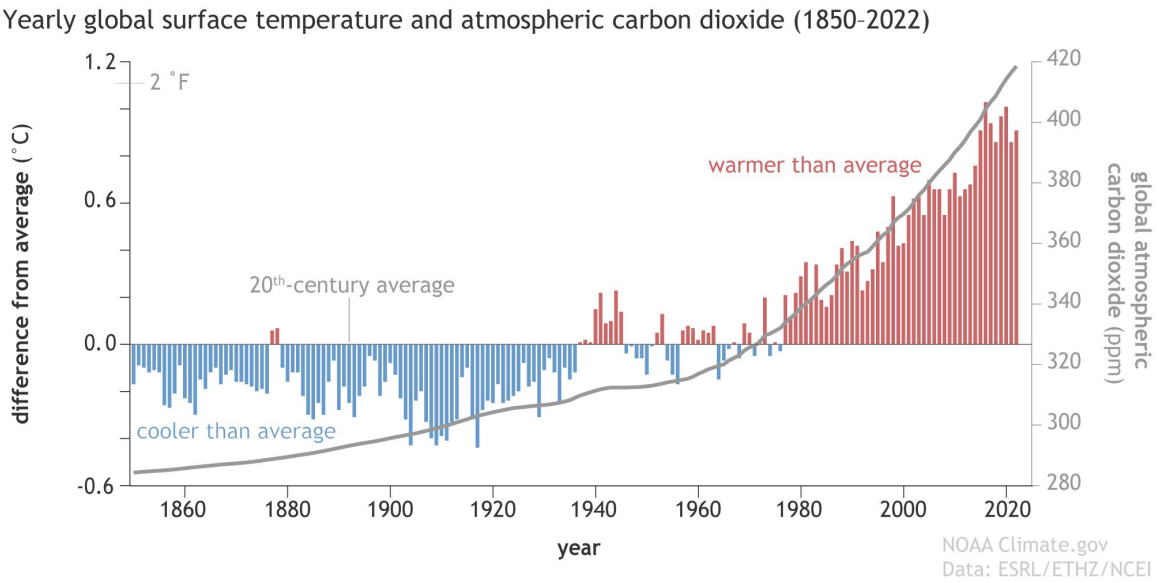

Figure 1: Yearly temperature compared to the twentieth-century average (red bars mean warmer than average, blue bars mean colder than average) from 1850–2022 and atmospheric carbon dioxide amounts (gray line): 1850-1958 from IAC, 1959-2019 from NOAA ESRL. Original graph by Dr. Howard Diamond (NOAA ARL), and adapted by NOAA Climate.gov.

