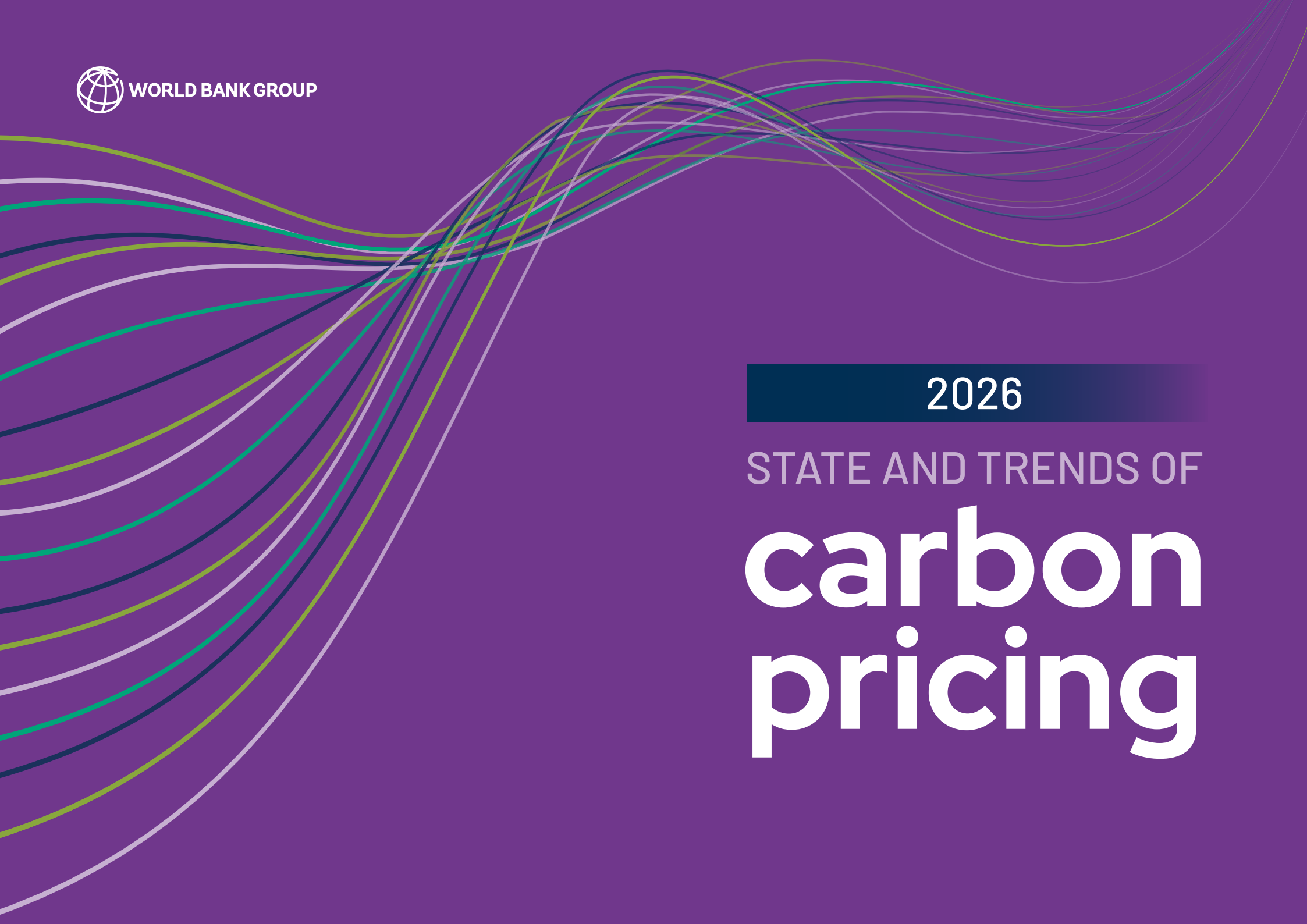




2026

STATE AND TRENDS OF

carbon pricing

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Acronyms and Abbreviations

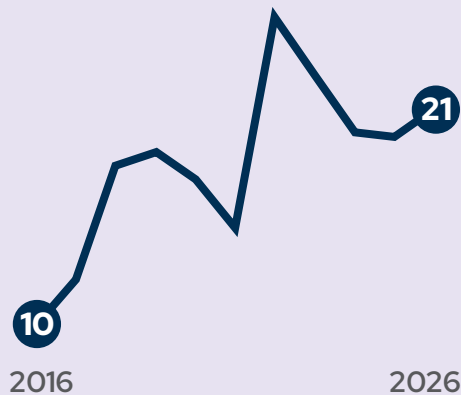
BCA	Border Carbon Adjustment	IMO	International Maritime Organization
CBAM	Carbon Border Adjustment Mechanism (EU)	ITMO	Internationally Transferred Mitigation Outcome
CCC	Carbon Credit Certificate	MoU	Memorandum of Understanding
CCP	Core Carbon Principle	MRV	Monitoring, Reporting and Verification
CCTS	Carbon Credit Trading System (India)	NDC	Nationally Determined Contribution
CDR	Carbon Dioxide Removals	OIMP	Other International Mitigation Purposes
CDM	Clean Development Mechanism (Kyoto Protocol era)	OECD	Organisation for Economic Co-operation and Development
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation	PACM	Paris Agreement Crediting Mechanism
ETS	Emissions Trading System	REDD+	Reducing Emissions from Deforestation and forest Degradation plus conservation
GEI	Greenhouse gas Emissions Intensity	TCP	Total Carbon Price
GHG	Greenhouse Gas	tCO₂e	metric tons of carbon dioxide equivalent
GX	Green Transformation	TFFF	Tropical Forests Forever Facility
