Energy Transitions Commission

Global trade and the transition to net-zero

ETC Representatives Meeting

15th May 2025

Agenda

- Developing local supply chains
- What's happening with tariffs
- CBAM and international carbon pricing

Agenda

- **Developing local supply chains**
- What's happening with tariffs
- CBAM and international carbon pricing

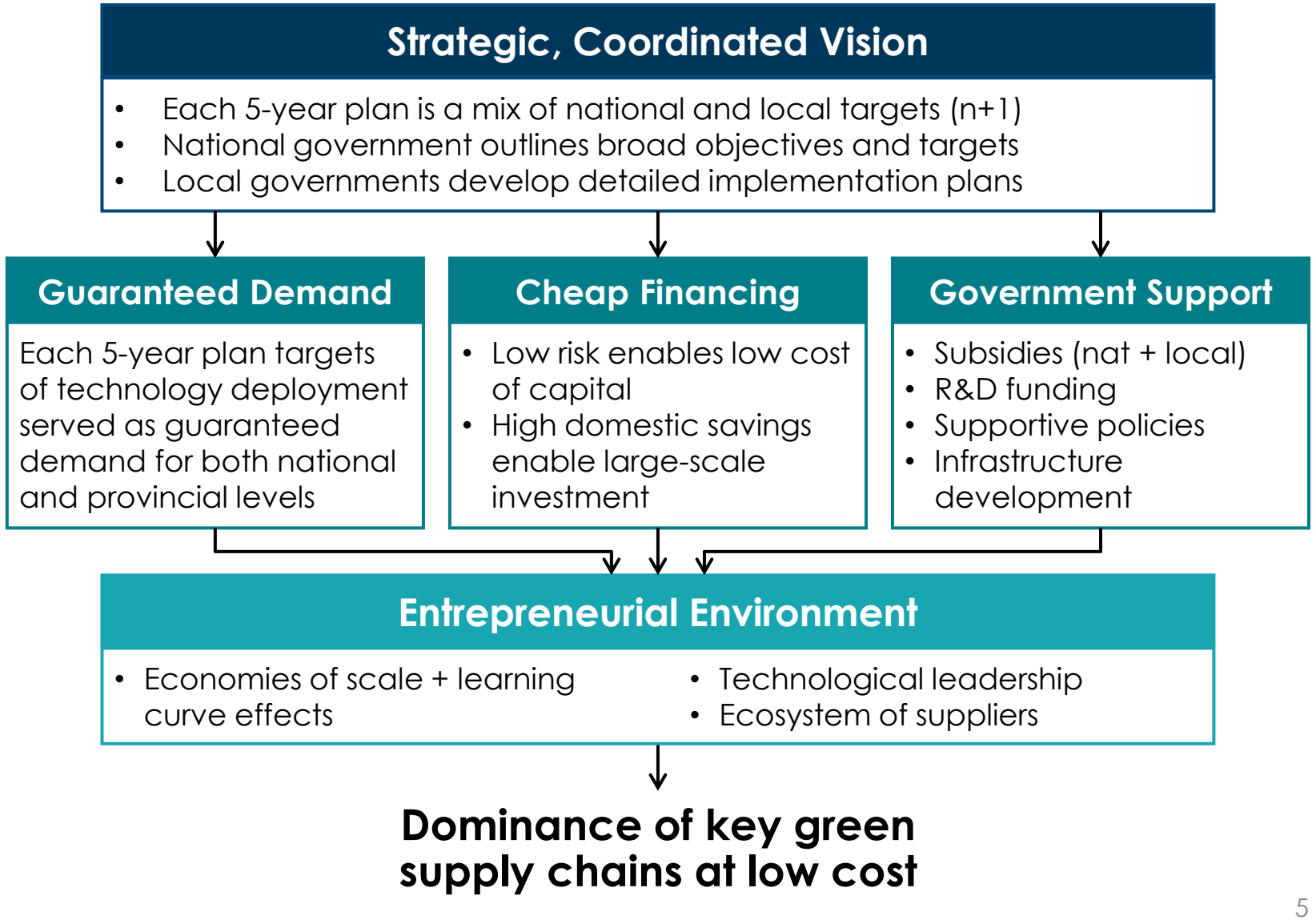
Recap: key principles for local supply chain development

1. Aim for diversified supply chains but not complete autarky
2. Think straight about different dimensions of “security”
3. Vary policy by sector to reflect different starting points and inherent characteristics
4. Use tariffs in a fact-based and WTO compliant fashion
5. Focus primarily on the location of employment and value added, rather than ownership.
6. Work with China to increase climate finance flows to lower income countries to support the accelerated deployment of clean technologies

Key drivers of China's clean tech advantage

Common beliefs are that low prices are due to **low environmental standards and lower labour costs.**

But the **importance of these have declined** with rising environmental standards and increasingly automated manufacturing



Principles for building diversified or local supply chains

Diversifying supply chains is a legitimate, rational objective

Major countries will not accept near 100% supply of key clean technologies from any single country, China or other

100% autarky is neither realistic nor desirable

Countries must aim for significant local know-how and capacity

- EU Net Zero Industry Act, India Production Linked Incentives, and US IRA (today)
- Brazil local content requirements (early 2000s)
- China inward investment (1990s)

Imports and trade will remain crucial to transition

Welcome foreign products where there are no local substitutes at a good price, or where low cost is particularly important at this stage of the transition

Thinking straight about "security"

ENERGY SECURITY

- Risks of clean tech imports much smaller than for fossil fuel imports
  - Fossil assets require continuous supply via ships, pipelines
  - Once installed, clean tech assets provide energy services over asset lifetime

INTELLIGENCE / MILITARY SECURITY

- Need for analysis-based approach
  - Semiconductors are militarily important, solar panels are not
  - Extent of remote software control of technology remains important factor

Focus on location, not ownership

Foreign owned companies can provide employment and valued added within country

Foreign-owned auto companies in the UK (e.g., Toyota, Nissan, BMW) provide over 70,000 jobs

