# Building a Climate Coalition: Aligning Carbon Pricing, Trade, and Development

Catherine Wolfram (MIT)

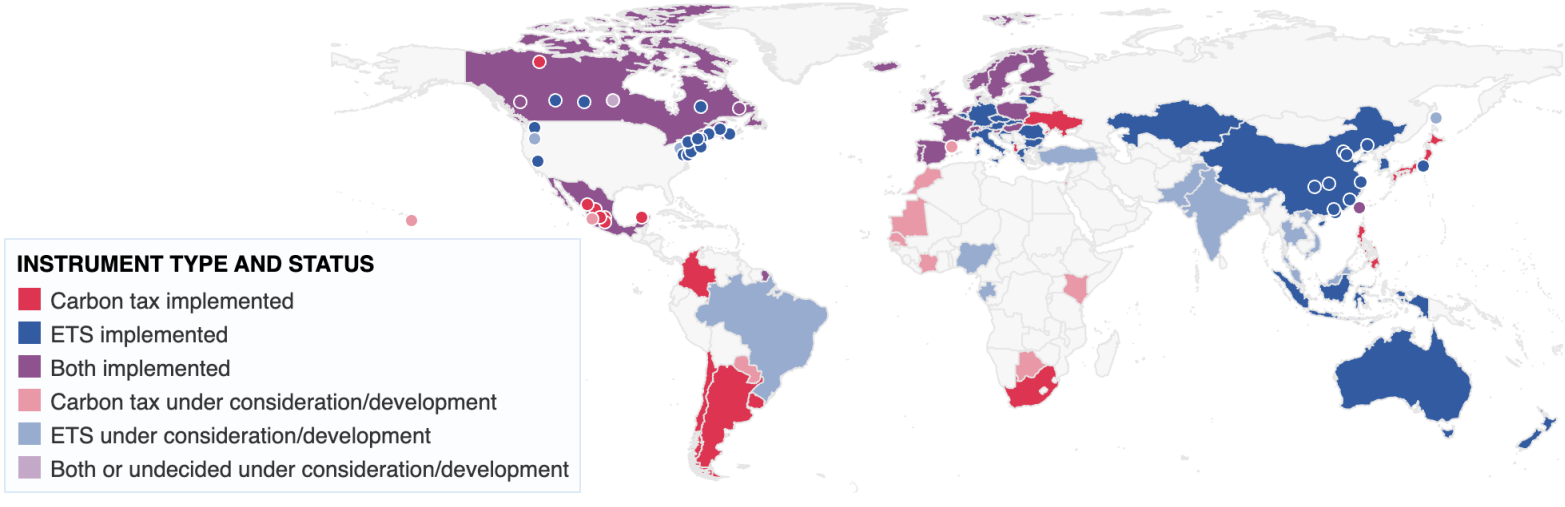
December 2025

# Three facts/observations about climate policy

1. Carbon pricing appears much more difficult in the U.S. than elsewhere

**Compliance carbon pricing instruments around the world, 2024**

Map shows jurisdictions with carbon taxes or emissions trading systems implemented, under development or under consideration, subject to any filters applied in the table below the map. The year can be adjusted using the slider below the map.



# Three facts/observations about climate policy

1. Carbon pricing appears much more difficult in the U.S. than elsewhere
2. The world has looked to the U.S. for leadership in many realms
3. Free-riding and the Prisoner's Dilemma hinder progress on climate policies

# On Nov. 15 at COP30, Brazil launched the Open Coalition on Compliance Carbon Markets

Bloomberg

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**COP30 Climate Summit:** What to Watch | Who's in Negotiations | What's at Stake | Climate Protests | Wall Street's AI Energ

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## EU, China Join Brazil-Led Carbon Market Coalition

By Daniel Carvalho

November 7, 2025 at 2:44 PM GMT-3


"Brazil believes that integrating carbon markets could be one of the most important legacies of COP30…" - Bloomberg

# This talk

1. Why now?
   - The EU's Carbon Border Adjustment Mechanism (CBAM)
   - United States politics
2. GCPP's Working Group on Climate Coalitions

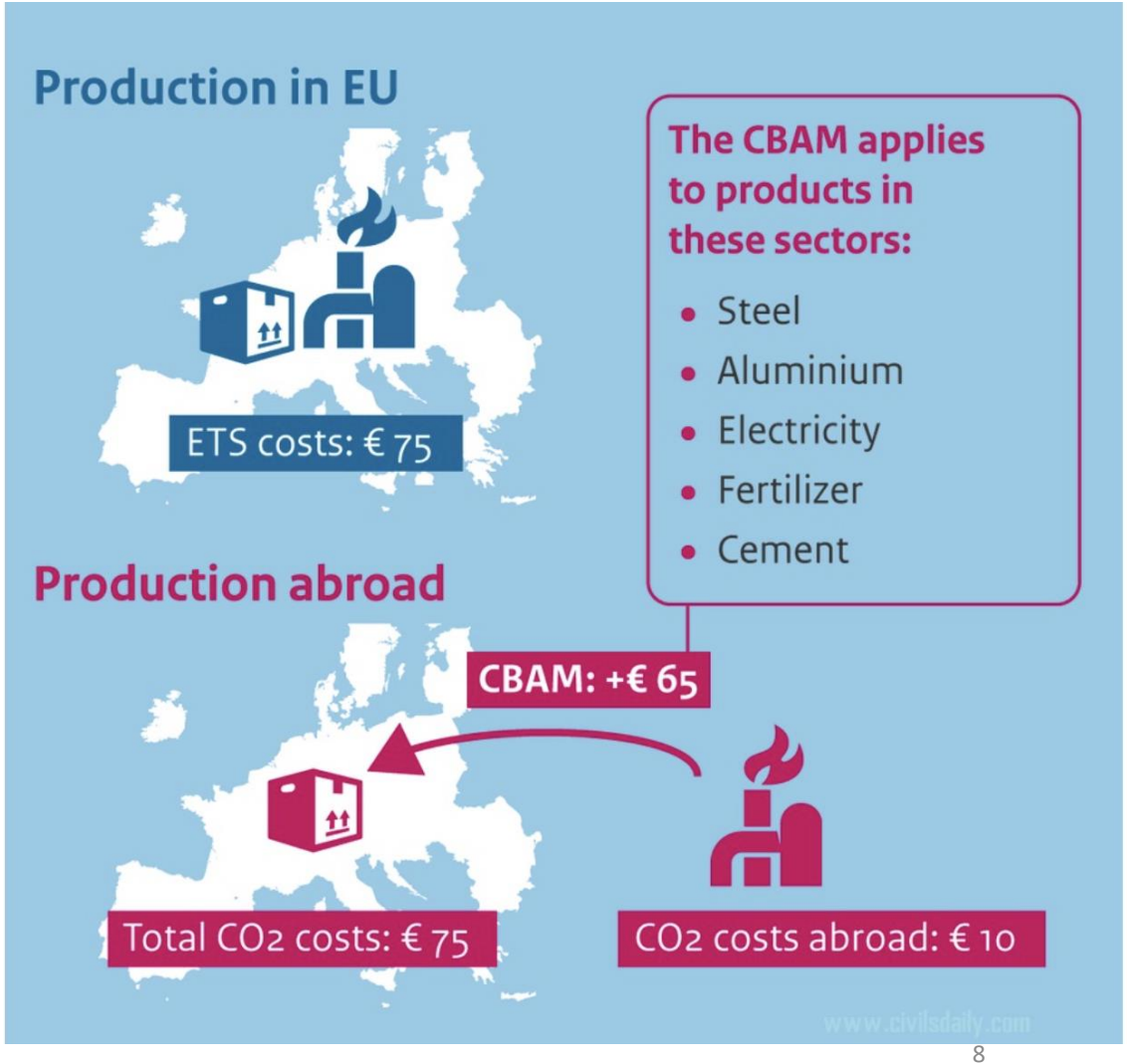
# Why now?

