

A stylized globe composed of several overlapping, wavy, light blue bands that create a sense of motion and depth. The bands are arranged in a roughly circular pattern, with some overlapping others, giving it a three-dimensional appearance.

Demand Creation for Carbon Credits

Carbon Prices

Learning Goals

After today's lesson attendees should learn:

- Carbon prices create a growing market where people pay for carbon.
- There's growing global interest in these markets.
- There's energy in the space, which can lead to a career for good.



What is a Carbon Price?



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Taxonomy

“Carbon Price” is a General Term that Includes:

Carbon Tax

- Straight tax on fossil fuels
- Predictable price
- More predictable revenues
- Simple, easy to impose and collect
- Immediate reductions in emissions and co-pollutants

Cap and Trade

- Limits (i.e. “caps”) emissions
- Uncertain price
- Uncertain revenues
- Complex, but doable
- Usually a delay in reducing emissions and co-pollutants

And a whole bunch of policies in between...

Value Judgements

What Carbon Price Would You Design?

What is important to you?

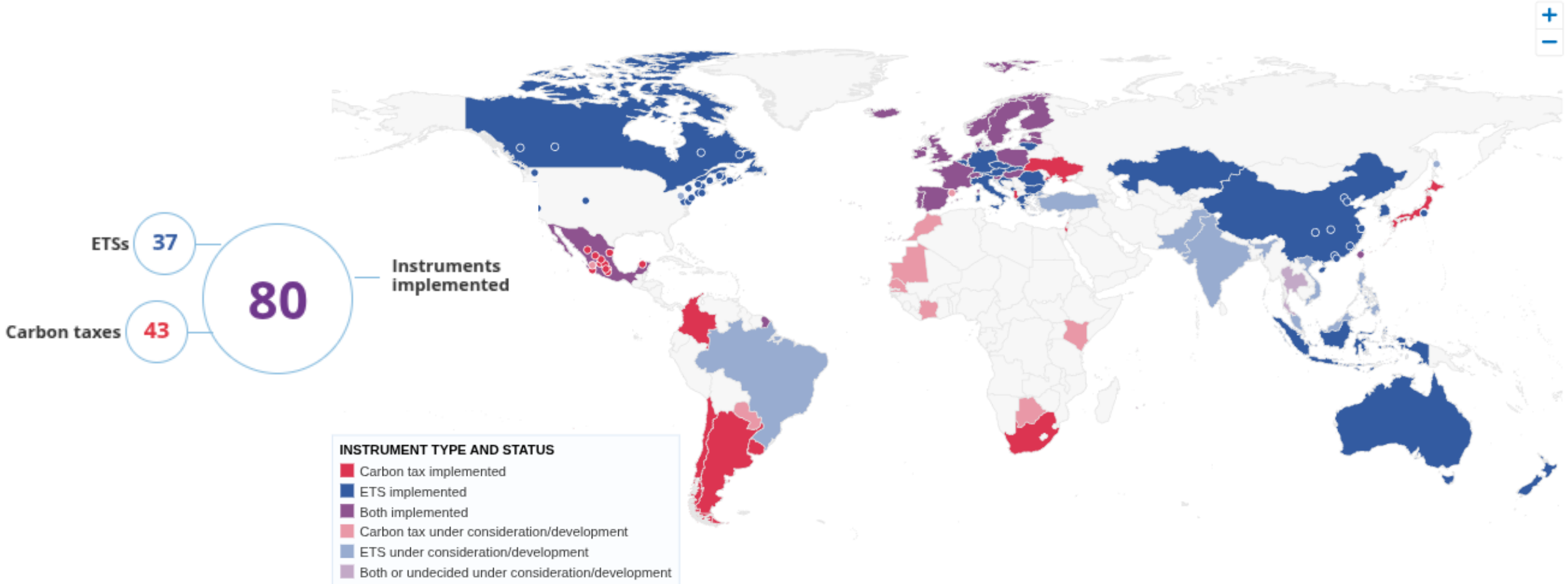
- Emissions reductions?
- Taking care of the poor?
- Growing GDP?
- Enforcing global participation?
- Streamlining government?
- An equal impact to everyone?