Inward investment can be key driver of technology transfer and skills development

- Difficult to catch up from far behind without learning from leading companies

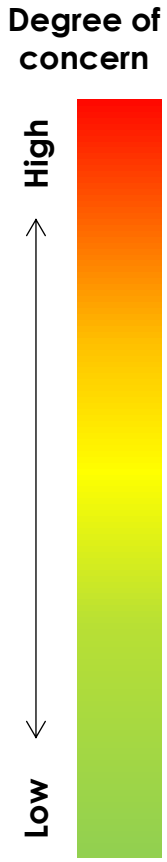
Successfully used by China starting in the 1990s, major part of US automotive strategy in 1980s/90s

- Failure of BritishVolt and Northvolt

Multiple options to prevent assembly only operations and ensure supply chain and skill development, e.g. joint ventures, local content requirements, or technology license agreements

US Inflation Reduction Act made access to battery manufacturing subsidies dependent on gradually rising requirements for local content percentages

Intelligence / military security concerns: a spectrum of issues



- Grid control software
- Autonomous vehicles
- Remotely controlled battery management systems
- Electric vehicles
- Battery cells and packs
- Electrolysers
- Solar PV

Issues need to be assessed on a case-by-case basis

Risks can be managed by having specific conditions included in government policies, e.g. CFIUS regulation in US limited Chinese controlled battery companies to pack manufacture, excluding remote battery management

Potential for European supply chain development: consider the ecosystem benefits of nearshoring a technology

SOLAR PV

- Standardized, mass-produced commodity with minimal variation, customization needed for different markets
- Trivial existing workforce in Europe
- Current cost of 9 cents/watt in China v. 25 cents/watt in the US/ EU
- Current manufacturing capacity in China greater than total global demand

Buy from the cheapest source to keep transition costs as low as possible

Electric Vehicles / Batteries

- Highly customizable, with variations in design, regulation, and consumer preference across different markets
- Large EU auto industry with 13.8m employees
- Strong economic case for producing batteries closer to vehicle assembly plants

Highly desirable to develop European EV and battery industry **if cost effective**

Clean tech manufacturing growing in Europe

electrive.com

BYD considers third European plant and battery factory

Chinese manufacturer BYD wants to build another plant in Europe since the EU now collects special tariffs on electric vehicle imports from...

Batteries News

CATL – German battery plant powers up local green transition

CATL - German battery plant powers up local green transition A new plant set up by China's leading battery maker Contemporary.

ESG Today

Stellantis, CATL to Build $4.3 Billion Battery Plant for Affordable EV Models

The new plant will enable the company to offer more high-quality, durable and affordable battery-electric passenger cars, crossovers and SUVs.

eeNews Europe

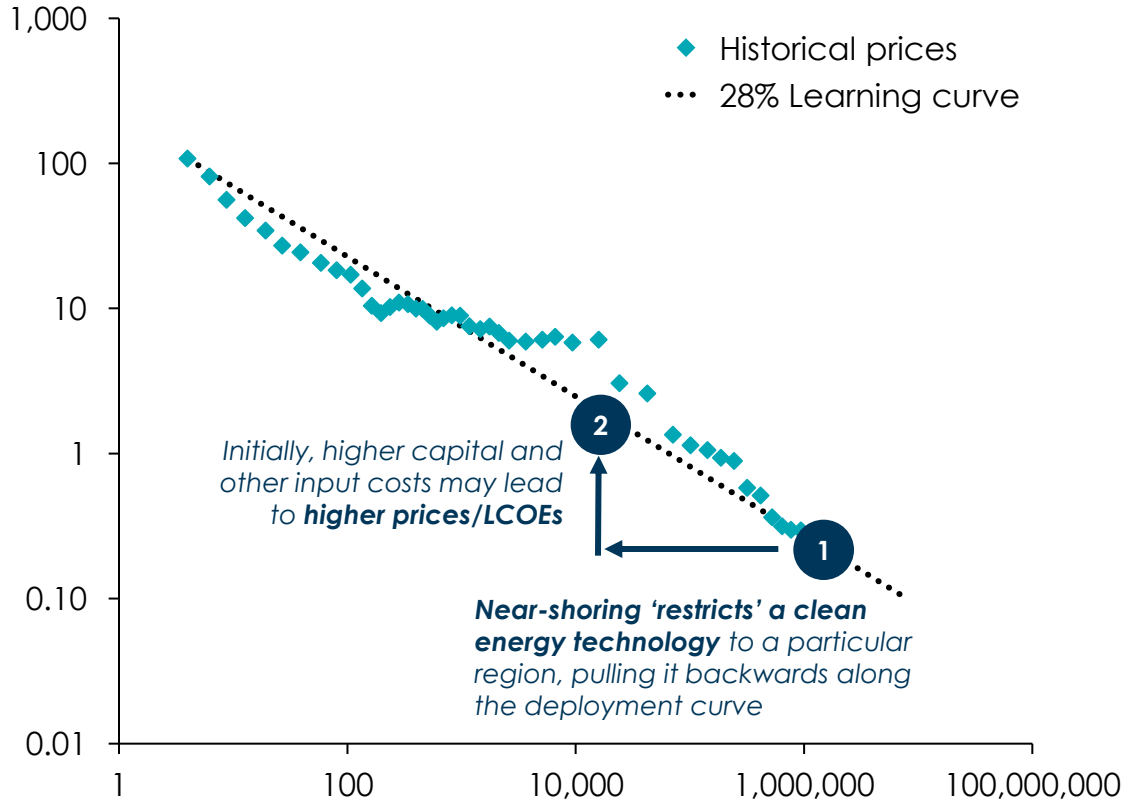
Europe approves €48m for Envision AESC French battery gigafactory