# Brief history

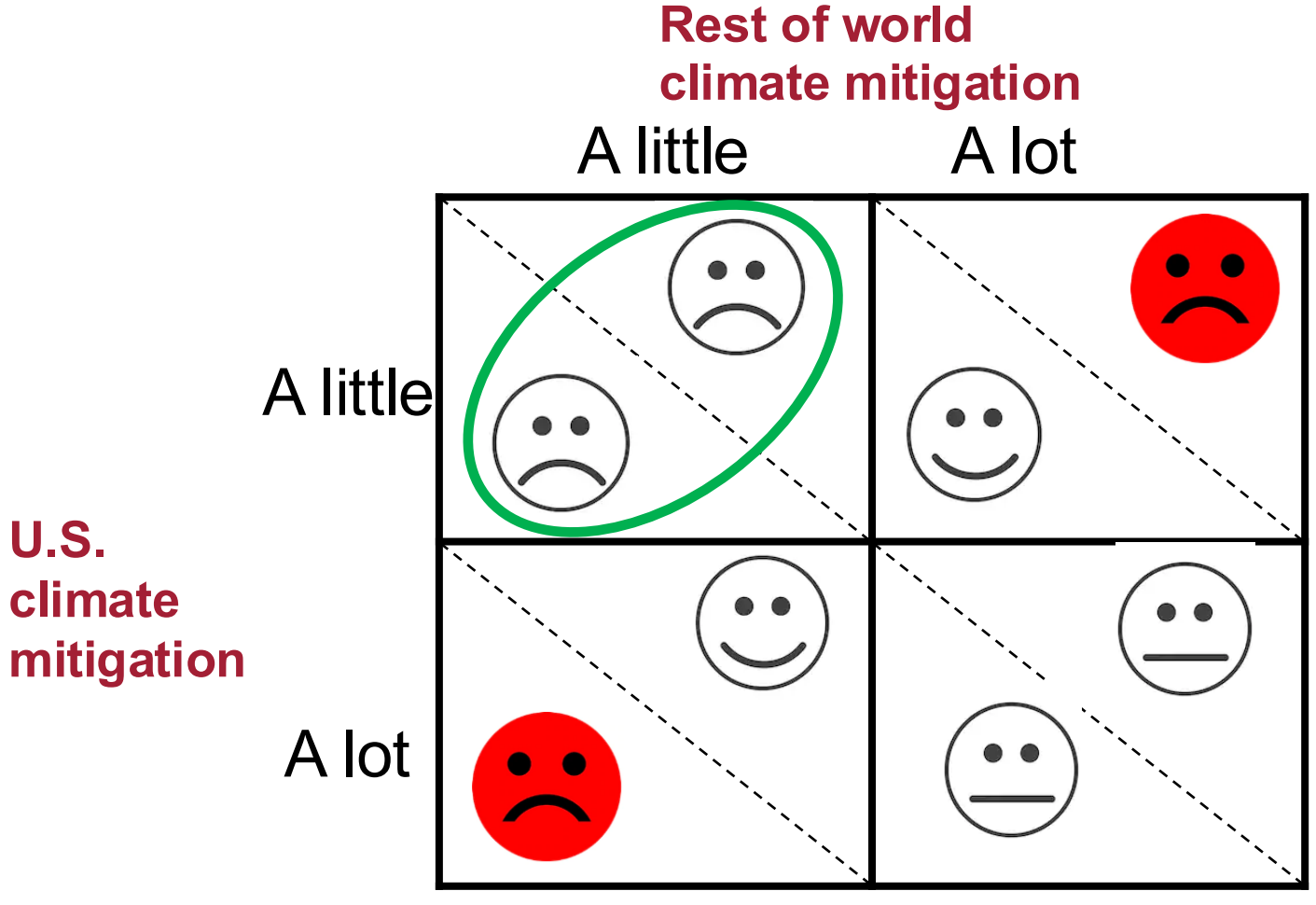
- Economists have been talking about carbon pricing for decades (centuries?)
- In the policy sphere, previous attempts to encourage carbon pricing and form clubs
  - Kyoto Protocol (1997)
  - Canadian Global Carbon Pricing Challenge
  - German Climate Club (2021)

# Why now #1

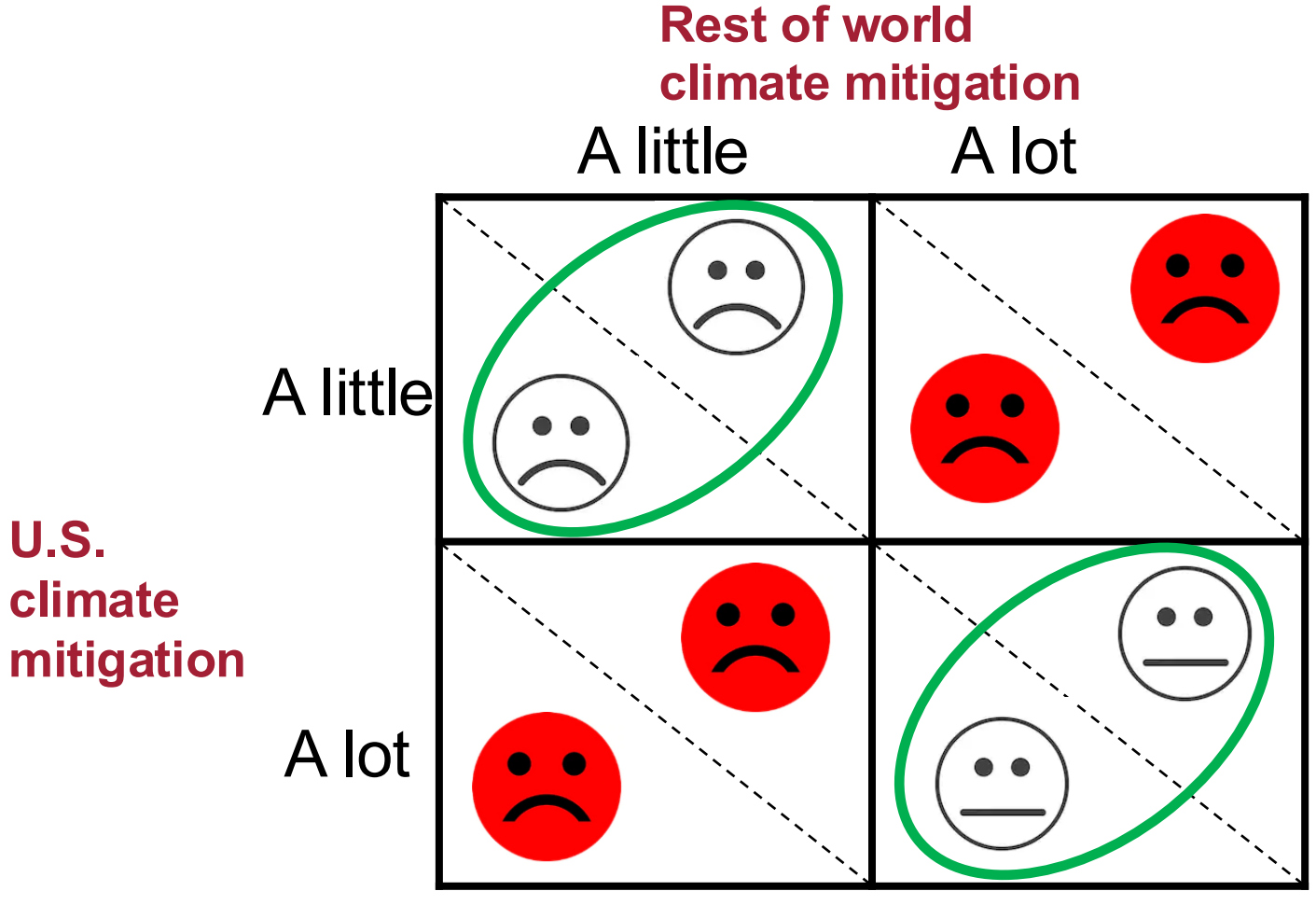
## The EU's Carbon Border Adjustment Mechanism (CBAM)



