Policy brief

Participating in a climate futures market increases support for costly climate policies

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A large gap exists between the concerns over the risks of climate change and the support needed for effective climate actions. We show that participating in a market where individuals make predictions on future climate outcomes and earn money can change climate attitudes, behaviour and knowledge.

The policy problem

Over a third of the US population believes that the seriousness of global warming is exaggerated, suggesting that politicians proposing to enact costly policies to address it may be at risk of losing their next election. While concern varies elsewhere, there is a large gap, globally, between the level of concern exhibited and the level of support needed to meet climate change mitigation goals. A market-based mechanism, or climate prediction market, could help close this gap (Fig. 1). At scale, such a mechanism could also generate a new branch of the financial information sector dedicated to predicting the consequences of climate change, which could have substantial economic value for steering mitigation measures. Further, provided that each bet has a pre-determined arbiter for the outcome settlement, this market-based resolution mechanism could be useful in other topics of potential controversy outside of climate action.

The findings

Participation in a climate prediction market, where individuals make predictions about climate futures and earn/lose money based on their forecasting accuracy, increases concern about global warming, support to mitigate the risks of climate change and knowledge about climate issues. This is true across levels of initial belief in climate change and political ideology. In one study (with a polarized group of climate believers and sceptics), the shift in perspective was contingent on winning (people who made money in their predictions also shifted their beliefs), whereas in a study including participants with more moderate views, the changes occurred independent of winning. This research provides a practical way to increase people's concern about climate change, as well as a powerful tool for policymakers to poll public opinion about climate issues, test potential future policies, inject private money to a new financial instrument and even use potential market gains towards climate solutions.

The study

Participants completed surveys before and after engaging in a prediction market. The surveys measured their climate concerns, support for climate action and climate knowledge. Between the surveys, participants were randomly assigned to either engage in a climate prediction market (treatment) or a control group. In study 1 ($n = 143$), the control group sat idle, while in study 2 ($n = 664$), the control group engaged in a sports and entertainment prediction market. During the prediction period, participants in the climate prediction market made bets about future climate outcomes (that is, "Will the number of wildfires in California exceed 5,500 by August 8, 2022?").

Recommendations for policy

- Participation in a climate prediction market, where individuals make bets on outcomes and earn money when they are correct, results in more climate concern, support and knowledge.

- Climate prediction markets can be used by policymakers as a highly accurate polling mechanism.

- The market, at scale, can infuse private money into climate efforts. It can act as an exchange where those who hold inaccurate beliefs sponsor policies with the money they lose.

- The market allows policymakers to leverage the wisdom of the crowd to estimate future outcomes based on current bet values. Thus, it ameliorates the brain's challenge in valuing distant consequences.

- The market acts as an agreed-upon referee and, through its anonymity, protects social standing in groups where alignment with science on politicized issues results in exclusion.

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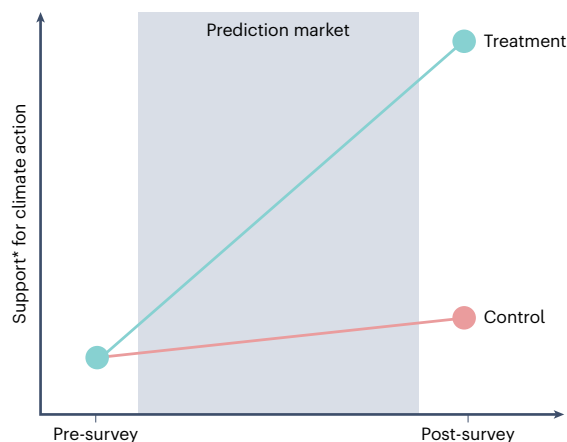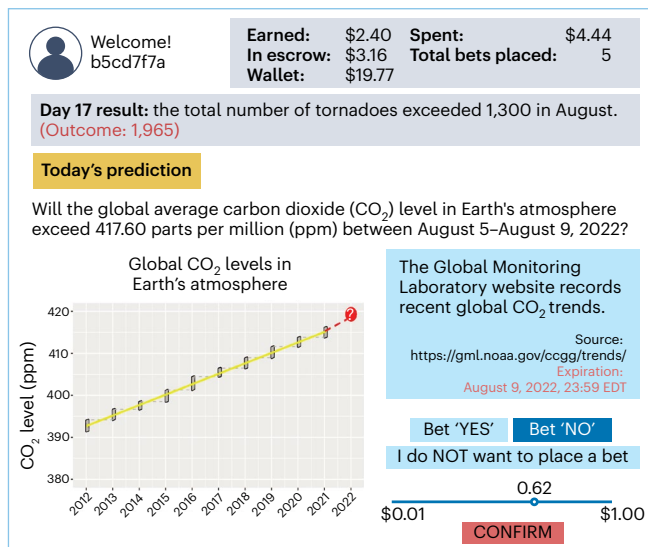
Fig. 1 | Climate prediction market and public support. Participation in a climate prediction market (left) increases support for action (right), concern and knowledge about climate change. Participants in the treatment group engaged in a climate prediction market, and participants in the control group engaged in a sports and entertainment prediction market. Left panel adapted from Cerf, M. et al. *Nat. Clim. Change* https://doi.org/10.1038/s41558-023-01679-4 (2023), Springer Nature Ltd.

Further reading

1. Tziralis, G. & Tatsiopoulos, I. Prediction markets: an extended literature review. *J. Predict. Mark.* **1**, 75–91 (2007).
   A detailed explanation on the mechanics of prediction markets, their uses and implementations.
2. Lucas, G. M. Jr & Mormann, F. Betting on climate policy: using prediction markets to address global warming. *UC Davis L. Rev.* **52**, 1429–1486 (2018).
   A review of the possible implementations of climate prediction markets from legal, financial and policy-relevant perspectives.
3. Sumner, S. & Jackson, A. L. Using prediction markets to guide global warming policy. In *63rd 153 International Atlantic Economic Conference* 14–18 (2008).
   This article argues for the usefulness of climate prediction markets for policymaking because of their ability to estimate future outcomes today.
4. Vandenbergh, M. P., Raimi, K. T. & Gilligan, J. M. Energy and climate change: a climate prediction market. *UCLA L. Rev.* **61**, 1962–2017 (2014).
   This article discusses a concrete (legal, design, communication, accuracy) implementation of a climate prediction market in the context of energy policy.
5. Palmer, T. *The Primacy of Doubt: From Quantum Physics to Climate Change, How the Science of Uncertainty Can Help Us Understand Our Chaotic World* 1st edn (Basic Books, 2022).
   A discussion of how to make decisions regarding global warming considering uncertainties of global climate models.

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Competing interests

The authors declare no competing interests.