

Dear Colleagues,

The abstract for the project that I have been working on (**Do Fossil Fuel Firms Reframe Online Climate and Sustainability Communication? A Data-Driven Analysis**), with Ramit Debnath (Cambridge), Danny Ebanks (Harvard), Thomas Roulet (Cambridge), and R. Michael Alvarez (Caltech) is below.

Abstract: Identifying climate misinformation on social media is crucial to climate action. Misinformation comes in various forms; however, subtler strategies, such as emphasizing favorable interpretations of events or data, or reframing conversations to fit preferred narratives, have received little attention. This paper examines online climate and sustainability communication behavior over seven years (2014–2021) across three influential stakeholder groups consisting of eight fossil fuel firms (industry), eleven non-governmental organizations (NGOs), and eight inter-governmental organizations (IGOs). We examine historical Twitter interaction data (n = 728,967) using joint-sentiment topic modeling and vector autoregression to measure online interactions and influences amongst these groups. We report three key findings. First, we find that the stakeholders in our sample are responsive to one another online, especially over topics in their respective areas of domain expertise. Second, the industry is more likely to respond to IGOs' and NGOs' online messaging changes, especially regarding environmental justice and climate action topics. The fossil fuel industry is more likely to discuss public relations, advertising, and corporate sustainability topics. Third, we find a null relationship between climate change driven-extreme weather events and stock market performance. In conclusion, we provide a data-driven foundation for understanding the influence of powerful stakeholder groups on shaping the online climate and sustainability information ecosystem around climate change.

Revise & Resubmit: The paper was recently resubmitted to *Nature Portfolio Journal Climate Action*.

Best, Kamiar