What Do Climate Policies Reveal About Governments' Concern for Climate Change?

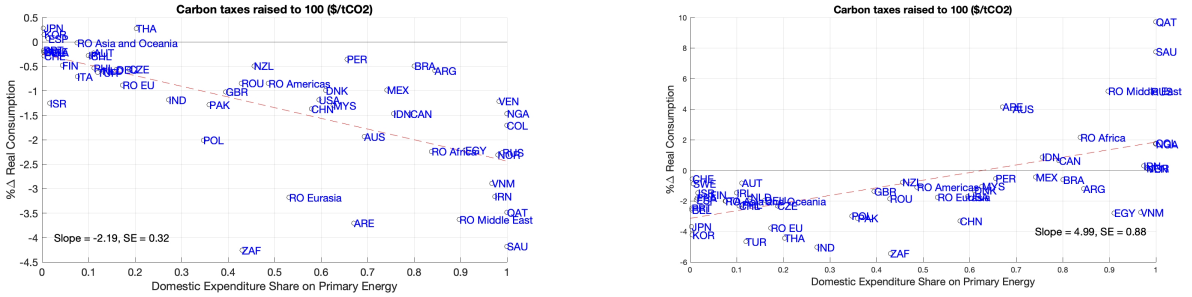
A proposal for *Environmental and Energy Policy and the Economy*

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1 Motivation & Research Question

This proposal starts from two premises. The first is that climate policy has an international incidence. In Farrokhi, Lashkaripour, and Taheri (2026), we develop a general-equilibrium model of trade and emissions to evaluate trade and climate policy. A finding of that paper is that a uniform carbon tax creates substantial distributional effects across countries, and that the direction of these effects depends on where along the energy supply chain the tax is levied. Figure 1 illustrates this point. Demand-side carbon taxes hurt energy producers such as Saudi Arabia and Russia; supply-side taxes flip the ranking and hurt energy importers such as Japan and Spain.



Demand-side carbon tax

Supply-side carbon tax

Figure 1: International incidence of a uniform carbon tax

The second premise is that observed climate policy is not a readout of climate damages. A country's climate policy ambition reflects more than its exposure to climate-change damage; it also reflects domestic political-economy constraints and the incentive to free-ride on other countries. Indeed, across countries, carbon prices are *negatively* correlated with estimated country-level social costs of carbon (corr. $= -0.33$).

Together, these two premises motivate the question we propose to study: *how much do governments care about climate change, as revealed by the policies they choose?*

Addressing this question requires bringing in international trade. By the first premise, a government's carbon price affects not only its emissions but also its terms of trade, fossil-fuel extraction rents, and competitiveness. Separating these motives from climate concern requires a model of international trade.

2 A Revealed-Preference Approach

Our approach treats each government's observed energy and carbon policy as the solution to its own optimization problem and infers the preferences that rationalize it. Government i values real consumption, local pollution, and global emissions:

$$W_i = \underbrace{C_i}_{\text{real consumption}} - \underbrace{\delta_i^{\text{local}} Z_i}_{\substack{\text{local damages} \\ \text{(e.g. air pollution)}}} - \underbrace{\delta_i^{\text{global}} Z^{\text{global}}}_{\text{climate damages}}.$$

In the spirit of revealed preferences of governments, we find the values of δ_i^{local} and δ_i^{global} such that each country's observed fossil-fuel tax and carbon price are unilaterally optimal.

Because a carbon price changes a country's terms of trade, tax revenue, and fossil-fuel extraction rents, part of any observed policy reflects *incidence* rather than *climate concern*. We therefore adopt a model similar to that of Farrokhi, Lashkaripour, and Taheri (2026), which captures both the domestic and international incidence of carbon pricing in general equilibrium of the world economy. Using the model and data, we can net out the non-climate motives behind observed policy to infer the government's revealed climate valuation, expressed in dollars per tonne of CO_2.

What policies reveal. Figure 2 reports the revealed values of δ_i^{global} for select countries, inferred from 2023 carbon prices. Four patterns stand out. First, there is large heterogeneity across countries. The European Union reveals a valuation of about \$49 per tCO_2 and Canada about \$32, whereas the United States and China reveal about \$2, and most of the world reveals a value of zero. Second, summed over all countries, the revealed valuations amount to about \$120 per tCO_2. This sum is a policy-revealed counterpart to the global social cost of carbon. Third, revealed concern appears to be unrelated to reported estimates of exposure to climate damages.