ICAO	International Civil Aviation Organization	UNFCCC	United Nations Framework Convention on Climate Change
ICVCM	Integrity Council for the Voluntary Carbon Market		



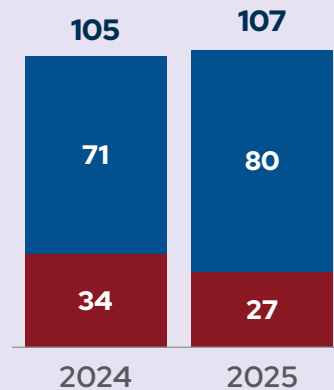
State and Trends of Carbon Pricing 2026

Carbon pricing

Average carbon prices have nearly doubled from 2016 to 2026
2026 US\$ t/CO₂e



ETS and carbon tax revenues continue to exceed US\$ 100 billion
2025 US\$



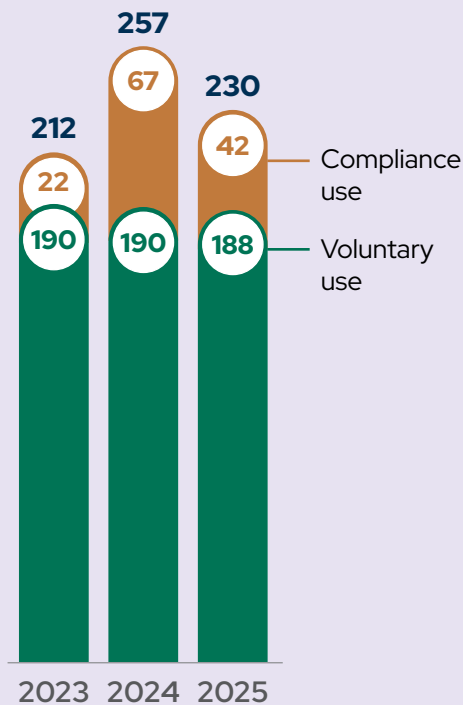
If policies under development are fully implemented by 2030, nearly

1/3

of global GHG emissions could be covered by an ETS or carbon tax

Carbon credit markets

Credit retirements around 10% lower than 2024 levels
Million tCO₂e



From 2024 to 2025 carbon credit issuances increased

8%

The first project received provisional issuance from

PACM

CORSIA-approved projects received a

US\$ 1.50-6/tCO₂e

price premium over similar credits that are not yet CORSIA-approved

Foreword

As countries navigate a period of heightened uncertainty – from fiscal pressures and energy market volatility to growing development needs – policymakers are increasingly focused on how to deliver growth that is both sustainable and resilient. In that context, carbon pricing and carbon markets can play a supporting role.

