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The 2035 Initiative | Research Policy Brief

Fossil fuel companies may be using our psychology to greenwash

We identify and provide evidence of how fossil fuel industry advertisements may employ psychological mechanisms to delay policy implementation.

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Based on D. O'Keefe & P. Mahdavi (2026). *How might fossil fuel companies use our psychology to greenwash? An evidence review of potential psychological mechanisms*.

Discourses of Delay

Globally, groups are calling for a ban on fossil-fuel advertisements and seek to implement policies that limit the industry's ability to spread disinformation. Fossil-fuel corporations benefit from delaying and preventing policies to curb carbon emissions from their products and production. Several lines of research have identified how fossil fuel advertising may contribute to the delay of such policies, leading to continued emissions, worsening climate impacts like extreme weather, pollution, and injustice. Immediate policies and action are needed to reach global climate goals and ensure a healthier and safer world.

Key Findings and Proposed Solutions:

- Nature imagery, moral appeals, and individualized causal attributions influence attitudes toward the fossil fuel industry and policies that impact it.
- These three mechanisms, their joint effects, and relationships with disinformation make them useful in advertising and persuasion.
- Quantifying these effects and fossil fuel efforts to use our psychology are essential to implement climate policies and mitigate climate change.
- Further research should address methods used to negate these effects.

What We Found

Nature imagery occurs in fossil fuel advertisements as video or images of lush forests, clear bodies of water, or seemingly untouched wildlands. As a mechanism, this imagery increases the audience's connectedness to the natural world, which then increases the positive emotion of the audience.[1] This effect impacts the processing of information, biasing audiences toward positive attitudes relevant to the information. In a sample of 2564 fossil fuel advertisements documented since 2006, 17% included nature-evoking imagery, a 5% greater rate than the inclusion of alternative energy technology infrastructure.[2]

Fossil fuel advertisements may use **moral appeals**—framing actions in terms of their ethics—to influence relevant attitudes. Framing actions as either violating or upholding morality elicits emotional responses that bias the interpretation of the information provided.[3] When quantifying the probability of moral appeal for words used in the same advertisement database, we found evidence that moral framings of "care" and "fairness" have a greater probability of being employed in fossil fuel advertising than other domains. Research suggests that "care" and "fairness" domains are broadly effective across a spectrum of political ideology.

Causal attributions—a person's beliefs about the antecedents of, and responsibility for, an outcome—may influence their attitudes toward the fossil fuel industry. For example, someone who believes that climate change is primarily caused by individual actions is more likely to change their behavior rather than support climate policies. Fossil fuel advertisements have been noted to individualize the causes and responses to climate change,[4] which may influence individuals' own causal attributions of climate change and subsequent attitudes on climate policy.

Importantly, there are psychological mechanisms that can mitigate the effects of these persuasive tools. **Inoculation theory** suggests that preparing individuals to encounter these mechanisms could function as a form of pre-exposure defense against disinformative ads. If individuals are primed and equipped to counter the effects of nature imagery, moral appeals, and/or causal attributions, their attitudes would be less likely to be influenced by ads using these mechanisms. Additional research is needed on the applied and theoretical intersections to better understand how to combat fossil fuel companies using psychology to delay climate policy implementation.

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[1] Hartmann, P., & Apaolaza-Ibáñez, V. (2010). Beyond savanna: An evolutionary and environmental psychology approach to behavioral effects of nature scenery in green advertising. *Journal of Environmental Psychology, 30*(1), 119–128. https://doi.org/10.1016/j.jenvp.2009.10.001

[2] Velez Echeverri, J., Faroqui, S., Climie, S., Muiruri, K., Hitchcock Auciello, B., Hsu, E., Weir, R., Weis, A., Werthman, C., Chow, S., Chaves, T., & Franta, B. (2024). Oxford Carbon and Climate Advertising Library (OxCCAL). Climate Litigation Lab, Oxford Sustainable Law Programme, University of Oxford. https://oxccal.org

[3] Bos, L., & Salgado, R. S. (2025). Virtue or passion? How moral frames in climate change appeals elicit emotions and change opinions. *Political Psychology*. 00, 1–21 https://doi.org/10.1111/pops.70048

[4] Supran, G., & Oreskes, N. (2021). Rhetoric and frame analysis of ExxonMobil's climate change communications. *One Earth, 4*(5), 696–719. https://doi.org/10.1016/j.oneear.2021.04.014

What We Did

To probe how fossil fuel advertisements could be using psychological mechanisms, we synthesized relevant social psychological research with implications for attitude formation and attitude change. We conducted literature reviews of moral foundation theory, inoculation theory, research on causal attributions, and the effect of nature imagery and connection to nature. We further reviewed research on advertising in the field of communication, and on disinformation and fossil fuel industries in legal and political domains.

In addition to a synthesis of this literature, we analyzed a large data set of fossil fuel advertisements that have been documented for almost two decades. We incorporated the results of this preliminary empirical analysis into discussions of the proposed theoretical model, which is visualized below in Figure 1. As a result, we identified several areas of research that have potential for both applied and theoretical contributions. Namely, the relationship between moral framings, nature imagery, causal attributions, and disinformation, as identified by a question mark in the figure.

This model of potential mechanisms presents an opportunity to test methods that mitigate the psychological effects of fossil fuel advertisements. We reviewed literature on inoculation theory and proposed theory-based methods to mitigate the effect of disinformation.

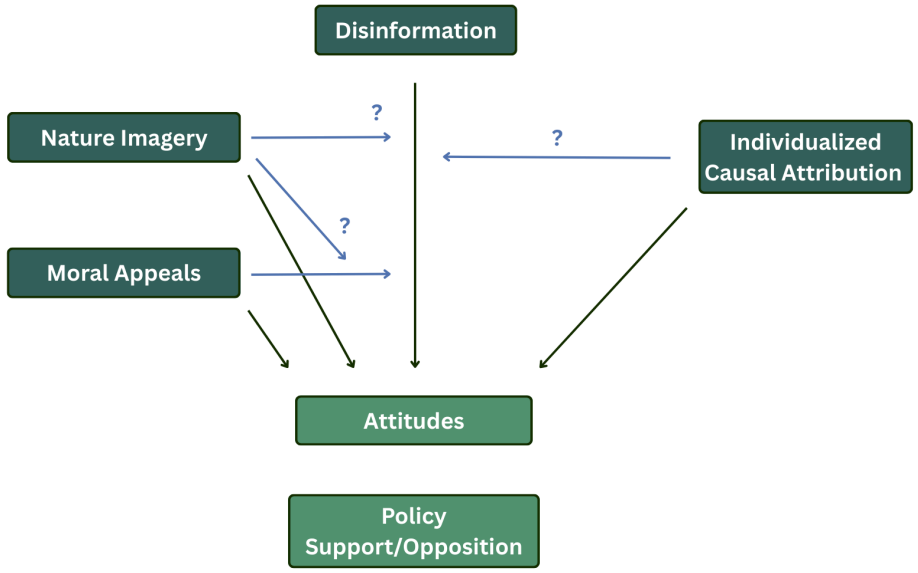


Fig. 1. A model of psychological mechanisms that may be employed in fossil fuel advertising, along with moderating effects (noted as blue arrows) and potential moderating effects (noted as blue arrows with a question mark), and their relationship to relevant attitudes and behavior (noted as green arrows).