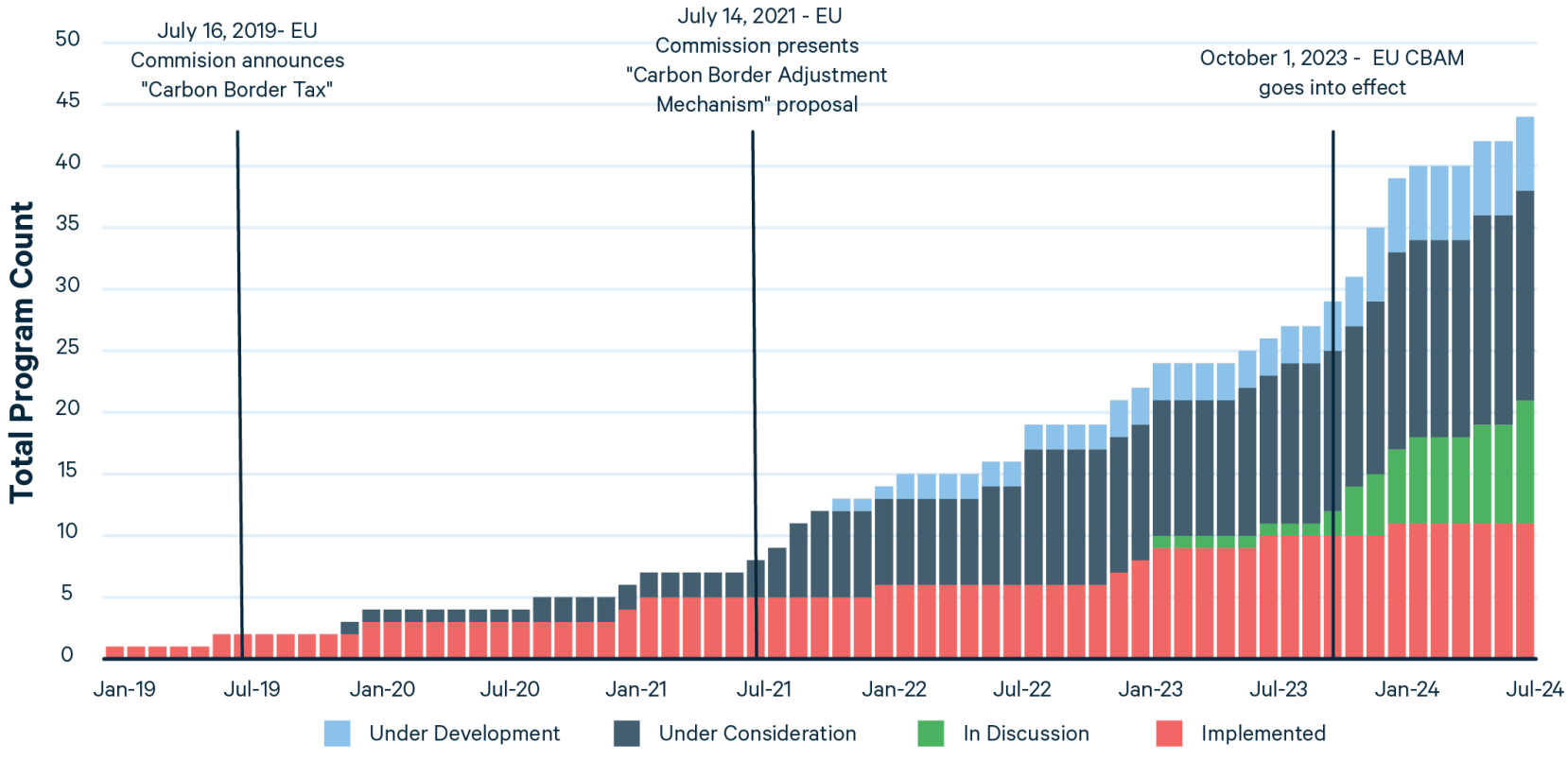
# Climate change: Prisoner's Dilemma



# With CBAM – cooperation can work!!



# Policy action on carbon pricing is accelerating




Source: Clausing, Elkerbout, Nehrkorn and Wolfram (2024)

RFF

# More encouraging developments

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## UK and EU Agree to Link Carbon Markets in Post-Brexit Reset