When designed well, carbon pricing can help create incentives for efficiency, innovation, and investment, while supporting governments in mobilizing revenues for broader development priorities. Carbon markets can help channel investments in technological and natural solutions that advance smart development goals, from improving industrial efficiency to protecting nature.

What is increasingly clear is that these instruments continue to evolve and expand globally. New Emissions Trading Systems and carbon taxes have been implemented in India, Japan, Mauritania, Serbia, and Viet Nam. While these countries have reached implementation at a similar moment, their approaches reflect different institutional capacities and development priorities. There is no single model for carbon pricing, and successful policies must be grounded in local realities and needs.

At the same time, we can see some global trends emerging. Today, nearly 30 percent of global greenhouse gas emissions are covered by a direct carbon price across 87 implemented policies. The entry into force of the EU's Carbon Border Adjustment Mechanism marks a further evolution, extending carbon pricing towards

international trade. Looking ahead, additional countries—including Brazil and Türkiye—are preparing policies.

Carbon credit markets are also expanding into new areas. As this report highlights, credits can find new markets if they meet the right criteria, including supporting international aviation to achieve their goals through CORSIA. At the World Bank Group, our objective is to support both scale and integrity for carbon pricing and carbon markets. This includes helping countries in making strategic choices, from building the infrastructure that underpins international transfers to working with policymakers to inform carbon pricing design.

This year's edition of the *State and Trends of Carbon Pricing* report also provides an opportunity to reflect on the past decade. Viewed over this longer horizon, several trends stand out clearly: carbon pricing has expanded significantly, with more diverse approaches to its design, and steadily increasing carbon prices. Carbon markets have expanded both in size and the potential uses they serve and now exist in a more elaborate ecosystem to generate, trade, and evaluate credits. I hope that this year's report continues to support informed debate and practical decision making in a rapidly changing global landscape.

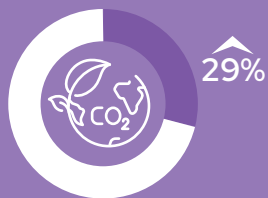
Paschal Donohoe

Managing Director and Chief Knowledge Officer, World Bank Group



Executive Summary

CARBON PRICING



1. Direct carbon pricing covers 29 percent of global greenhouse gas (GHG) emissions through 87 implemented policies.

- Global GHG emissions covered by Emissions Trading Systems (ETs) have tripled since 2016, rising from eight percent to over 24 percent; by contrast, the share covered by carbon taxes has remained relatively stable at around four to five percent, with increases in 2026 driven by national ETs in India, Japan and Viet Nam.
- If ETs and carbon taxes currently under development are fully implemented, by 2030 nearly one-third of global GHG emissions will be covered by carbon pricing.
- Although the EU's Carbon Border Adjustment Mechanism (CBAM) covers less than 0.5 percent of global GHG emissions, its formal adoption has served to increase interest in implementing both carbon pricing and other border carbon adjustments.



2. Direct carbon prices across carbon taxes and ETs have increased by seven percent since April 2025.

- The average carbon price across implemented instruments has doubled between 2016 and 2026 from US\$ 10/tCO₂e to nearly US\$ 21/tCO₂e, driven by ETs price increases.
- While average carbon tax rates have remained relatively constant, scheduled increases in 2026 have taken effect in jurisdictions including Singapore, which increased its carbon tax rate by 80 percent.
- Prices in ETs have experienced significant volatility in 2026, particularly since recent disruptions to global commodity markets began.



3. Annual government revenues from ETs and carbon taxes in 2025 rose by two percent to over US\$ 107 billion.

- Carbon pricing revenue collected by governments has risen from under US\$ 30 billion in 2016 to over US\$ 100 billion each year, in real terms, since 2021.
- The vast majority of revenues occur in developed economies, noting that carbon prices in developing economies are generally lower, and the use of allowance auctions is currently limited in ETs in major middle-income countries.
- Carbon pricing revenues continue to be directed toward climate mitigation investments, including Japan's new GX-ETs, which will channel future revenues toward a national fund for energy transition projects.



CARBON CREDIT MARKETS



1. Overall carbon credit issuances rose eight percent from 2024 to 2025, still 20 percent below 2022 levels, but more than 80 percent above the level of issuances a decade ago.