Carbon Pricing Around the World

Compliance carbon pricing instruments around the world, 2025

Download

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.

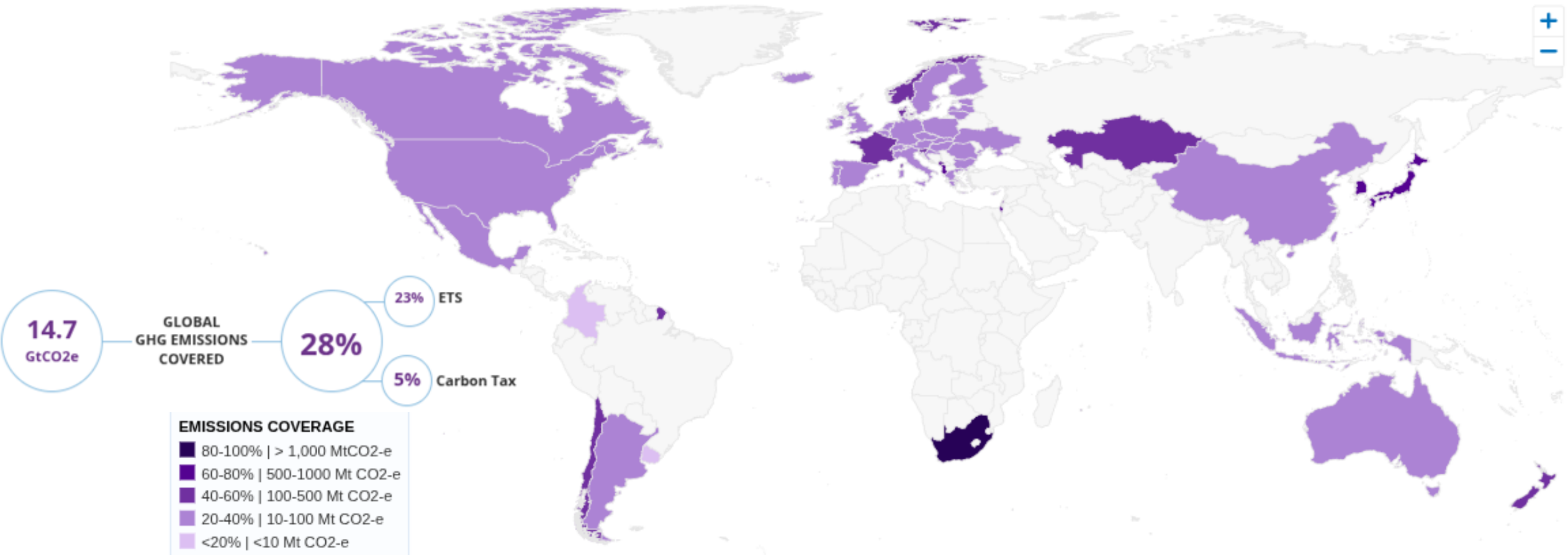


28% of Global Emissions Covered

Covered emissions, 2025

Download

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.



US is Alone (Developed Economies)

The US is an Island Alone without a Carbon Price

by Danny Richter | Nov 12, 2024 | Policy



Table A
Developed economies

Northern America	Europe			Major developed economies (G7)
Canada United States	European Union		Other Europe	Canada France Germany Italy Japan United Kingdom United States
Developed Asia and the Pacific	Austria ^a Belgium ^a Bulgaria Croatia ^a Cyprus ^a Czechia Denmark Estonia ^a Finland ^a France ^a Germany ^a Greece ^a Hungary Ireland ^a	Italy ^a Latvia ^a Lithuania ^a Luxembourg ^a Malta ^a Netherlands ^a Poland Portugal ^a Romania Slovakia ^a Slovenia ^a Spain ^a Sweden	Iceland Norway Switzerland United Kingdom ^b	
Australia Japan New Zealand Republic of Korea				

^a Member of the euro area.
^b The United Kingdom withdrew from the European Union on 31 January 2020 and is therefore excluded from all European Union aggregations.