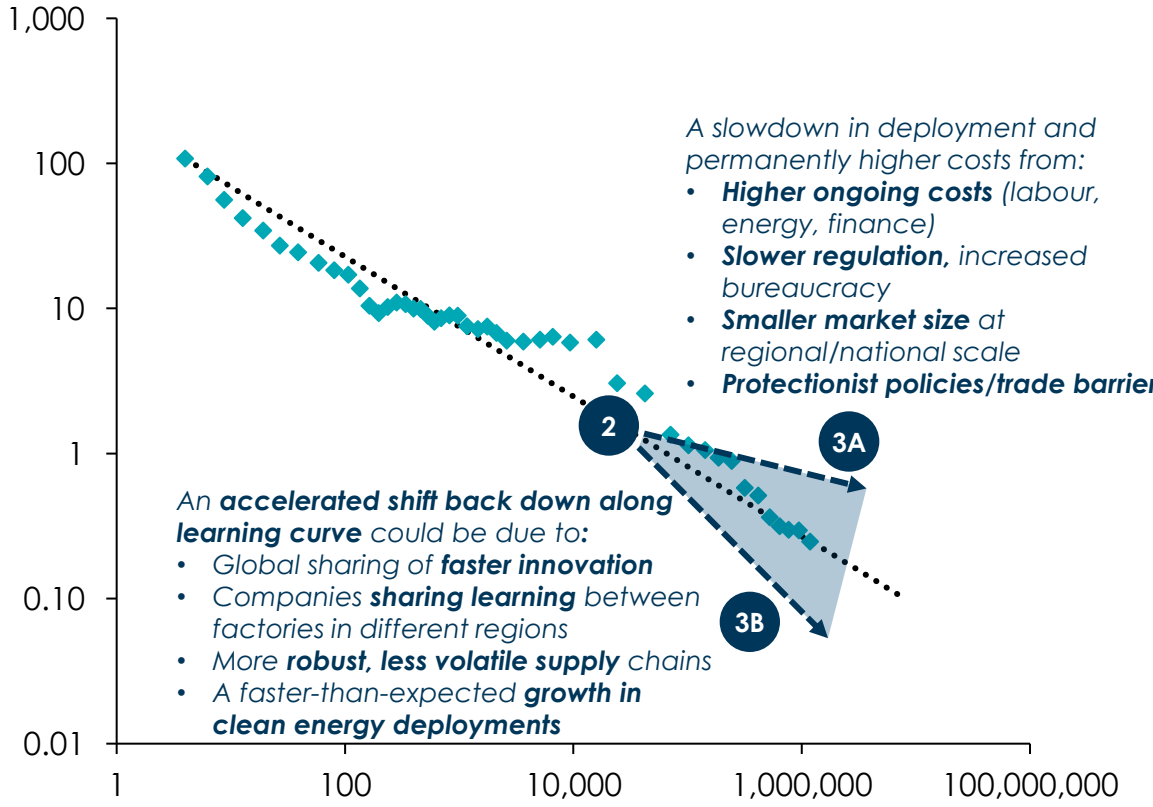
The European Commission has approved a €48 million grant for a second battery gigafactory in France to supply car maker Renault.

The challenge will be to ensure that policy interventions on supply chains continue to move technologies down cost reduction trajectories

Solar Example: Initially, near-shoring dynamics can be seen as moving back and up a clean energy technology 'learning curve', which is why any such efforts must be accompanied by policies to ensure technology costs continue to go down

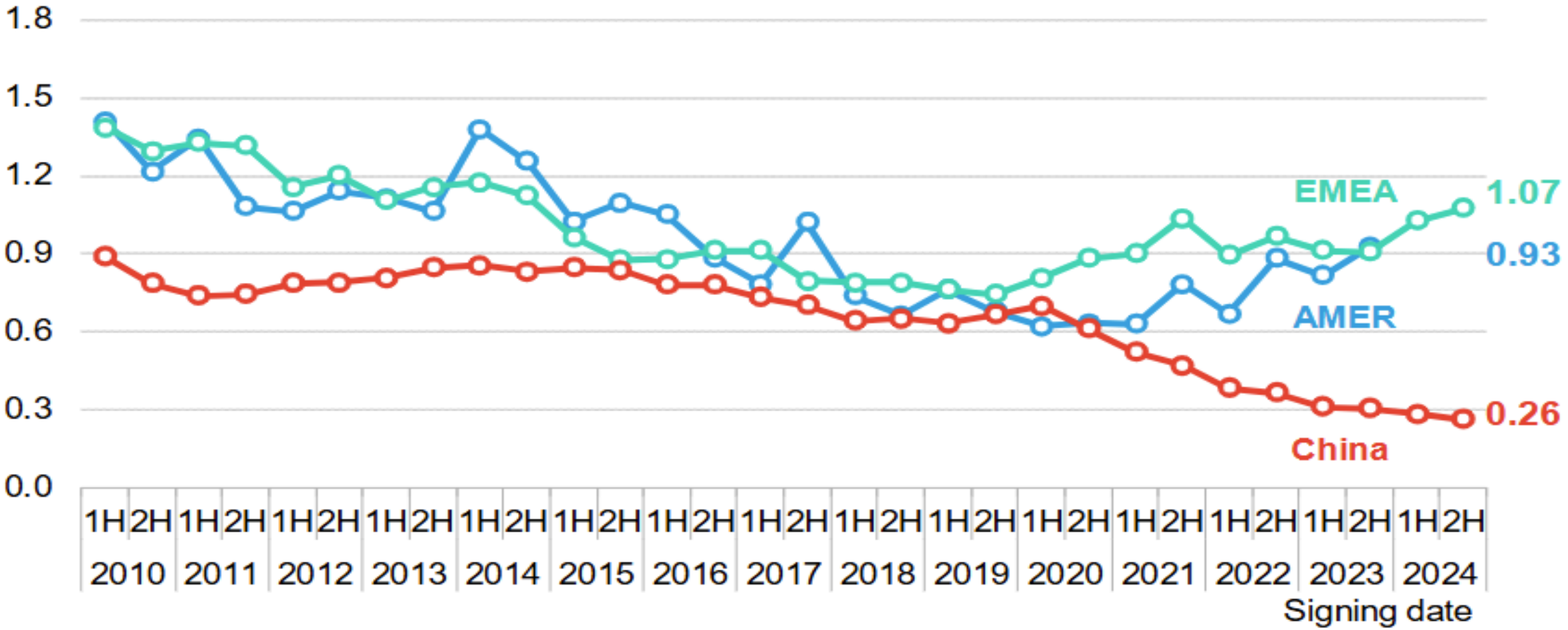
Solar learning curve: US$/W (Y-axis); MW (X-axis)