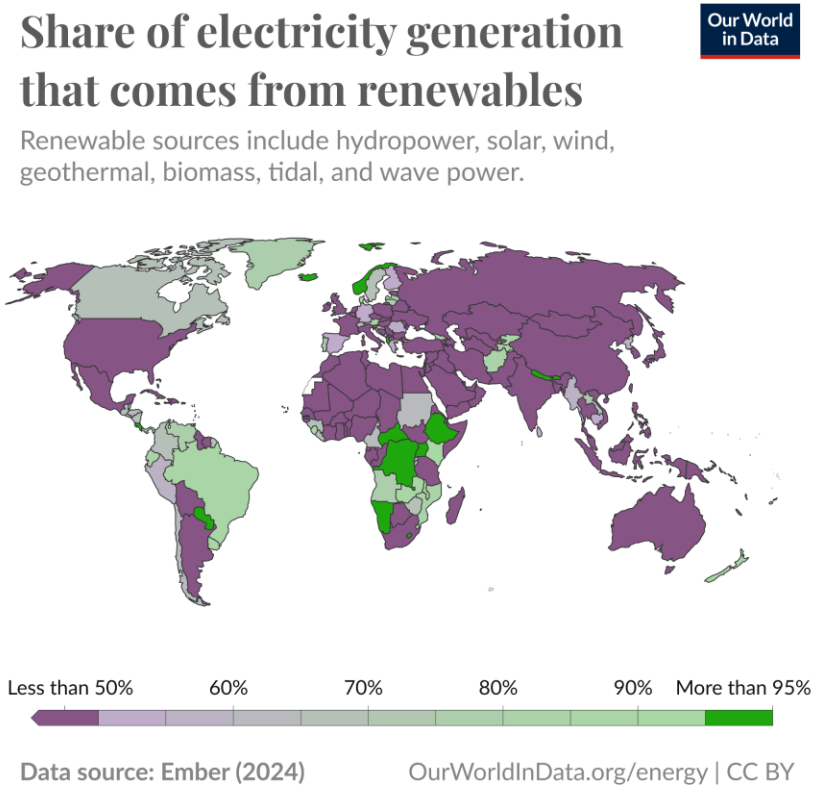
Gift this article

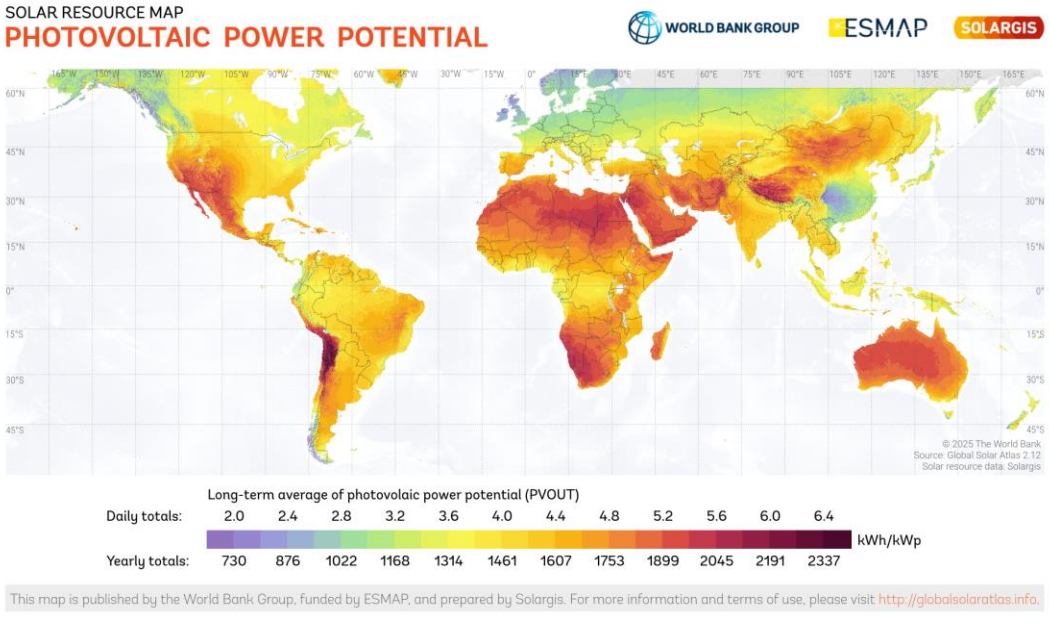
By John Ainger and Eamon Farhat

May 18, 2025 at 11:24 PM PDT

*Updated on May 19, 2025 at 4:00 AM PDT*

# Much of Africa has low-carbon electricity, both existing and potential



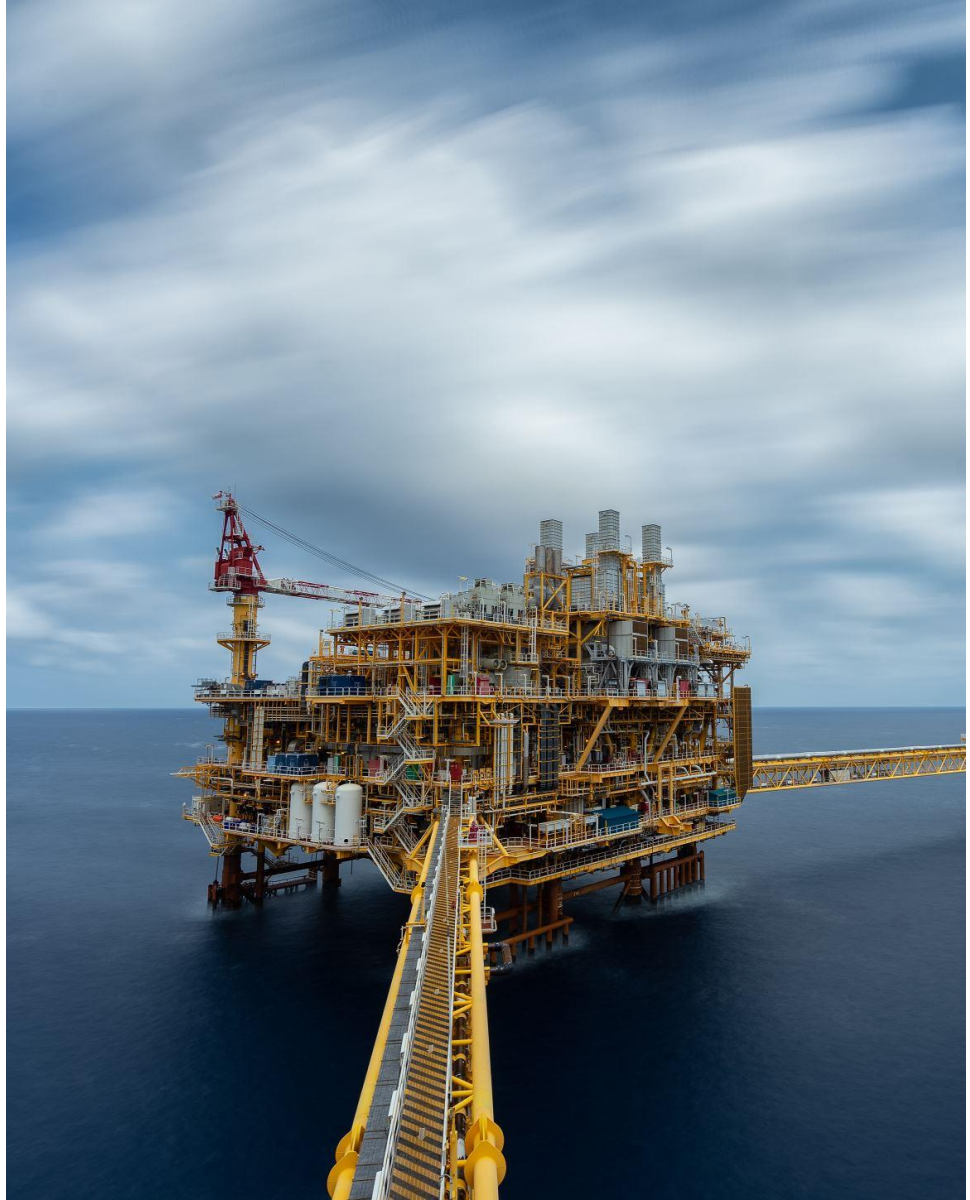




See also: Clausing, Colmer, Hsiao and Wolfram (2025)

# Economic literature on CBAM

- Mainly focuses on leakage: firms' production decisions
- Bohringer, Carbone and Rutherford (2016)
  - "We ask whether the threat of carbon tariffs might lower the cost of reductions in world carbon emissions by inducing unregulated regions to adopt emission controls."
  - Model Nash Equilibria of simultaneous move game between coalition countries (developed world) and non-coalition (ROW)
  - Base case: China and Russia join coalition and implement climate policies to avoid trade losses
- Related to Nordhaus (2015) who studies "climate clubs"
- Summarized in Clausing and Wolfram (2023); model in Clausing, Colmer, Hsiao and Wolfram (2025)

# Why now #2



## But U.S. climate politics were already challenging

- Largest oil and gas producer in the world
- Money plays a large role in politics
- Polarization means centrist policies are out of favor
- Reserve currency means less fiscal discipline