Table 1: A list of “Developed Economies” according to the UN. P. 135 of [this report](#).

US Alone without a Carbon Price

Developed Economies	Carbon Price?	Compliance Mechanism Type (year)	CBAM
<i>Australia</i>	Yes	ETS ('23)	Considering
<i>Austria</i>	Yes	EU ETS ('05) + ETS ('22)	In Force
<i>Belgium</i>	Yes	EU ETS ('05)	In Force
<i>Bulgaria</i>	Yes	EU ETS ('05)	In Force
<i>Canada</i>	Yes	ETS ('19) + CT ('19)	Considering
<i>Croatia</i>	Yes	EU ETS ('05)	In Force
<i>Cyprus</i>	Yes	EU ETS ('05)	In Force
<i>Czechia</i>	Yes	EU ETS ('05)	In Force
<i>Denmark</i>	Yes	CT ('92) + EU ETS ('05)	In Force
<i>Estonia</i>	Yes	CT ('00) + EU ETS ('05)	In Force
<i>Finland</i>	Yes	CT ('90)+ EU ETS ('05)	In Force
<i>France</i>	Yes	EU ETS ('05) + CT ('14)	In Force
<i>Germany</i>	Yes	EU ETS ('05) + ETS ('21)	In Force
<i>Greece</i>	Yes	EU ETS ('05)	In Force
<i>Hungary</i>	Yes	EU ETS ('05) + CT ('23)	In Force
<i>Iceland</i>	Yes	EU ETS ('07) + CT ('10)	No, EU Exempt
<i>Ireland</i>	Yes	EU ETS ('05) + CT ('10)	In Force
<i>Italy</i>	Yes	EU ETS ('05)	In Force
<i>Japan</i>	Yes	CT ('12)	Considering