BNEF are already starting to see EU / US prices not only diverge from China, but move back up the cost curves

Onshore wind turbine price by region - BNEF
$ million per megawatt (nominal)



Source: BNEF (2024) *Wind Turbine Price Index 2H 2024: Still Aloft*

The role of tariffs and subsidies

Time-bound subsidies to build local industries, not permanent tariffs

- Permanently protecting structurally higher-cost industries increases consumer costs and slows energy transition

WTO compliant approach to setting tariff level based on analysis of apparent scale of current subsidy

Tariffs on EVs imported from China:

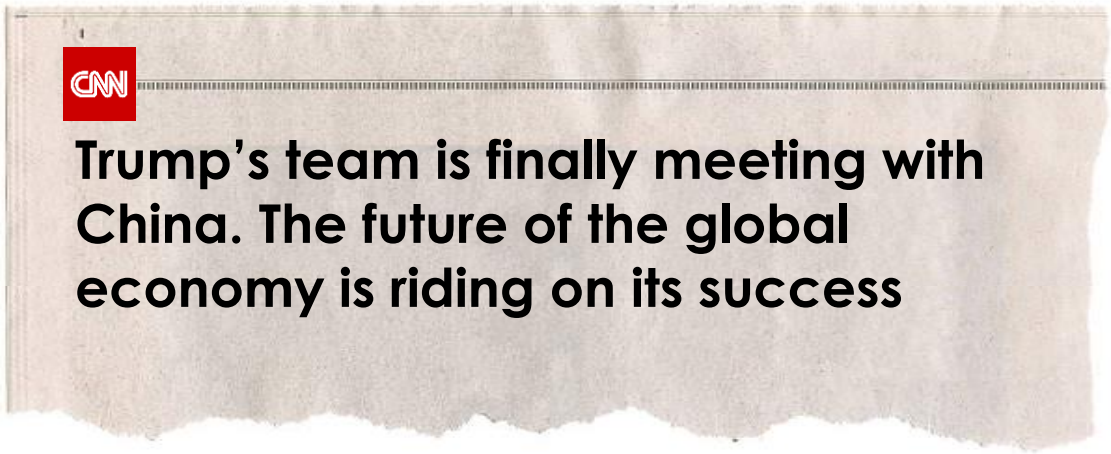
- Following detailed analysis looking at the level of current subsidy, EU tariffs set between 17% and 45%
- UK not imposing tariffs
- US tariffs increased from 25% to 100%
- Canada increased from 6% to 100%
- Australia has 5% tariffs

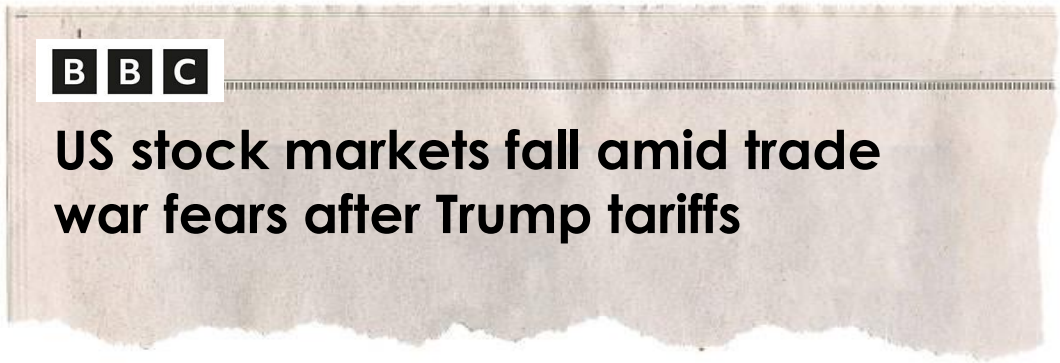
Source: https://www.weforum.org/stories/2024/09/major-economies-are-taking-aim-at-china-s-ev-industry-here-s-what-to-know/

Agenda

- Developing local supply chains
- **What's happening with tariffs**
- CBAM and international carbon pricing