- Governmental crediting mechanisms have increased in number from 24 to 34 over the past 10 years, with credit issuances rising by nearly 40 percent in 2025 compared to 2024.
- Issuances from independent crediting mechanisms decreased by around four percent between 2024 and 2025 but remain around 70 percent of total credit issuances.
- The first credits under the newly operational Paris Agreement Crediting Mechanism (PACM) were provisionally issued to a clean cookstoves project in Myanmar.



2. Retirements of carbon credits declined by more than 10 percent from 2024 to 2025, attributed to credits used for compliance in California returning to 2023 levels after a ten-fold spike in 2024.

- Credits used for voluntary purposes dominate retirements, representing over 80 percent of the total credits retired in 2025.
- Beyond current retirements, future demand signals can be seen in the US\$ 12 billion of offtake agreements for future carbon credits signed in 2025, marking a three-fold rise from 2024 levels.
- Projects that receive either high ratings from third-party providers or high integrity labels are increasingly sought by buyers in both compliance and voluntary carbon credit markets.



3. Carbon credit prices across project types declined slightly across 2025, but credits that are eligible for international compliance or obtained high ratings continue to generate a price premium.

- The largest price movement occurred in forest conservation projects in Southeast Asia, where constrained supply created a short-term spike in prices for these credits in the second half of 2025.
- Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) eligible credits have traded since September 2025 at prices between US\$ 15/tCO₂e and US\$ 22/tCO₂e, which exceeds the price range for most other credit types (US\$ 1–14/tCO₂e).
- There is growing evidence of a correlation between how a project is evaluated by rating agencies and its market price, reflected, for example, in an 87 percent price increase for each rating band for reforestation projects.



Chapter 1

Introduction

CHAPTER 1:

Introduction

1.1 Carbon pricing is an important part of governments' policy toolbox

Governments are currently facing unprecedented disruptions to global commodity supplies. The reduction of global oil supply in March 2026, estimated at around 10 million barrels per day represents the largest oil shock on record.¹ In addition, disruption of shipping through the Strait of Hormuz is impacting international trade in other commodities such as natural gas, fertilizer and aluminum. Although developments are shifting rapidly, at the time of writing the shortfall in oil supply and disruption to other commodities have not yet been alleviated.

This year's report is being published as governments begin to grapple with these developments. Policy makers are navigating the impacts of commodity price increases and supply disruptions on their populations. This includes the potential to adjust carbon pricing policies such as Emissions Trading Systems (ETSs) or carbon taxes. Discussions are ongoing in some jurisdictions, such as in the EU where changes have been proposed to the European Union Emissions Trading System (EU ETS) and a comprehensive review of the policy is scheduled for July 2026.² In other instances, governments have already taken actions, such as the government of Ireland's announcement on April 12 to delay an increase in its national carbon tax from May to October 2026 due to rising fuel costs.³ This report largely reflects developments and trends prior to disruptions in global commodity markets, but it could be highly significant over the coming 12 months.

When viewed over a longer time frame, many governments are choosing to implement carbon pricing as a tool toward achieving development and economic objectives. Direct carbon pricing through a carbon tax or emissions trading system can contribute toward achieving countries' own emission reduction targets, including Nationally Determined Contributions (NDCs) submitted to the United Nations Framework Convention on Climate Change (UNFCCC) by national governments and legislated targets set by subnational governments. For example, an ETS with a declining absolute emissions cap or intensity baseline can incentivize covered facilities to reduce their emissions over time. However, carbon pricing can offer important long-term benefits beyond climate mitigation, including facilitating investment flows, promoting affordable, domestically-sourced energy, increasing energy security and providing a new source of government revenue. Further, carbon pricing can form a component of broader policy reform packages, such as restructuring energy taxation or as a response to international trade measures such as border carbon adjustments.

Between 2016 and the start of 2026, carbon pricing has expanded and diversified. The pillars of carbon pricing remain: direct carbon pricing through carbon taxes and ETSs, alongside indirect carbon pricing measures such as reduced fossil fuel subsidies and energy taxes. The State and Trends report series has tracked the growth of direct carbon pricing over the past decade, and beyond. These carbon pricing mechanisms are complemented by other policies and regulations, such as portfolio standards for electricity generation, and reforms of legacy policies that predate the prioritization of decarbonization as a project development.



A decade ago, the carbon pricing landscape was more limited than it is today.