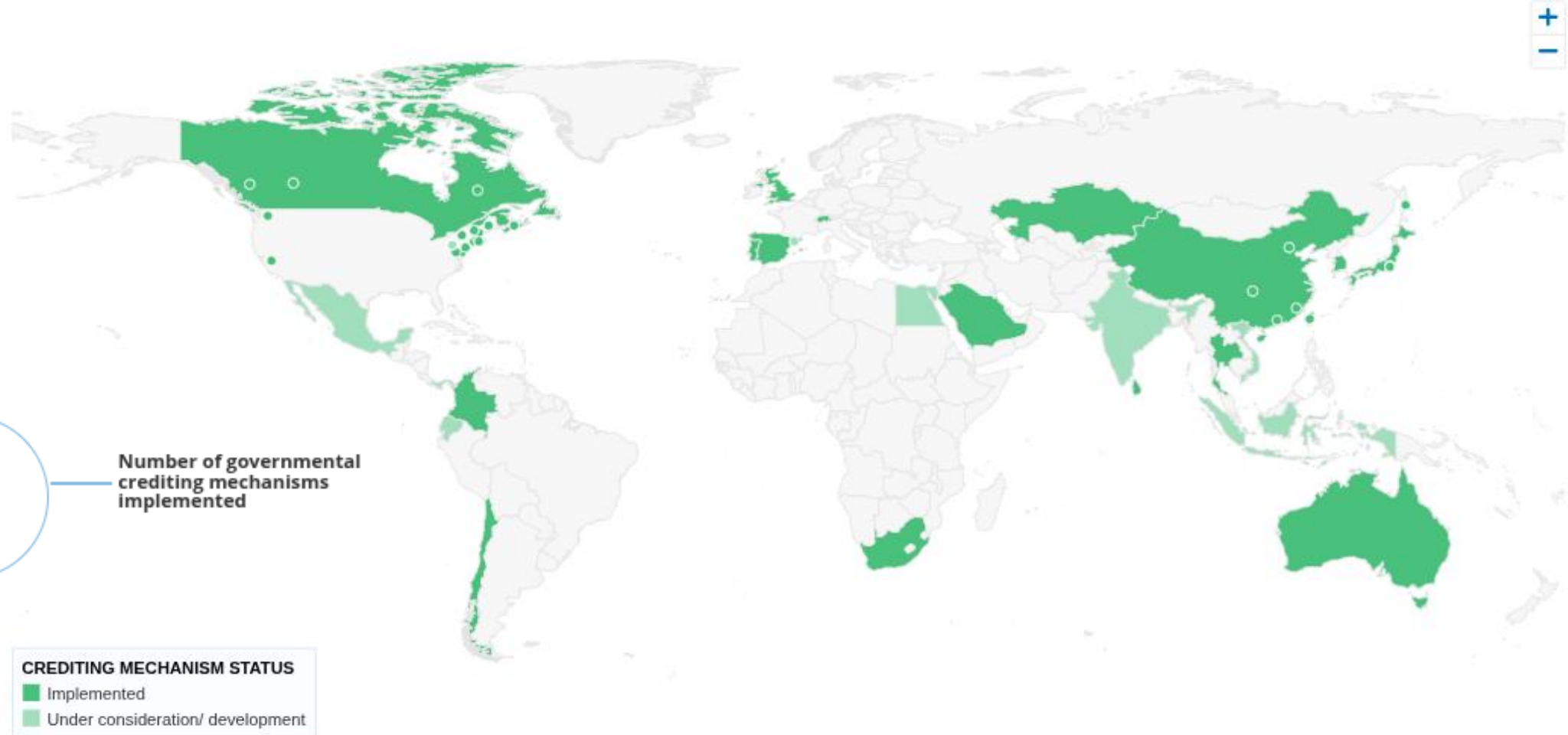
<i>Latvia</i>	Yes	CT ('04) + EU ETS ('05)	In Force
<i>Lithuania</i>	Yes	EU ETS ('05)	In Force
<i>Luxembourg</i>	Yes	EU ETS ('05) + CT ('21)	In Force
<i>Malta</i>	Yes	EU ETS ('05)	In Force
<i>Netherlands</i>	Yes	EU ETS ('05) + CT ('21)	In Force
<i>New Zealand</i>	Yes	ETS ('08)	No
<i>Norway</i>	Yes	CT ('91) + EU ETS ('07)	Scheduled, '26
<i>Poland</i>	Yes	CT ('92) + EU ETS ('05)	In Force
<i>Portugal</i>	Yes	EU ETS ('05) & CT ('15)	In Force
<i>Romania</i>	Yes	EU ETS ('05)	In Force
<i>Slovakia</i>	Yes	EU ETS ('05)	In Force
<i>Slovenia</i>	Yes	CT ('96) + EU ETS ('05)	In Force
<i>South Korea</i>	Yes	ETS ('15)	Considering
<i>Spain</i>	Yes	EU ETS ('05) + CT ('14)	In Force
<i>Sweden</i>	Yes	CT('91) + EU ETS ('05)	In Force
<i>Switzerland</i>	Yes	ETS ('08) + CT ('08)	No, EU Exempt
<i>United Kingdom</i>	Yes	CT ('13) + ETS ('21)	Scheduled, '27
<i>United States</i>	No	N/A	N/A

Credit Markets are Widespread

Government-administered carbon crediting mechanisms around the world, 2024

Download

Map shows administering jurisdictions with relevant carbon crediting mechanisms 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.



Increasing Integration with Credits

- In California under SB 840, businesses can still use offset credits in place of allowances to cover up to 6 percent of their emissions. - September, 2025
- The European Commission has set out a proposal to cut EU emissions 90% by 2040, with up to 3% coming via carbon credits purchased from other countries. - July, 2025