New US tariffs have created a trade war with China

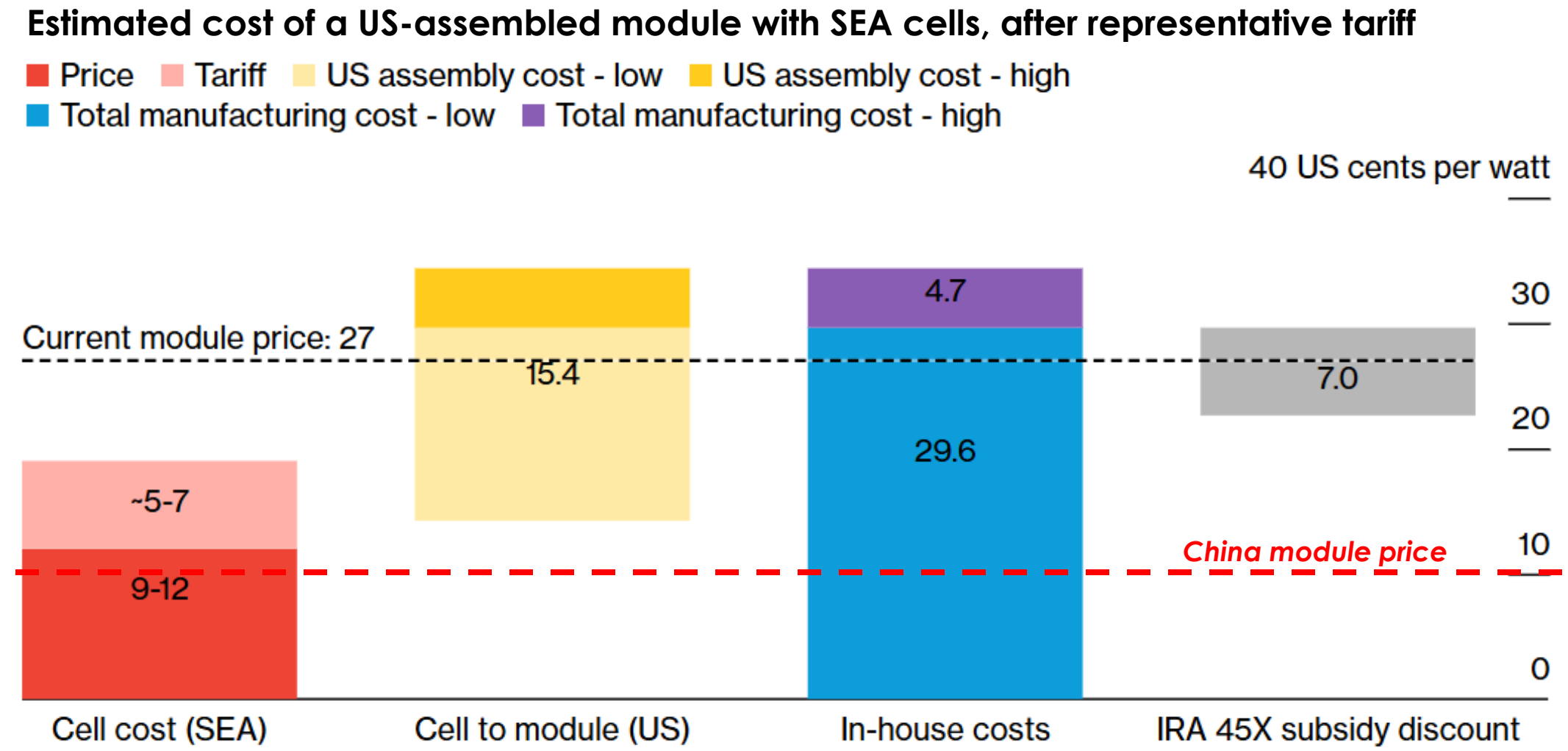




We are seeing in real time how poorly designed policies can impact not only the energy transition, but an entire economy – with impact for the global economy still to be realized

Source: news search

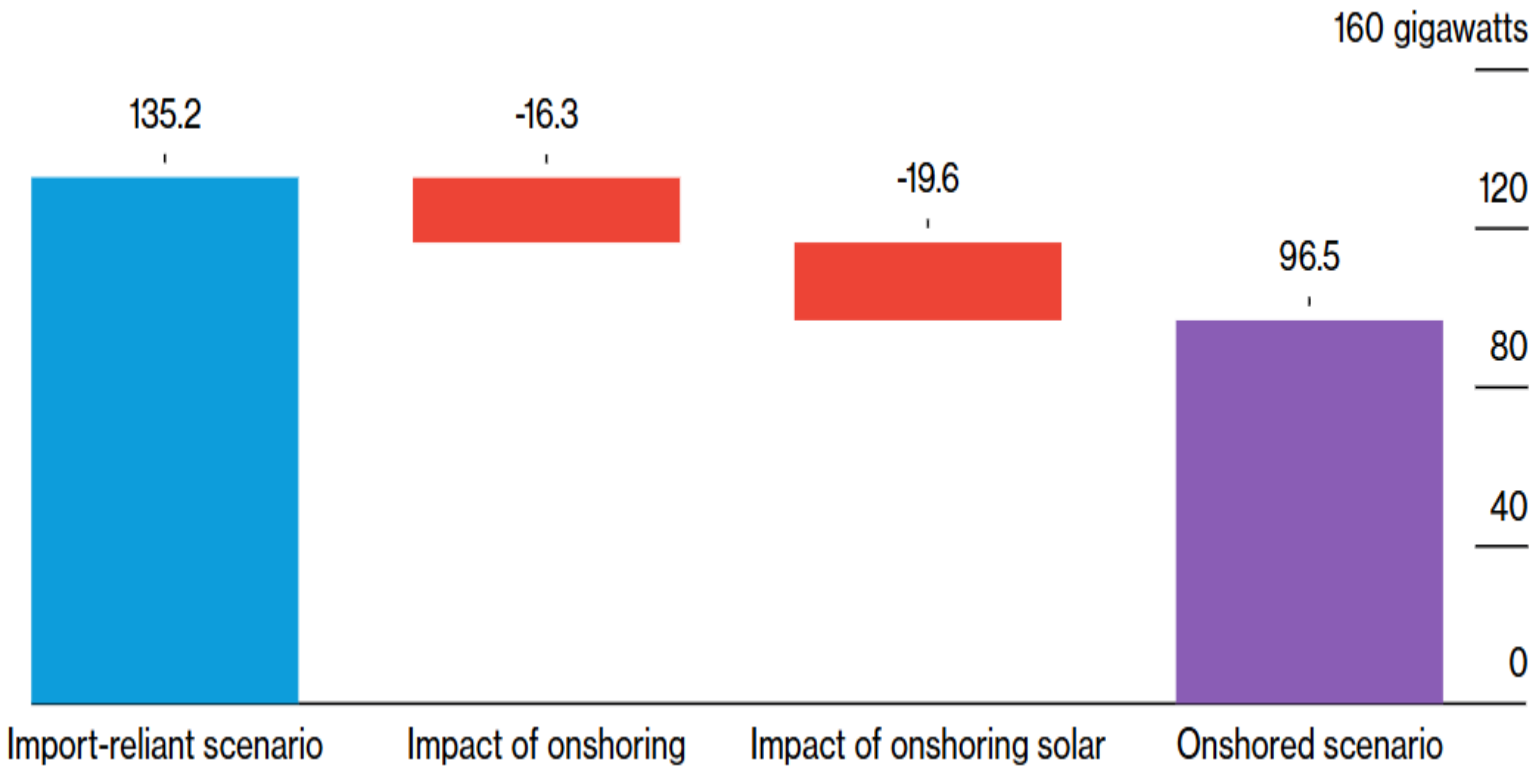
Recent BNEF analysis shows that new tariffs on southeast Asia results in higher US-made solar module costs



Source: BloombergNEF. Note: SEA=Southeast Asia, AD=Antidumping, CVD=Countervailing, IRA=Inflation Reduction Act. Market price includes shipping. Cell cost based on recent import prices to the US from Malaysia, Thailand, Vietnam and Cambodia.