In 2016, 39 carbon taxes and ETSs were implemented globally, covering around 12 percent of global GHG emissions. The Paris Agreement, which was adopted in December 2015, did not feature its own operational market mechanisms. Instead, international carbon markets focused on units created by the flexibility mechanisms under the Kyoto Protocol, including those certified under the Clean Development Mechanism and Joint Implementation mechanisms, though demand for these credits had already peaked several years earlier. By contrast, credits from independent crediting mechanisms represented a smaller share of total issuance, and were mostly used by companies as part of voluntary climate commitments (prior to the later expansion in demand for such credits).

Over the intervening years, carbon pricing approaches have become more numerous and more heterogeneous.

Between 2016 and 2026, the number of implemented carbon taxes and ETSs more than doubled, along with the share of global GHG emissions they cover. Under the Paris Agreement, Article 6 (further codified at COP29 after the majority of rules were adopted at COP 26) provides the framework that enables cross country engagement on cooperative approaches, including carbon markets. This includes, for example, cooperation to help countries achieve their Nationally Determined Contributions (NDCs). New categories of emissions pricing are also being operationalized. The International Civil Aviation Organization (ICAO) agreed to establish the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) in 2016, and the system transitioned to its first phase in 2024. Airlines will be required to surrender eligible units to meet compliance obligations in 2028. The European Union's Carbon Border Adjustment Mechanism (EU CBAM) is the first carbon price applied to imported goods. Its "definitive phase" commenced in 2026. Developments in each of these approaches for providing price incentives are addressed in detail in subsequent chapters.

Carbon credit markets are a mechanism to mobilize both public and private finance, particularly in developing countries.

Carbon credits direct private capital toward projects that reduce or remove emissions and can help achieve broader development objectives such as improving health outcomes or environmental protection. The size of the carbon credit market has increased significantly since 2016, driven by voluntary demand for carbon credits. The traded value of carbon credits was estimated to be over US\$ 500 million in 2024, below the highest observed level of US\$ 2.1 billion in 2021 but more than double the 2016 value.⁴ Recent buyers' interest in credits has been for projects focused on nature-based activities such as conservation and reforestation. For example, between 2021 and 2024, 70 percent of all capital committed or directly raised for carbon credits were for nature-based activities.⁵ This is particularly the case for nature-based removal (carbon removal or sequestration) projects, such as afforestation and reforestation, that have been increasingly favored by buyers and command higher prices than most other types of carbon credit project.

New approaches are emerging that recognize the need to mobilize both public and private finance at scale to complement and enhance carbon finance.

Some examples are other results-based payment mechanisms related to noncarbon benefits such as biodiversity, social outcomes, or other environmental services. The Tropical Forests Forever Facility (TFFF), proposed by the government of Brazil, is designed as a noncarbon, results-based financing mechanism that provides long-term payments to tropical forest countries for the conservation of standing forests, measured in hectares rather than in emissions reductions. TFFF does not generate emission reductions or carbon credits, and is not an alternative to REDD+ (Reducing Emissions from Deforestation and forest Degradation plus conservation), which remains a climate-mitigation mechanism that rewards verified emission reductions and removals from deforestation and forest degradation. Instead, TFFF is intended to complement jurisdictional REDD+ by providing a sustained source of finance for forest conservation, particularly in contexts where deforestation is already low or declining and there is no carbon crediting potential, thereby strengthening the overall forest finance architecture.