Credit: tokar/ Shutterstock



More Is Coming



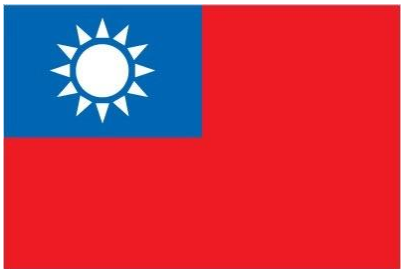
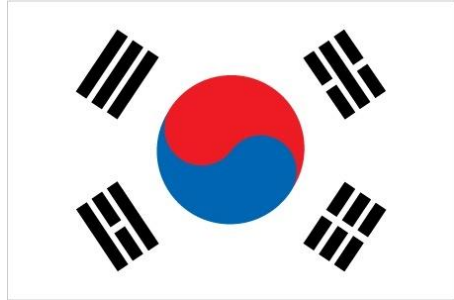
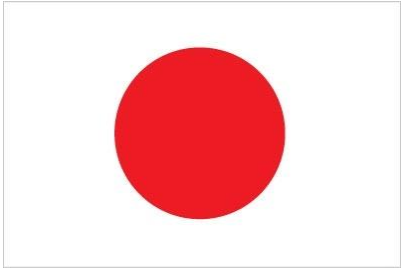
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The EU CBAM

- Reporting started in 2023, payments starts in 2026
- Cement, iron and steel, aluminum, fertilizers, electricity, hydrogen
- Linked with the EU ETS (a carbon price)
- Meticulously crafted to be compatible with WTO law