In the long term, nearshoring technologies won't just increase the cost, but could restrain the deployment of storage in the US

Installed battery storage capacity in the US in 2050

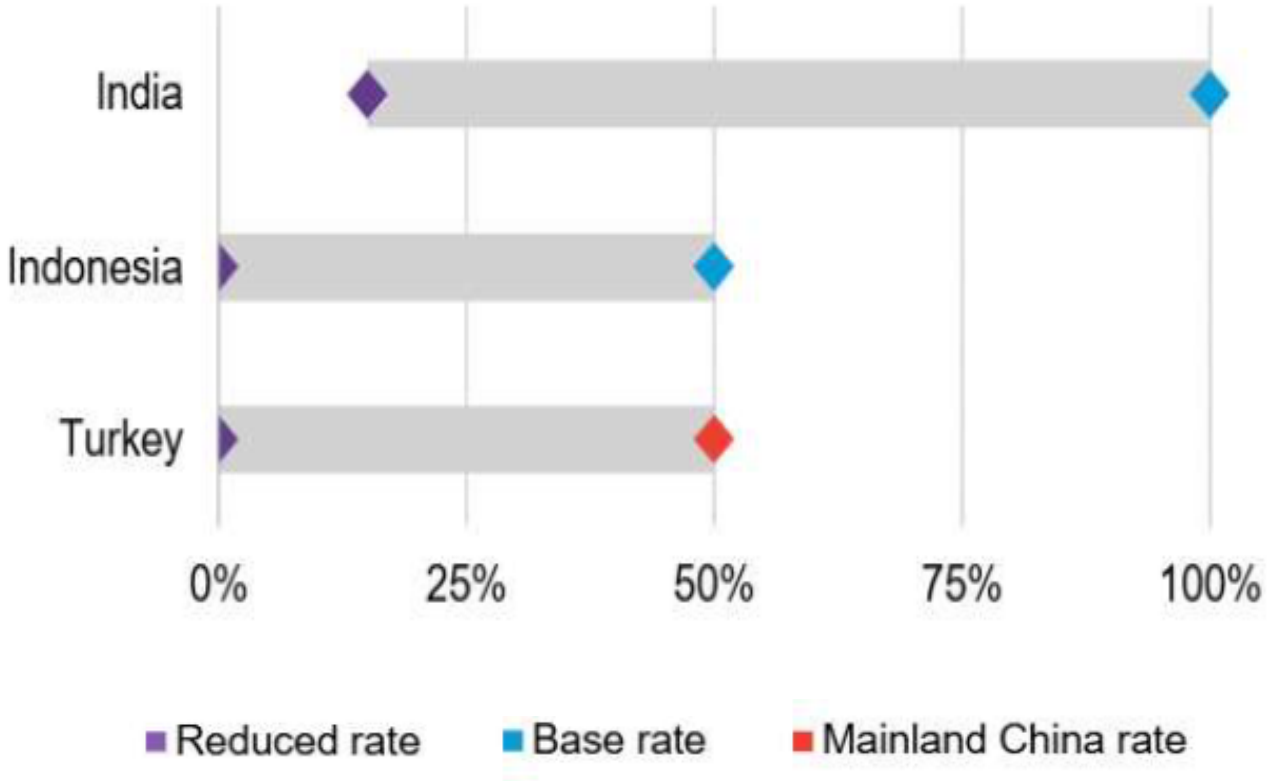


- **Batteries are more sensitive to onshoring costs than other technologies**
- **If batteries are too costly to deploy, other flexible generation* will be required**
- **Cheap access means that more gas plants will be built in the US**
- **The long-term nature of gas plants means that battery storage capacity will not recover by 2050**

Source: BNEF (2025) *Onshoring Raises Costs, Constrains Clean Energy Deployment*
Note: "other flexible generation" usually includes wind or gas

India and Turkey have used EV tariffs to court international investment

Reduced EV import tariffs in selected markets, in 2024



- **India** reduced tariffs on EVs for manufacturers committing at least $500M to local production; Tesla and Leapmotor have both announced plans to enter the market
- **Indonesia** reduced tariffs on manufacturers that meet local content requirements (40% by 2026, 60% by 2027); Neta Auto assembly plant now produces 27,000 yearly
- **Turkey** offered reduced EV tariffs for companies that invest in local production; BYD has since announced $1bn investment for new facility

Source: BNEF (2025) *Energy Transition Supply Chains 2025*, South China Morning Post (2024) *India to lower EV import tax with US$500 million investment, boosting Musk's Tesla plans*; Reuters (2024) *Turkey imposes 40% tariff on vehicle imports from China*; IISD (2025) *Indonesian Electric Vehicle Boom: A temporary trend or a long-term vision?*
Note: Leapmotor will be backed by Stellantis

Agenda

- Developing local supply chains
- What's happening with tariffs
- **CBAM and international carbon pricing**

Hard-to-abate sector economics require carbon prices to decarbonize

Significant green cost premium at B2B level, either in perpetuity (e.g. cement) or for several decades (e.g. steel)

Decarbonisation will not occur without carbon pricing or equivalent regulation / quantitative targets