1.2 Scope of this report

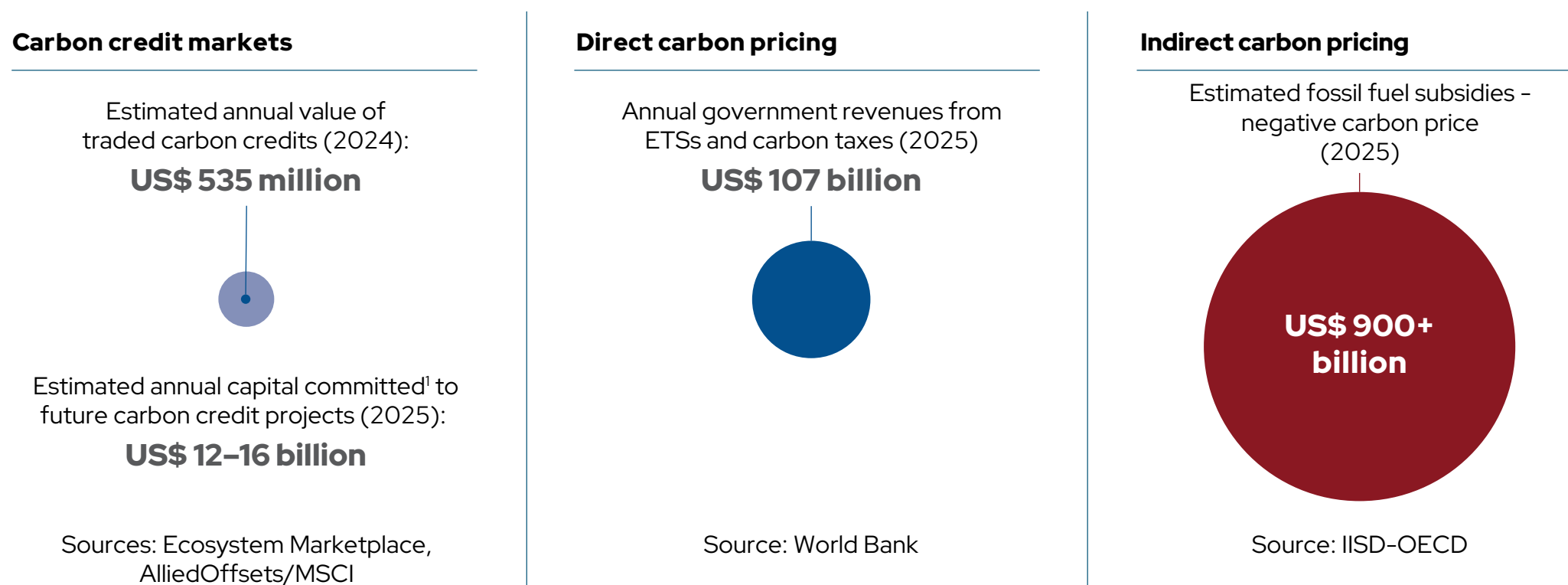
This report provides analysis of and insights into direct carbon pricing instruments and carbon credit markets. Accordingly, the report focuses on three main instruments.

1. **Emissions trading systems**, where a jurisdiction places a limit, or cap, on the amount or intensity of GHG emissions generated by regulated (covered) entities. These entities must surrender emission units (or “allowances”) corresponding to their emissions within a compliance period. Companies can trade allowances with other covered entities, and the price is mainly determined by the market.
2. **Carbon taxes**, where a government levies a fee on covered entities for their GHG emissions. Under a carbon tax, the government sets the price of emissions (the tax rate), by taxing either the amount of emissions produced or the carbon content of fuels.
3. **Carbon crediting mechanisms**, where tradable credits are generated through activities that reduce emissions through either avoidance or reduction (preventing GHG emissions from entering the atmosphere), or removal (taking GHGs from the atmosphere). Carbon crediting is increasingly linked to carbon pricing, where specific types of carbon credits may be used to help businesses comply with an ETS or carbon tax. This report covers domestic and international, as well as compliance and voluntary, carbon credit market activities.

Despite recent growth in both carbon credit markets and carbon pricing, indirect carbon pricing remains the dominant mechanism (Figure 1). In contrast to direct carbon pricing, *indirect carbon pricing* (such as fuel excise taxes, or conversely negative carbon prices applied through fossil fuel subsidies) changes the price of products associated with GHG emissions but is not explicitly linked to GHG emissions. Indirect carbon pricing policies operate at a larger financial scale than direct carbon pricing. The estimated traded value of carbon credits in voluntary carbon markets was approximately US\$ 535 million in 2024.⁶ Global investment in carbon credit projects, notably via forward-looking offtake agreements, could offer a signal for future market direction. For 2025, capital committed is estimated at US\$ 12–16 billion (though not all relevant projects will be fully implemented).⁷ To put this in perspective, government revenues generated by ETSs and carbon taxes are consistently mobilizing over US\$ 100 billion for public budgets. However, estimated subsidies for fossil fuels globally accounted for more than US\$ 900 billion in 2024 (this precedes the recent disruptions in global energy markets).⁸ Despite the difference in scale, understanding developments in direct carbon pricing, which is largely the focus of this report, is critical for policy makers who are implementing or reforming their own ETS or carbon tax.