CBAM Copy Cats

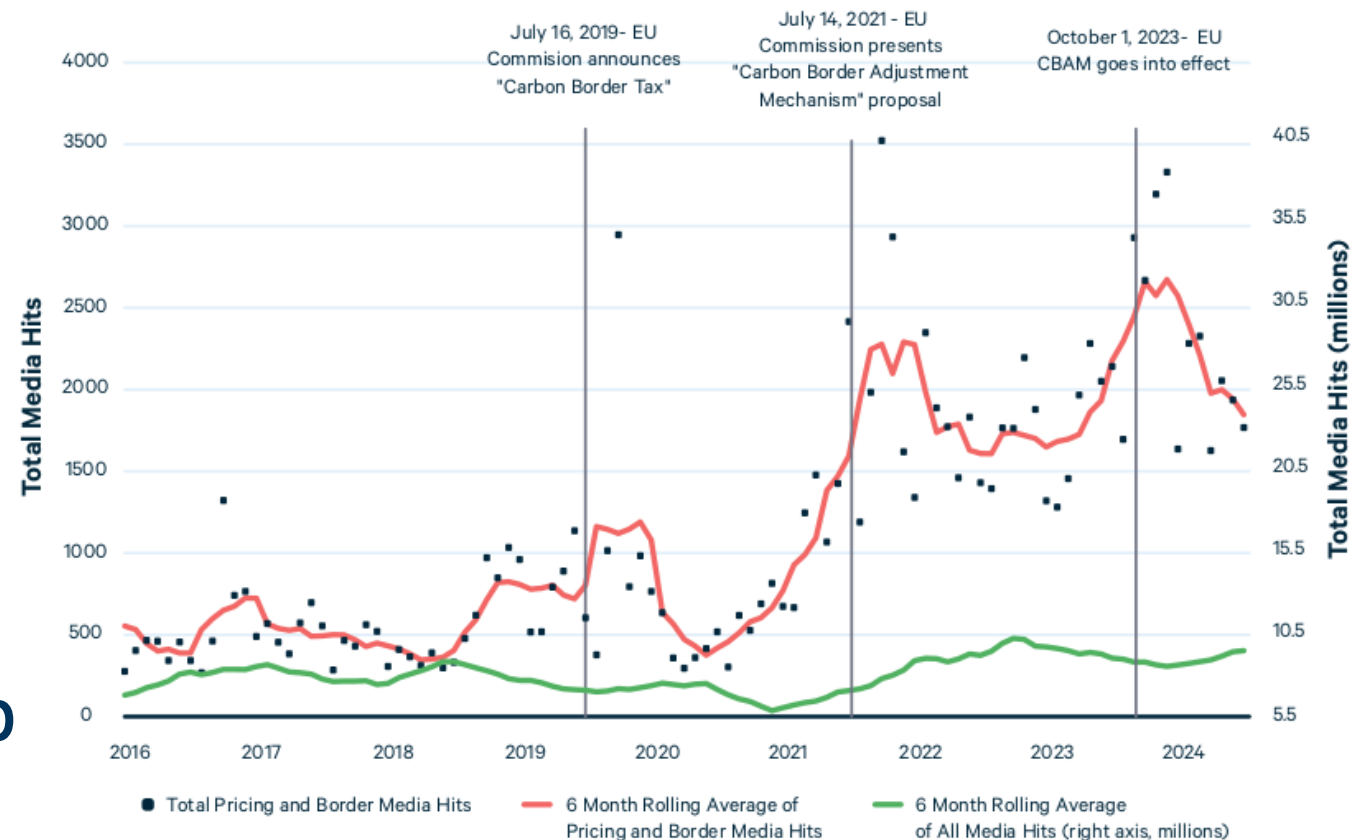


- Other countries have started their own similar policies
- Members of Congress have taken note, drafted related policy
 - Foreign Pollution Fee Act
 - Clean Competition Act
 - PROVE IT Act

CBAM Research

- When a large economy (the EU) prices the carbon content of imports, global interest spikes
- Designed to inspire uptake
- Virtuous feedback loop

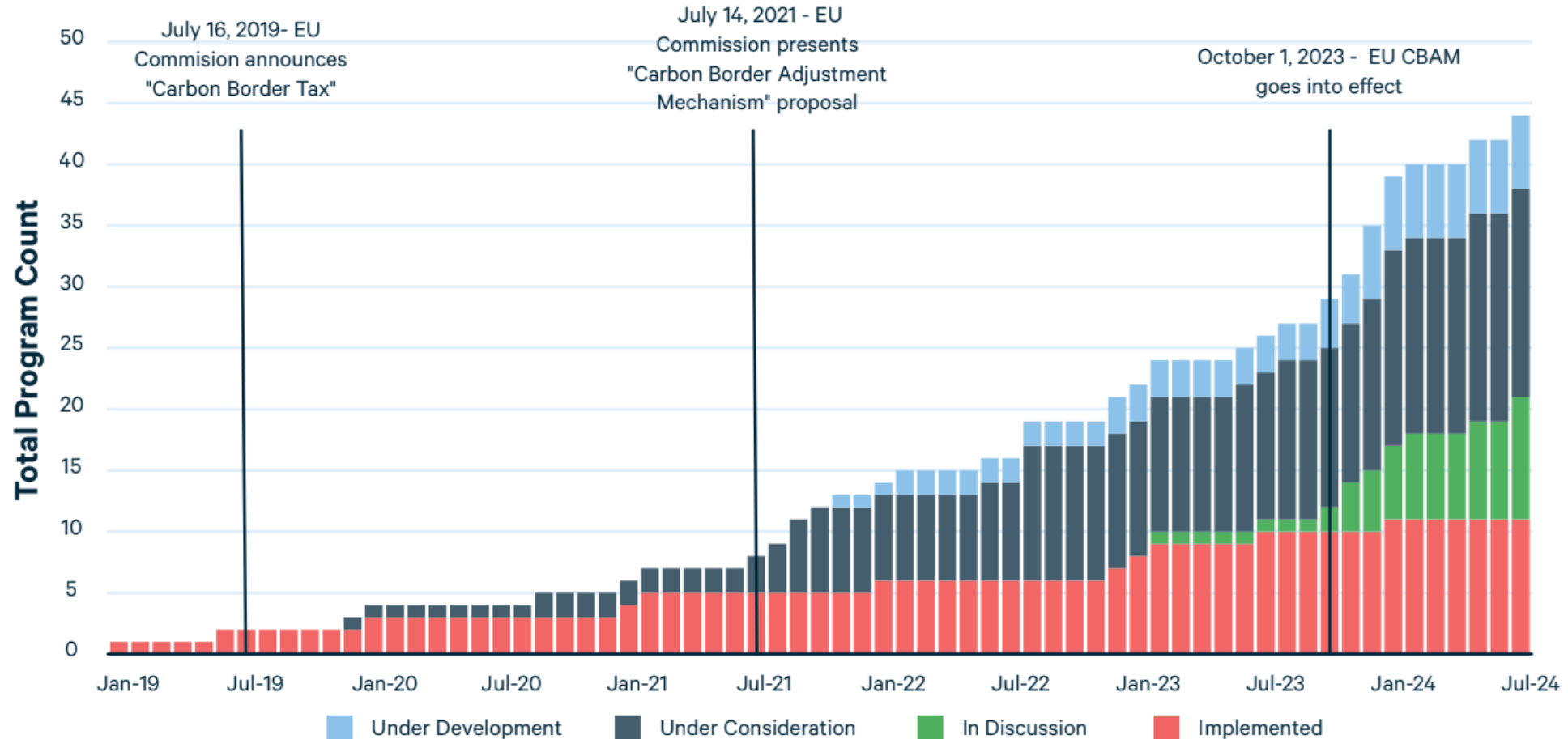
Figure 2. Carbon Pricing and Border Adjustment Media Hits, January 2016–July 2024, Excluding the United States and Regions with a Carbon Price as of July 2019