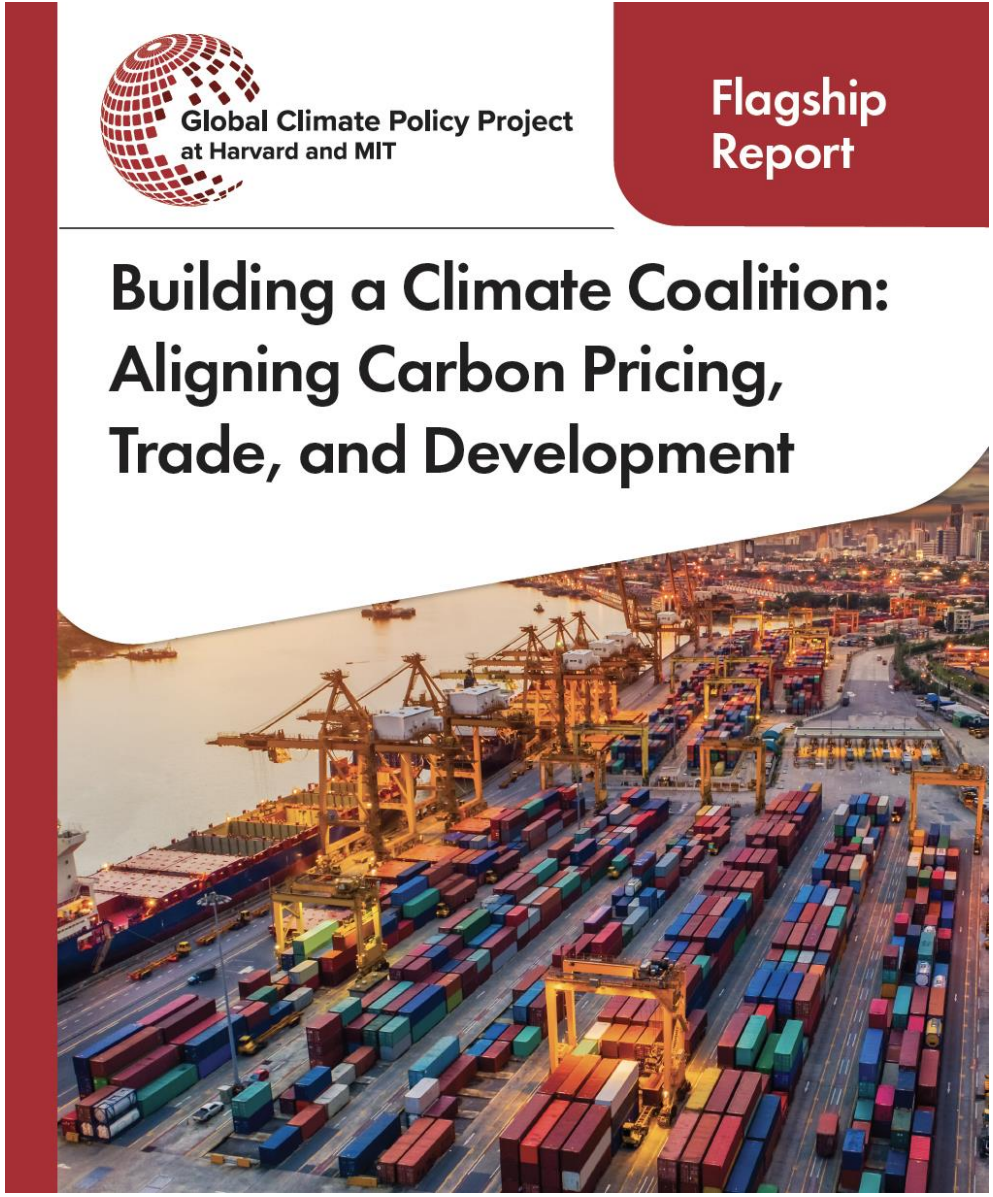
# Why might Brazil's Open Coalition succeed where others have stalled?

1. Introduced with the EU CBAM as the outside option, and potential for proliferation of individual CBAMs
2. Introduced by the Global South
3. Growing recognition that Paris Agreement is not enough
4. China's emergence as the dominant clean energy manufacturer
5. US withdrawal from Paris Agreement
   - Emphasizes need for mini-lateral approaches, and
   - No immediate need to accommodate US political constraints on carbon pricing

# GCPP's Working Group on Climate Coalitions

# Working group convened in March

- Joseph Aldy (USA)
- Simon Black (IMF), Observer
- Candido Bracher (Brazil)
- Kimberly Clausing (USA)
- Vaibhav Chaturvedi (India)
- Carolyn Fischer (World Bank), Observer
- Christian Gollier (France)
- Frank Jotzo (Australia)
- Marcelo Medeiros (Brazil)
- Athiphat Muthitacheroen (Thailand)
- Axel Ockenfels (Germany)
- Mari Pangestu (Indonesia)
- Daouda Sembene (Senegal)
- E. Somanathan (India)
- Dustin Tingley (USA)
- Jennifer Winter (Canada)
- Catherine Wolfram (USA), Chair
- Zou Ji (China)
- Xiliang Zhang (China)




**Released September 2025**

# Report outlines how a voluntary coalition of countries coordinating carbon prices could reduce global emissions and raise billions for mitigation and adaptation

**Core proposal is for member countries to commit to:**

- carbon price floors – i.e., minimum carbon prices
- target industries (steel, aluminum, cement, and fertilizers)
- border carbon adjustments (BCAs) on imports from non-members

**Respecting national contexts**

- principle of “mutual recognition”
- steppingstone to more unified policies

# To support low- and middle-income country membership, the coalition could support uptake of low-carbon technology (LCT), climate finance, and capacity building

Low and middle-income countries are projected to account for largest share of global GHG emissions this century → their participation is critical to the coalition's long-term effectiveness

- **Accelerate LCT uptake**, e.g., by reducing trade barriers on low carbon technologies, harmonizing technical standards, and promoting joint ventures
- **Support climate finance**, e.g., by channeling revenues from carbon pricing and BCAs into a dedicated trust fund at a multilateral development bank
- **Strengthen institutional capacity**, e.g., by supporting policy adoption and MRV implementation

**These all help make coalition membership more attractive for member countries**

# Four highly polluting industrial sectors account for > 20% of global emissions

Table 1: Climate coalition industries are heavily traded and emissions-intensive globally

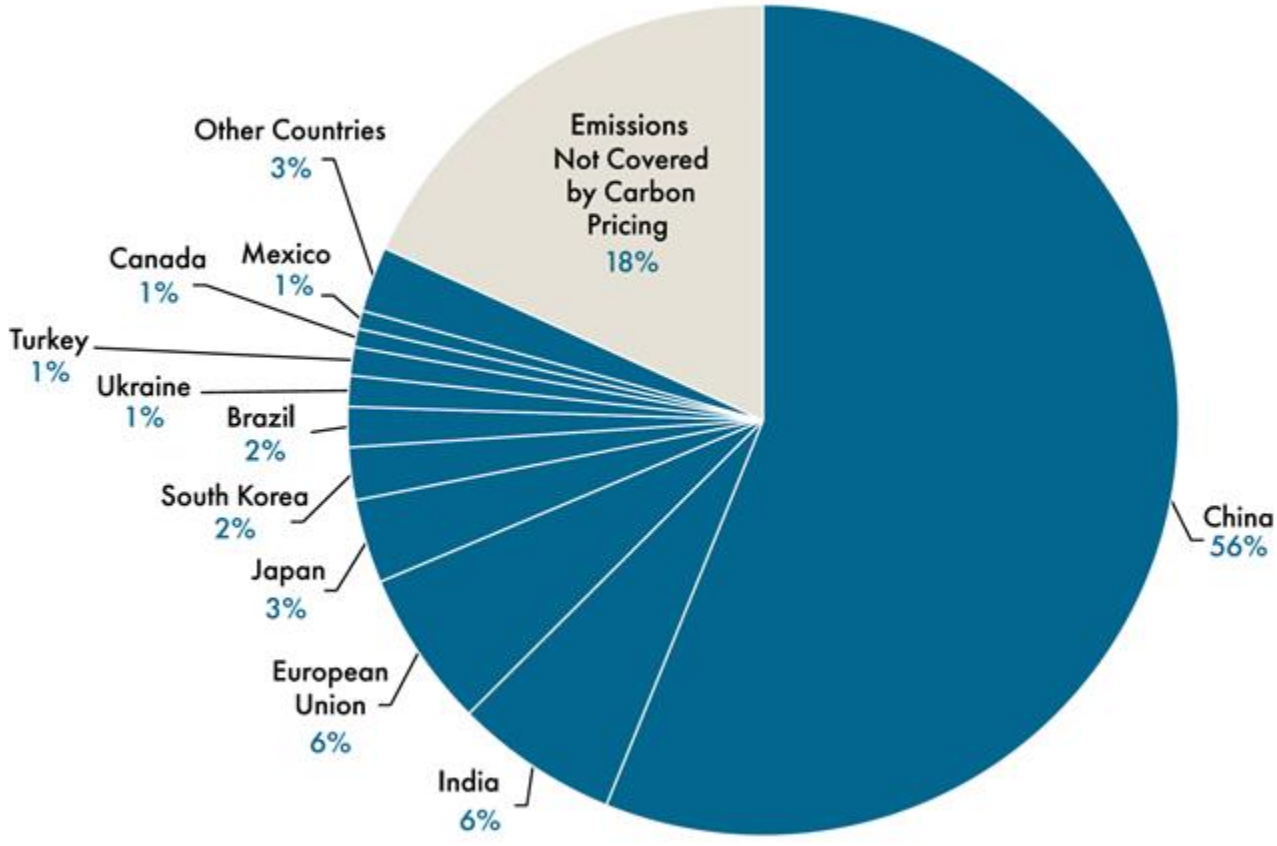
| Industry | Industry share of global trade (%) | Annual value traded (1B USD) | Share of production that is exported (%) | Share of global $CO_2$ emissions (%) |
|---|---|---|---|---|
| **Steel** | 3.5 | 839 | 23 | 10 |
| **Aluminum** | 1.0 | 253 | 41 | 2 |
| **Cement** | 0.1 | 17 | 2 | 8 |
| **Fertilizers** | 0.5 | 131 | 60 | 1 |