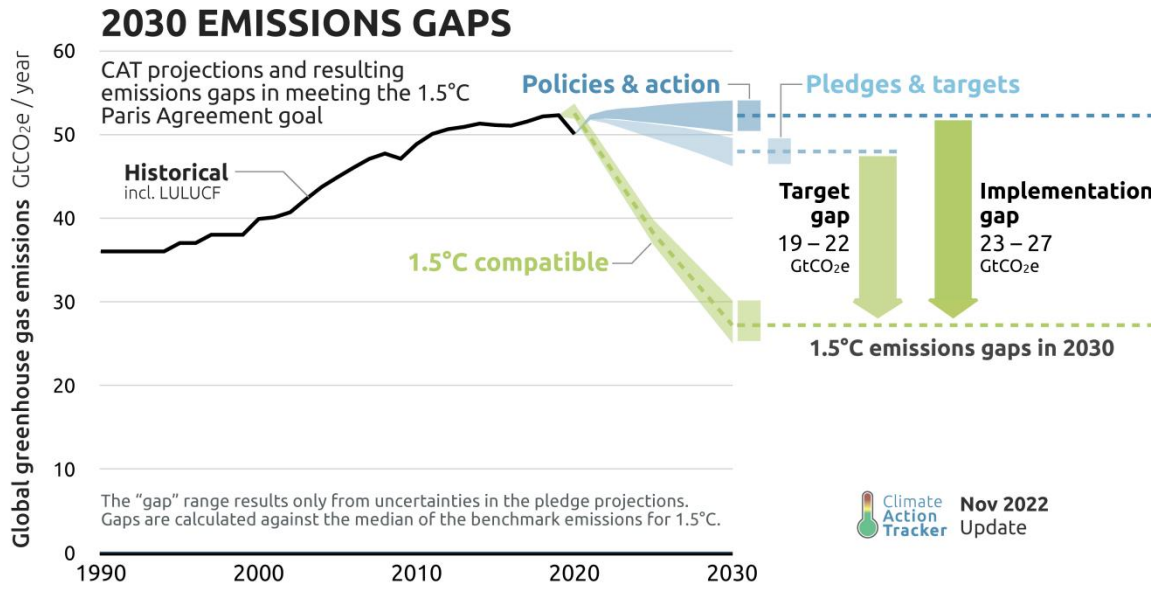

Figure 2: Climate Action Tracker (2022). 2030 Emissions Gap: CAT projections and resulting emissions gap in meeting the 1.5°C Paris Agreement goal. November 2022. Available at: https://climateactiontracker.org/global/cat-emissions-gaps/.

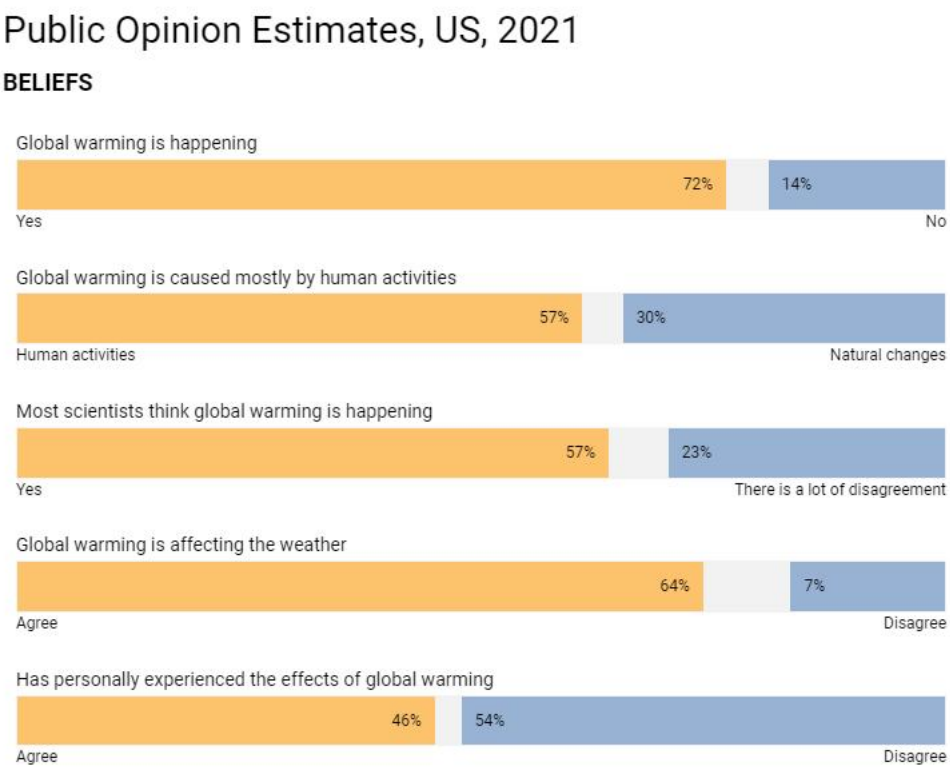

Figure 3: Selected] Yale climate opinion map. 2021. Yale Program on Climate Change Communication. (2023, May 18). https://climatecommunication.yale.edu/visualizations-data/ycom-us/