Notes: See the appendix for details on data construction. The five countries with the most media hits are India, Vietnam, Indonesia, China, and United Arab Emirates.

CBAM Research

Figure 1. Cumulative Carbon Pricing or Border Measure Developments, January 2019–July 2024



Emerging Economies' Ambition

- Table includes 1st, 2nd, 4th, 7th, and 18th most populous countries in the world.
- 3.4 billion people. 42% of global population!
- Also account for 43% of global emissions (EU 2025)

TABLE 1

Carbon pricing developments in key emerging economies

Brazil	In December 2024, Brazil formally approved a law to establish the Brazilian Greenhouse Gas Emissions Trading System. The ETS is set to cover large facilities in all sectors except for agriculture and is expected to be operational in five years. The ETS also establishes a process to facilitate the use of carbon credits to meet ETS liabilities and a process for determining whether credits can be transferred internationally under Article 6 of the Paris Agreement.
China	In March 2025, China confirmed the expansion of the national ETS to include the steel, cement, and aluminum sectors. This change was implemented retrospectively with compliance requirements commencing from January 1, 2024. This expansion brings 1,500 additional entities under the national ETS regulation, covering an additional 3 billion tCO ₂ e. As a result, the total coverage of the national ETS has increased to around 8 billion tCO ₂ e, which represents over half of China's total GHG emissions.
India	In July 2024 the Indian government adopted detailed regulations for its planned Carbon Credit Trading Scheme, a rate-based ETS covering an initial nine energy-intensive industrial sectors. The program will issue carbon credit certificates to covered facilities that outperform an emissions intensity benchmark. A domestic voluntary carbon crediting program is also being developed, which would issue carbon credits for activities and emissions sources not covered by the ETS. ²⁶ On March 28, 2025, India's Ministry of Power announced the approval of eight crediting methodologies, including for renewable energy, green hydrogen production, industrial energy efficiency, and mangrove afforestation and reforestation. ²⁷ The gradual transition from the current market-based energy efficiency program Perform, Achieve, and Trade scheme to these new programs is set to begin in 2025.
Indonesia	The scope of Indonesia's rate-based ETS was expanded in 2024 to include additional grid-connected coal-fired power generation facilities with generation above 25 megawatts. This expansion means covered power plants increased from 99 to 146. A second expansion is planned for 2025 to also cover natural gas generators and power plants that are not connected to the grid.
Türkiye	Türkiye submitted its Climate Law Proposal to Parliament in February 2025. The draft law provides the legal framework to establish Türkiye's ETS and governance arrangements through a Carbon Market Board. The details of the ETS will be outlined in regulations. The initial pilot phase of the ETS is expected to commence in 2026.



India, Turkey, and Brazil

- All three have voted to approve national carbon prices in the coming few years.
- These three countries account for 12% of emissions and 21% of the world's population.



Future Needs



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What Still Needs to Be Done?

- **Policy Development:** 72% of global emissions still not covered, including this country
- **Scientific Research:** Like ExOIS, there's a need for basic science to improve trust
- **Economic Research:** These are globe-spanning markets with novel applications, addressing both climate and development needs
- **Business Innovation:** New technologies, new markets, new business models needed
- **Trade:** These emissions must be assigned to products crossing borders