*Notes*: Production and trade data are from 2023; emissions data from Bataille et al., (2024)

## Except for cement, the industries are also heavily traded.

## Within those industries, over 80% of global emissions are covered by carbon pricing

including implemented and planned programs



# We model two coalition scenarios relative to a Current Policy Baseline: A Uniform and a Graduated Price

**Uniform Price:** Coalition members adopt a **single carbon price floor** → $50/t*

**Graduated Price:** Coalition members adopt one of **three carbon price floors** based on their income level: Low-income and lower-middle-income countries (LMICs/LICs) → $25/t
Upper-middle-income countries (UMICs) → $50/t
High-income countries (HICs) → $75/t*

**Current Policy Baseline:** This scenario reflects the **EU ETS** and full **EU CBAM** implementation, while assuming countries outside the EU, UK, and EFTA do not implement carbon pricing scenarios (Brazil, India, and Indonesia) or retain high levels of free allowances (Australia, Canada, and China)

→ **Economic models**: To simulate impacts of a climate coalition, we use two different models: One *with* and one *without trade frictions*

** Price floors are set at $25, $50, and $75 for illustrative purposes*

# Coalition includes many major emitters as well as African countries poised to benefit from coalition

Table 2: Overview of coalition scenarios

| | Current Policy Baseline | Uniform Price | Graduated Price |
|---|---|---|---|
| Country membership | European Union, United Kingdom, Iceland, Norway, Switzerland, Liechtenstein | Algeria, Australia, Brazil, Cameroon, Canada, China, Egypt, European Union, Ghana, Iceland, India, Indonesia, Kenya, Liechtenstein, Mozambique, Norway, Switzerland, Thailand, Togo, United Kingdom, Uganda, Zambia | |
| Carbon price floor | $75/t | $50/t | HIC: $75/t<br>UMIC: $50/t<br>LMIC/LIC: $25/t |
| Border adjustment | $75/t | $50/t | $75/t |
| Free allowances | No | No | No |

*Note*: In the *Graduated Price* scenario, all countries set the border adjustment to the same value, $75/t, while varying the level of their domestic carbon price.

# To simulate impacts of a climate coalition, we use two different models: *with* and *without trade frictions*

## Trade without Frictions

- Microeconomic model (4 sectors)
- Plant-level data
- Producers decide into which market to sell
- Supply & demand equilibria
- Based on Clausing, Colmer, Hsiao and Wolfram (2025)

## Trade with Frictions

- Macro model (200 sectors)
- Trade flows, prices
- Armington elasticities capture trade stickiness
- Equilibria in prices, wages & trade
- Based on multiple papers

# The models show that a well-designed coalition could deliver substantial climate and economic benefits

**#1 Far greater emissions impact:**

A climate coalition delivers emissions cuts 7× larger than the Current Policy Baseline

**#2 Significant new revenues:**

A climate coalition raises nearly USD 200 billion annually for a broad set of countries

**#3 Manageable price impacts:**

Commodity price increases in targeted industries in coalition member countries are modest

**#4 Minimal output losses and carbon leakage:**

Industrial production is modelled to decline by less than 2% in coalition countries

# Why might India want to join the coalition described in our report?

1. Exemption from CBAM at a lower price
2. Access to climate finance and tech transfer
3. Participate in process to design coalition governance & MRV