+

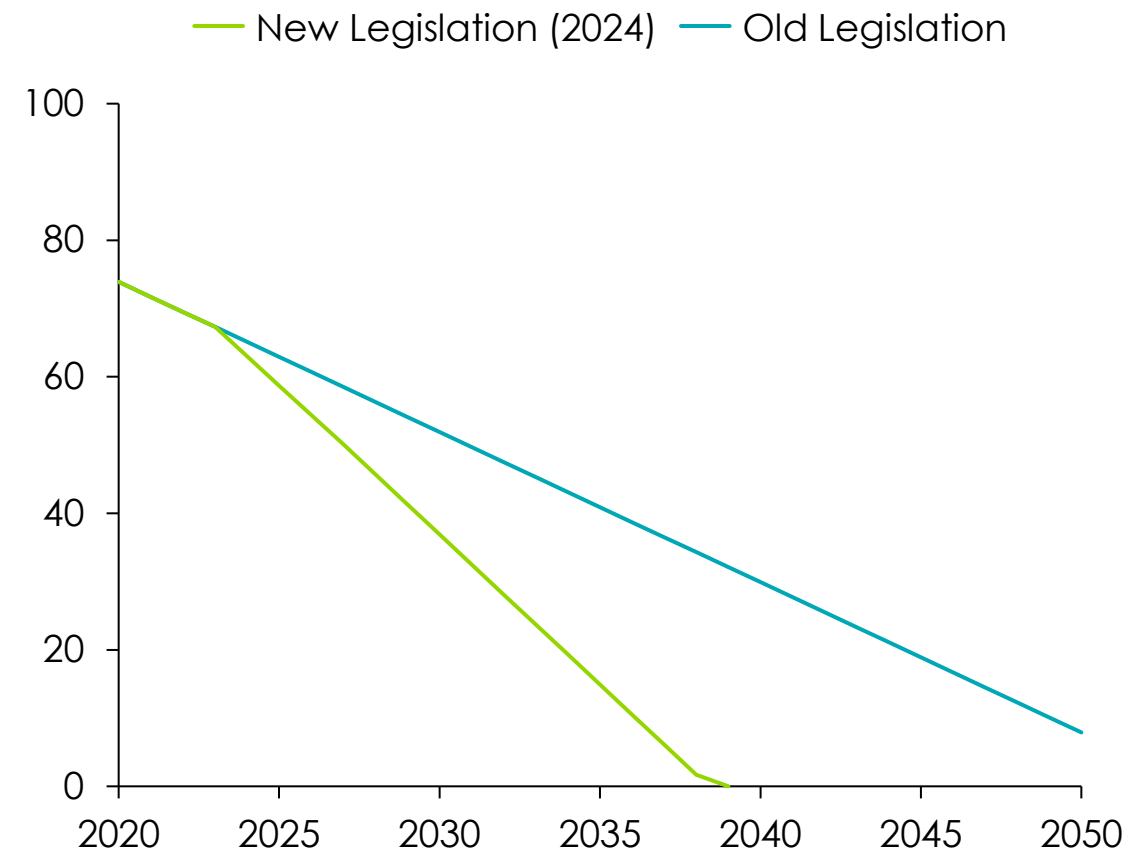
Several HTA sectors either:
- internationally traded (e.g. steel, chemicals)
- inherently international (e.g. shipping)

- Unless there are **globally agreed carbon prices** covering hard-to-abate sectors…
- Domestic carbon prices or equivalent regulation / targets must be accompanied by **CBAMs or regulations which apply to imports…**
- Otherwise, production will move to other countries and **decarbonisation will not occur**

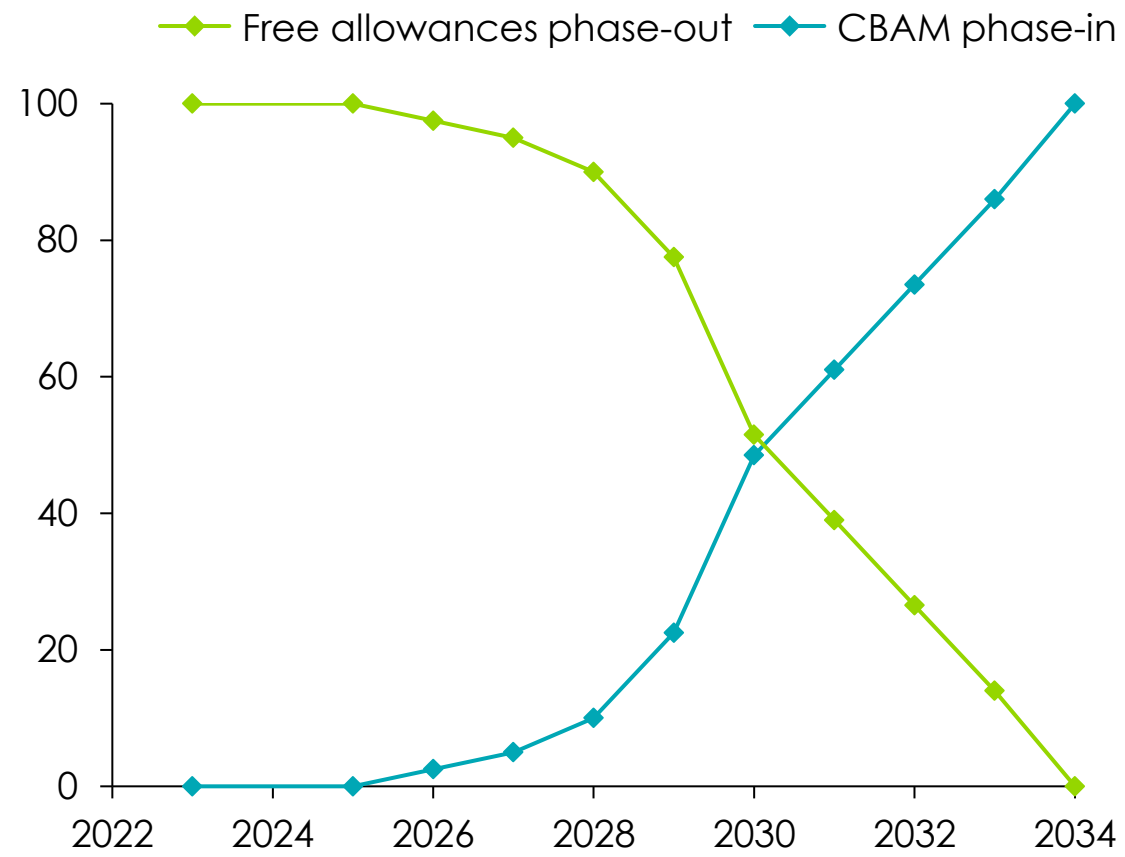
CBAMs are not protectionist but an incentive to global clean development