FIGURE 1 Relative size of carbon credit markets, direct carbon pricing and fossil fuel subsidies, USD



¹ capital commitment includes offtake purchases (AlliedOffsets and MSCI) and direct project investments (MSCI only)

The report is intended to serve as a snapshot of ETSs, carbon taxes, and carbon crediting mechanisms. It includes developments over the 12 months up until April 1, 2026. As with past years, it provides information on observable metrics, such as prices, coverage, and revenues, and how these have changed over time. The report does not provide a critique or normative assessment of policy choices.

Chapter 2 focuses on ETSs and carbon taxes. It also includes updates on developments relating to border carbon adjustments. Chapter 3 considers trends in carbon credit mechanisms, including those operated by governments, independent organizations, and international bodies. Additional information, including data underpinning this report, is available on the World Bank's Carbon Pricing Dashboard.

CHAPTER 2

Carbon pricing

CHAPTER 2

Carbon pricing

Direct carbon pricing policies now covers 29 percent of global GHG emissions, with 47 carbon taxes and 40 ETs implemented. If additional policies currently under development are implemented, global coverage will increase to nearly one-third of global GHG emissions. In the past year, average carbon prices have increased by over seven percent, adjusting for inflation, with increases across both ETs and carbon taxes (the highest average prices are in Europe and Central Asia). Global ETs and carbon tax revenues rose by around two percent to generate US\$ 107 billion in 2025.

2.1 Direct carbon pricing covers 29 percent of global GHG emissions across 87 implemented policies

As of April 1, 2026, 87 carbon pricing instruments (ETs and carbon taxes) are in force across 47 countries and a regional ETs in the European Union (see Figure 3). Five new national-level carbon pricing instruments have been implemented in the past 12 months. India launched its national Carbon Credit Trading Scheme (CCTS), a greenhouse gas emission intensity (GEI)-based ETs focused on hard-to-abate sectors.⁹ Japan's GX-ETs system entered its mandatory phase on April 1, 2026. Viet Nam's ETs is in effect, with a compliance obligation for covered facilities' 2025 and 2026 GHG emissions. The policy is being operated in a pilot phase until the end of 2028. National carbon taxes have also been implemented in Mauritania and Serbia. Each of these instruments has commenced implementation in the last 12 months.¹⁰ A further six ETs and three carbon taxes are under development at the national level.¹¹ A potential price on GHG emissions from international shipping remains under discussion at the International Maritime Organization (IMO), after a decision proposed in October 2025 was adjourned.¹² The implementation of three new ETs reinforces the trend of the last decade, in which growth in emissions trading systems has outpaced carbon taxes (see Box 1).

BOX 1 Comparing the growth of Carbon Taxes and ETs from 2016 to 2026

Carbon taxes and ETs have both grown in the past decade. Policy makers examine each instrument to determine which is best suited for their policy mix and local circumstances. In some instances, governments have pursued both simultaneously, by using different instruments for separate GHG emissions sources or deploying both instruments on the same emissions sources. In Latin America, for example, the governments of Colombia, Chile, and Mexico have both a national carbon tax and ETs either implemented or under development. Similarly, the UK operates a national ETs combined with its carbon price support that provides a minimum carbon price for the power sector in England, Scotland and Wales.

However, ETs cover a larger portion of emissions, with higher average carbon prices and revenue collected, than carbon taxes. The number of carbon taxes implemented since 2016 is higher than ETs (26 and 21, respectively). However, the proportion of global GHG emissions covered by ETs has tripled over the period, from under eight percent to around 26 percent, whereas the contribution of carbon taxes to global coverage has remained steady at around four to five percent (with roughly two percent of global GHG emissions in 2026 covered by both a carbon tax and ETs). Importantly, the estimate of global carbon tax coverage includes direct carbon taxes. Indirect carbon pricing also contributes significant additional coverage: fuel excise taxes cover approximately 24 percent of GHG emissions across 79 countries according to the Organisation for Economic Co-operation and Development (OECD), although this does include overlaps with direct carbon pricing in some cases.¹³ Similarly, average permit prices across implemented ETs have more than doubled since 2016, whereas the average price in carbon taxes only increased 25 percent over the same period.