# Thank you!

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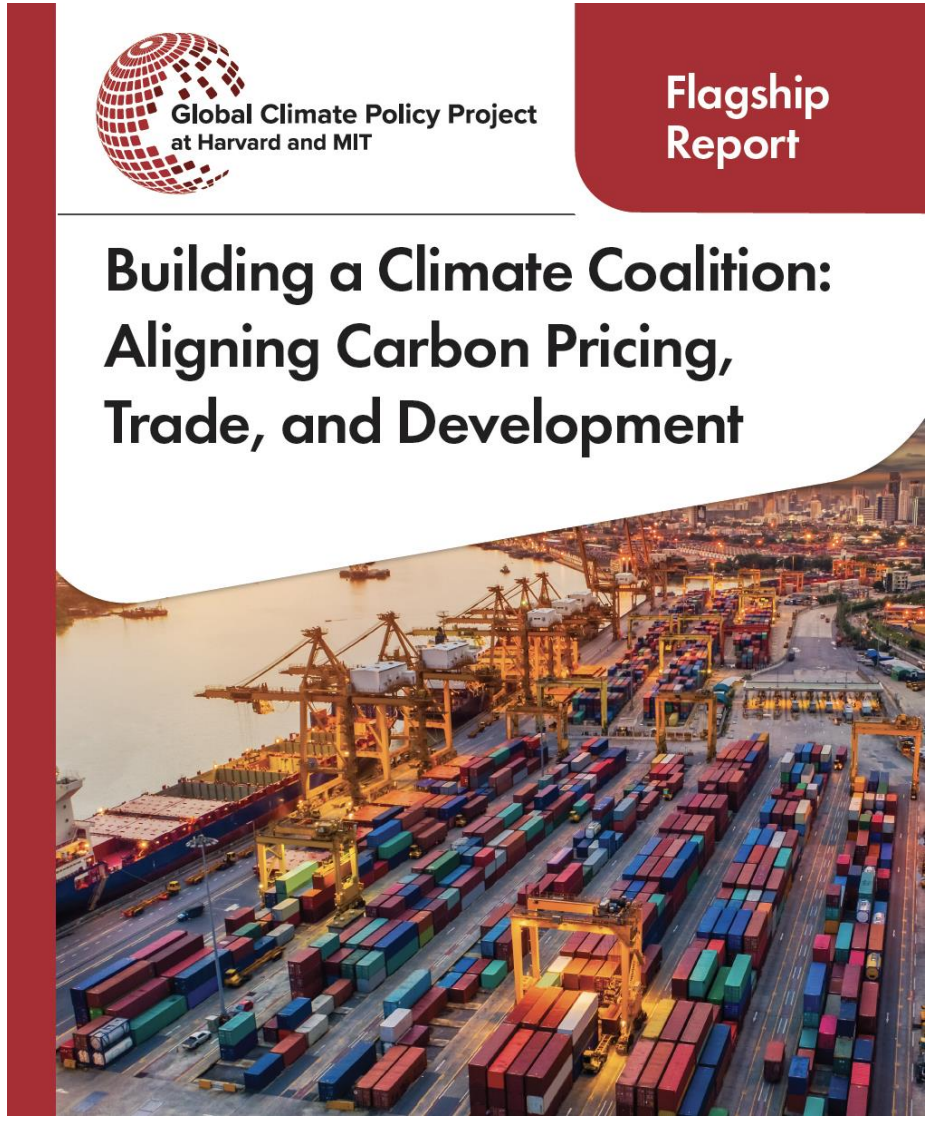
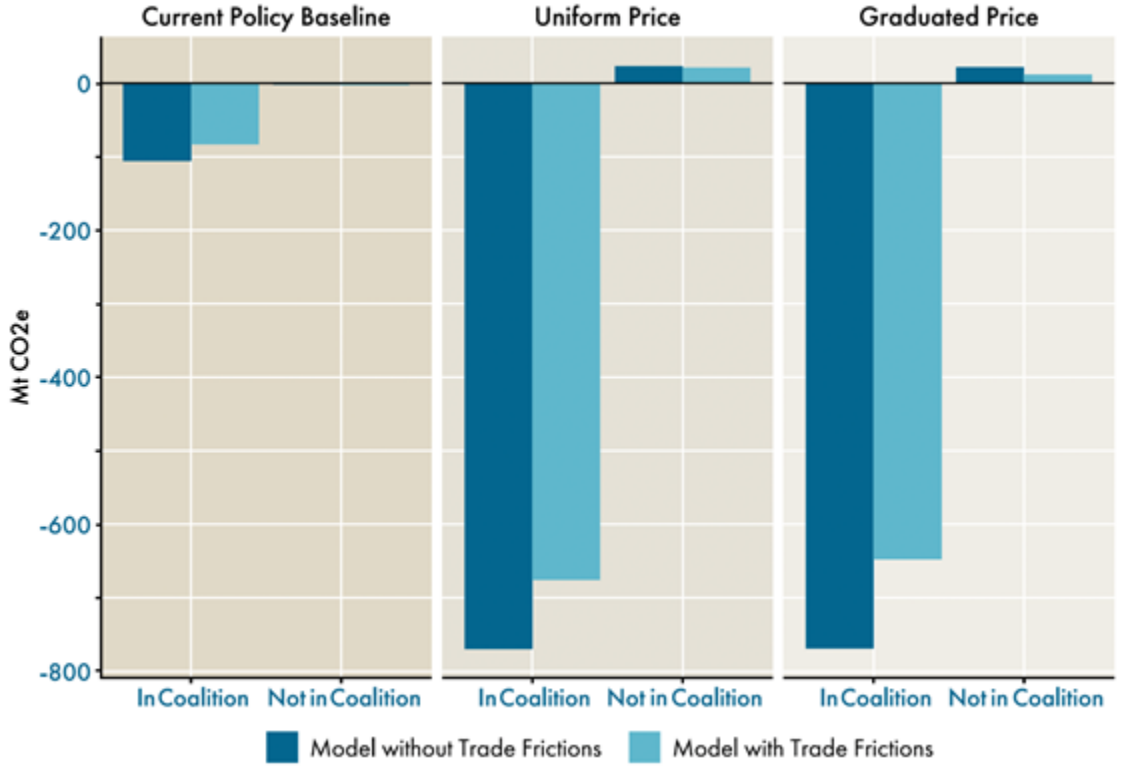
Download report here



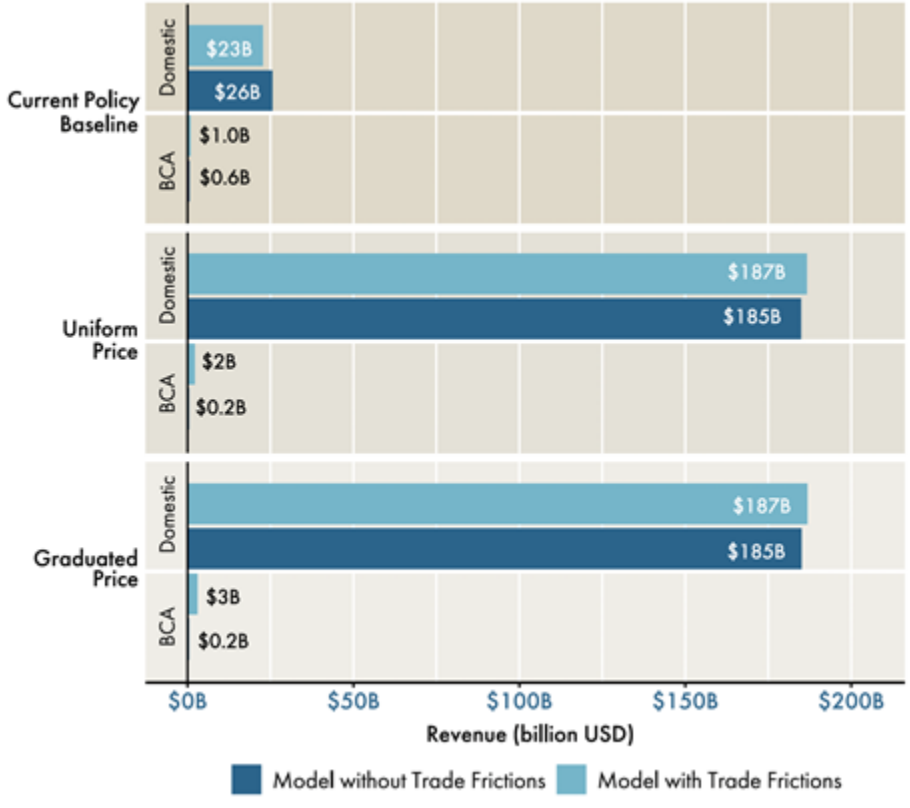
# #1 Far greater emissions impact: A climate coalition delivers emissions cuts 7× larger than the Current Policy Baseline