EU ETS on track to have zero emissions allowed by 2039, with CBAM in full effect by 2034

EU emissions cap as share of 2005, %



Phase out of free allowances, %



Source: EC Europa

EU Steel and Metal plan built on six pillars

Ensure Clean & Affordable Energy:

- Lowering energy costs for energy-intensive industries through Power Purchasing Agreements and lower network tariffs and taxes
- **Accelerating access** to energy infrastructure
- **Channeling renewable & low carbon hydrogen** to key areas

Prevent Carbon Leakage:

- Addressing **carbon leakage** for CBAM goods exported to third countries
- **Extending CBAM** to downstream products and strengthening anti-circumvention tools

Promote European Industrial Capacities:

- Tightening current **steel safeguard** to account for latest market developments
- Speed up work to find **long term solution against unfair practices** from trade partners
- Working towards the launch of an investigation for safeguards in the aluminium sector
- Better monitoring and prevention of circumvention of trade defence measures

Boost Circularity for Metals:

- Boosting EU **scrap metal** demand through **recycled content** and a **Single Market for waste**
- Keeping more scrap metal in Europe, including by levelling the playing field with trade partners

Defend Quality Industrial Jobs:

- A **European Fair Transition Observatory** to ensure a just transition for workers
- Access to EU funds for steel and metals sectors conditional on social and environmental standards

Support Decarbonisation Investments:

- Under the **Industrial Decarbonisation Accelerator Act**: i) resilience and sustainability criteria to foster demand of EU steel, ii) a voluntary label on carbon intensity of steel products
- **€150 million** from the **Research Fund for Coal and Steel**
- **€1 billion pilot auction** supporting industrial decarbonisation and electrification

Very significant tightening of CBAM around 3 dimensions: exports, carbon intensity, and downstream products

Source: EC Europa (2025) *Factsheet: Action Plan on Steel and Metals*

At the official level, countries still opposed to CBAM

Business Standard

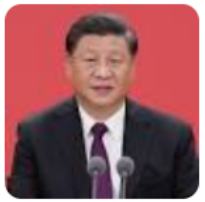
India will retaliate if EU enforces carbon tax on exports: Piyush Goyal

India will impose retaliatory duties if the European Union goes ahead with its plan to levy a carbon tax on Indian products, Commerce and...

Euractiv

Chinese president slams EU carbon border levy in call with Macron, Merkel

Chinese President Xi Jinping slammed the European Union's plan for a carbon border levy on Friday (16 April) in a call with the leaders of France and...



The Chartered Institute of Export & International Trade

South Africa leads BRICS call for 'reconsideration' of EU CBAM

South Africa leads BRICS call for 'reconsideration' of EU CBAM ... A South African trade minister has voiced opposition to the EU's Carbon Border...

But businesses and policy experts express much greater degree of openness

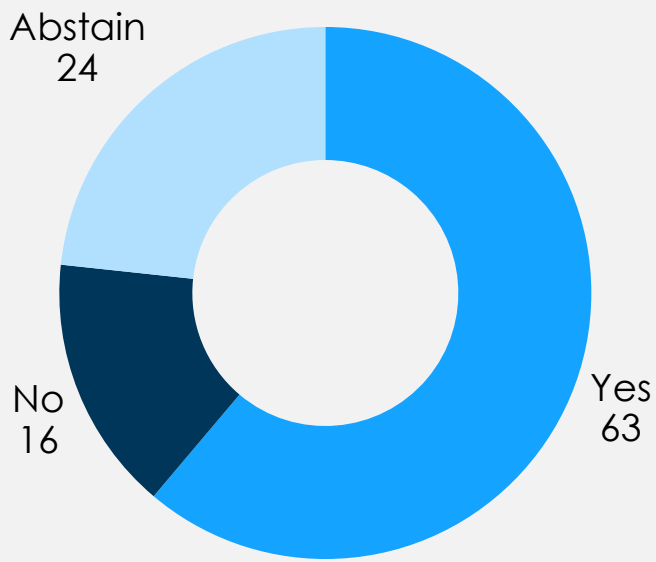
Two ideas to expand CBAM internationally

- **Standardization:** Led by the WTO to get an international standardized definition of "carbon intensity of product"
- **Allocation of revenues:** For revenues collected by the EU, portion devoted to climate finance support for low-income vulnerable countries

Recent IMO regulations show broad agreement on global carbon pricing

- **Net Zero Framework:** Draft regulations targets Net Zero by 2050 using mandatory fuel standards and GHG emissions pricing
- **Fuel Standards:** The new regulations set progressive targets to lower the GHG fuel intensity of marine fuels annually
- **Global Carbon Pricing Mechanism:** Ships exceeding emissions limits will need to purchase remedial units to offset their excess pollution, while ships with zero or near-zero emissions will receive financial rewards
- **Implementation Timeline:** The new regulations will be formally adopted in October 2025 and come into force in 2027
- **Emission Control Areas (ECA):** The North-East Atlantic Ocean has been designated as an Emission Control Area, further tightening emission standards in this region

Looking at the vote



- Support from China, India, and Brazil
- Deliberate boycott from US
- Russia, Venezuela, and Middle East Petrostates voted against
- 24 Pacific Islanders abstained because it wasn't tough enough

Source: International Maritime Organziation; United Nations UN News