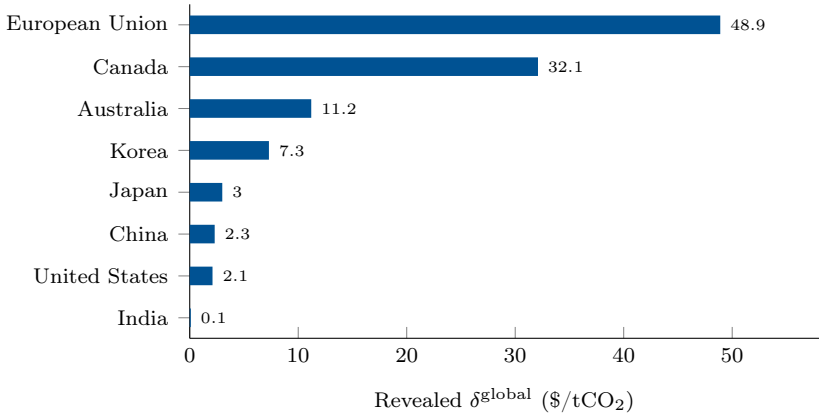


Figure 2: Revealed climate valuations, select countries. Inferred from 2023 carbon prices; most other countries are approximately zero.

An Alternative: Revealed Weights on Other Countries' Welfare. A complementary reading of observed policy lets each government place weights on the welfare of other countries, and recovers these weights from policy. This is in the spirit of Ossa (2014) and Adão, Beckó, Costinot, and Donaldson (2026) on trade and tariffs, and of the appendix of Farrokhi and Lashkaripour (2025).

The government's objective is

$$W_i \;=\; \underbrace{C_i \;-\; D_i\big(Z^{\text{global}}\big)}_{\text{own welfare}} \;+\; \sum_{j\neq i} \omega_{ij}\; \underbrace{\Big[\,C_j \;-\; D_j\big(Z^{\text{global}}\big)\Big]}_{\text{welfare of country } j},$$

where $D_j(\cdot)$ is climate damages in country j, taken from external estimates (agriculture, sea-level rise, mortality, and so on), and ω_{ij} is the weight that government i places on country j's welfare relative to its own, with $\omega_{ii} = 1$.

The weights admit two natural benchmarks. Setting $\omega_{ij} = 0$ for all $j \neq i$ corresponds to pure free-riding, whereas $\omega_{ij} = 1$ is the opposite polar case. Observed policy places each government somewhere between the two.

The two approaches differ in what they bundle together. In the first approach, δ_i^{global} bundles a government's own damages with its concern for others. In the second, the weights ω_{ij} separate the two. Both use the same FLT-type model and data, and so offer two complementary readings of observed policies.

3 US-Focused Analysis

When spelling out the results, we plan to pay particular attention to the United States. The US case is of interest in its own right: it can reveal how much the US government's concern for local emissions, and for climate change through global greenhouse-gas emissions, has evolved over time and alongside the changes in US trade policy over the past decade. Since a change in trade policy can itself be emissions-reducing or emissions-increasing, the two sets of policies are best read together.

In addition, we will explore the extent to which the approach described above can be extended to a more disaggregated analysis within the United States. One possibility is to use the model to decompose aggregate welfare into consumer surplus, producer surplus in non-energy sectors, the resource rents accruing to energy producers, and government tax revenue. The government's objective would then place a weight on each of the first three components relative to tax revenue, and these weights could be recovered from observed energy, climate, and trade policy in the same spirit as our baseline exercise. Pursuing this direction would likely require more disaggregated US data and, potentially, a calibration tailored to the United States. We will explore this direction and, if it proves meaningful, include it in the paper as a way of bringing the analysis closer to the US context.

4 What Can Be Learned

We expect the project to deliver three sets of lessons. The first is a "perception gap" for every country: a comparison between the damages estimated by scientists and economists (loss of agricultural productivity, sea-level rise, heat stress, and so on) and the perceived costs that governments act upon, as revealed by their policies. We can then ask where this gap is largest and what accounts for it: income, fossil-fuel rents, political institutions, or exposure to trade.

The second concerns the evolution of revealed climate preferences. Repeating the exercise year by year yields a country-level panel of revealed climate concern, which allows us to track how it moves with international agreements such as Paris, with energy crises, with elections, and with the policies of trade partners.

Lastly, the exercise matters for policy because governments bring their *revealed* valuations, not necessarily scientists' estimates, to the negotiating table.

As noted above, a within-US analysis may allow us to say more on each of these fronts. In any case, in discussing our results we will pay particular attention to the case of the United States.

References

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