**Global impact:** These reductions represent roughly 1.0% to 1.5% of global annual greenhouse gas emissions

- equivalent to Canada's annual emissions

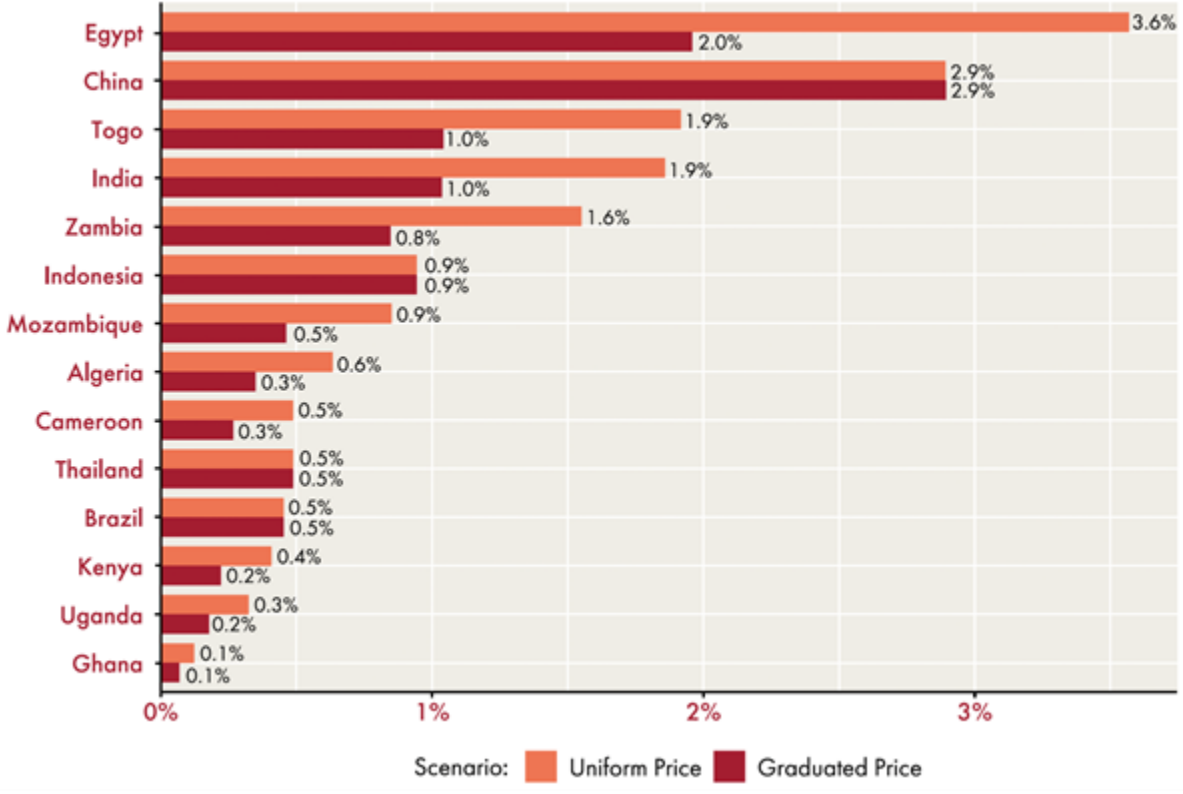
# #2 Significant new revenues: A climate coalition raises nearly USD 200 billion annually for a broad set of countries




**Easing fiscal constraints:** These revenues could help improve countries' fiscal positions, support social spending and climate investments, and be used to address other development needs.

Notably, most revenue under the coalition scenarios is generated through domestic carbon pricing, not BCAs.

# #2 Significant new revenues: A coalition generates meaningful revenue as a share of government revenue



OPaís



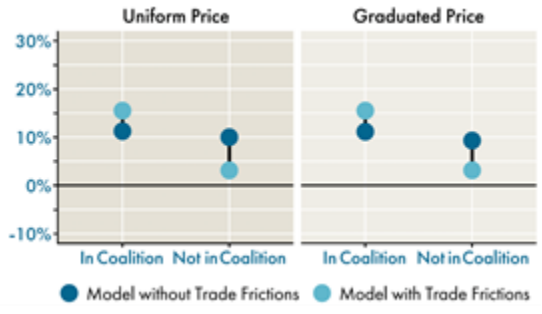
# Either We Tax, or They Tax: How Mozambique Can Get Out of the Fiscal Crisis with the CBAM (EU)

Alberto da Cruz 07/07/2025 16:15

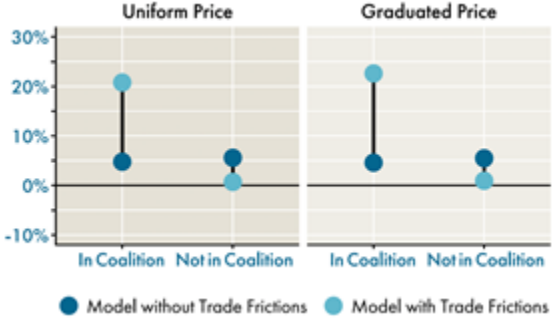
# #3 Manageable price impacts: Commodity price increases in coalition members' industries are modest

**Steel:** +4%

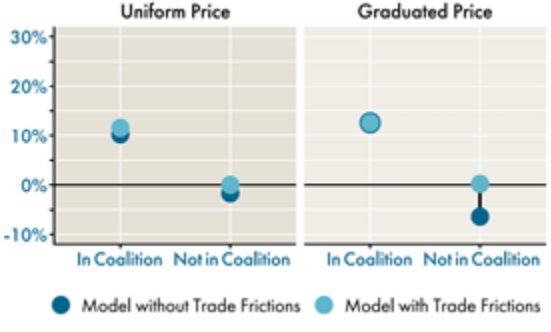

**Aluminum:** +11%




**Cement:** +5-20%

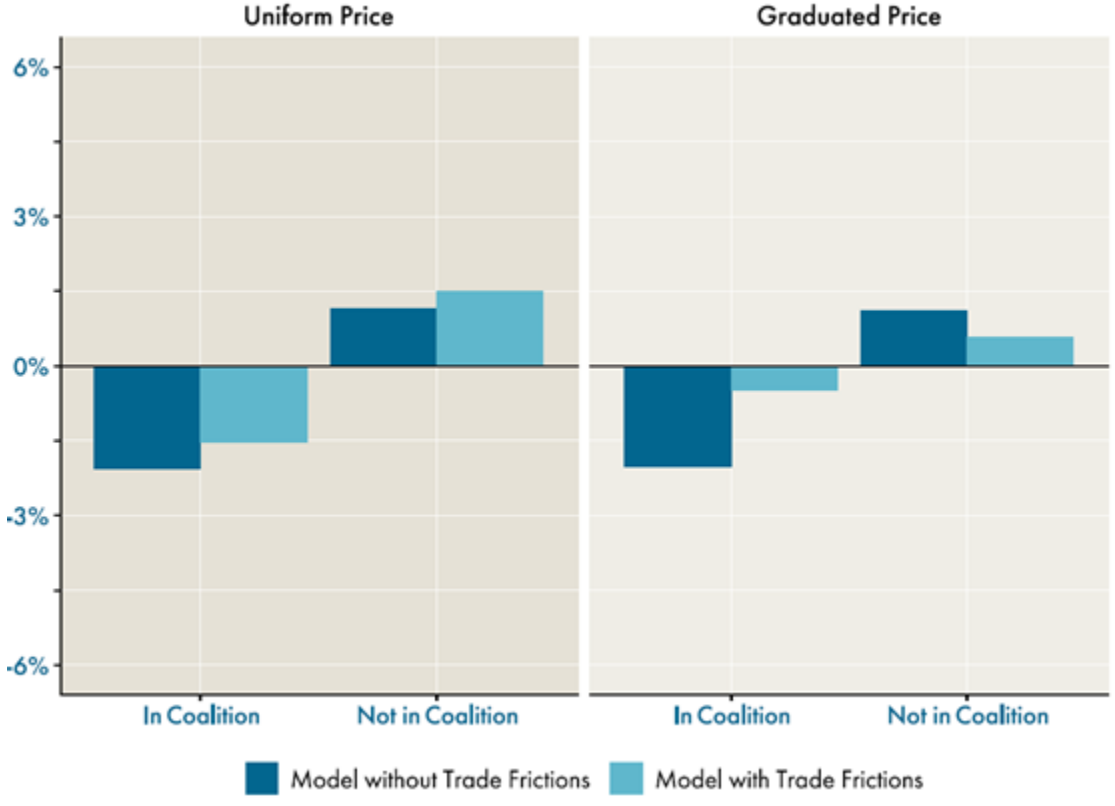



**Fertilizers:** +10-13%




These price increases in primary materials translate into much smaller impacts on final consumer goods.

# #4 Minimal output losses and carbon leakage: Industrial production declines by less than 2% in coalition countries




Compared to the Uniform Price scenario, more modest output losses in LMICs and LICs under the Graduated Price scenario suggest that approach may better support economic growth in the poorest countries.