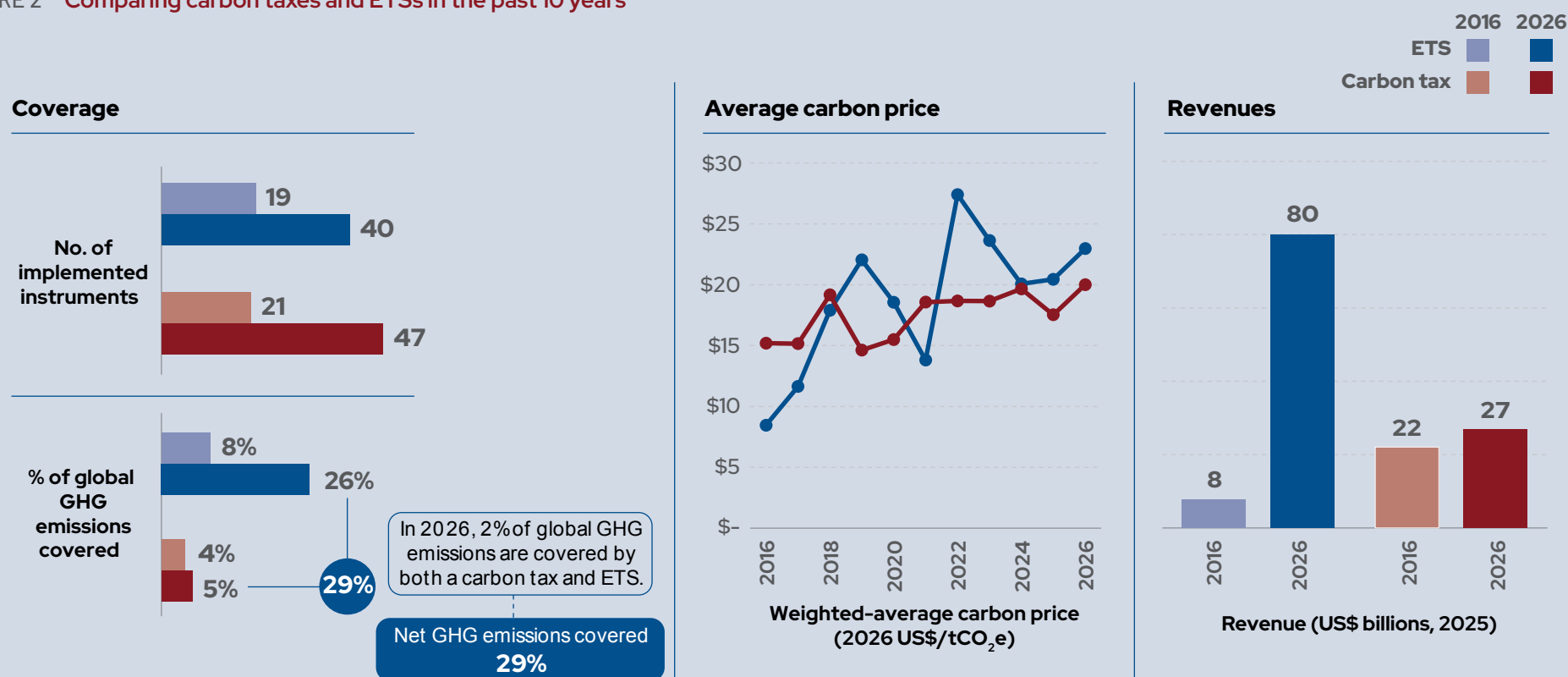


While both instruments have experienced significant revenue growth over the decade, ETS revenues are now the largest fiscal contributor. This is all the more significant given that allowance auctions, the primary channel for raising revenue, are not used for the majority of emissions under ETSs. According to the OECD, the 'Effective Average Carbon Rate'—the actual price paid after accounting for free permits—remains low across many sectors and countries.¹⁴ This suggests potential for revenue growth as systems transition from free allocation toward auctioning. The faster growth in emissions coverage and prices translates into greater revenues for ETSs—in 2016, carbon tax revenues were approximately

three times higher than ETS revenues, whereas in 2025, carbon tax revenues amounted to less than half of those generated by ETSs.

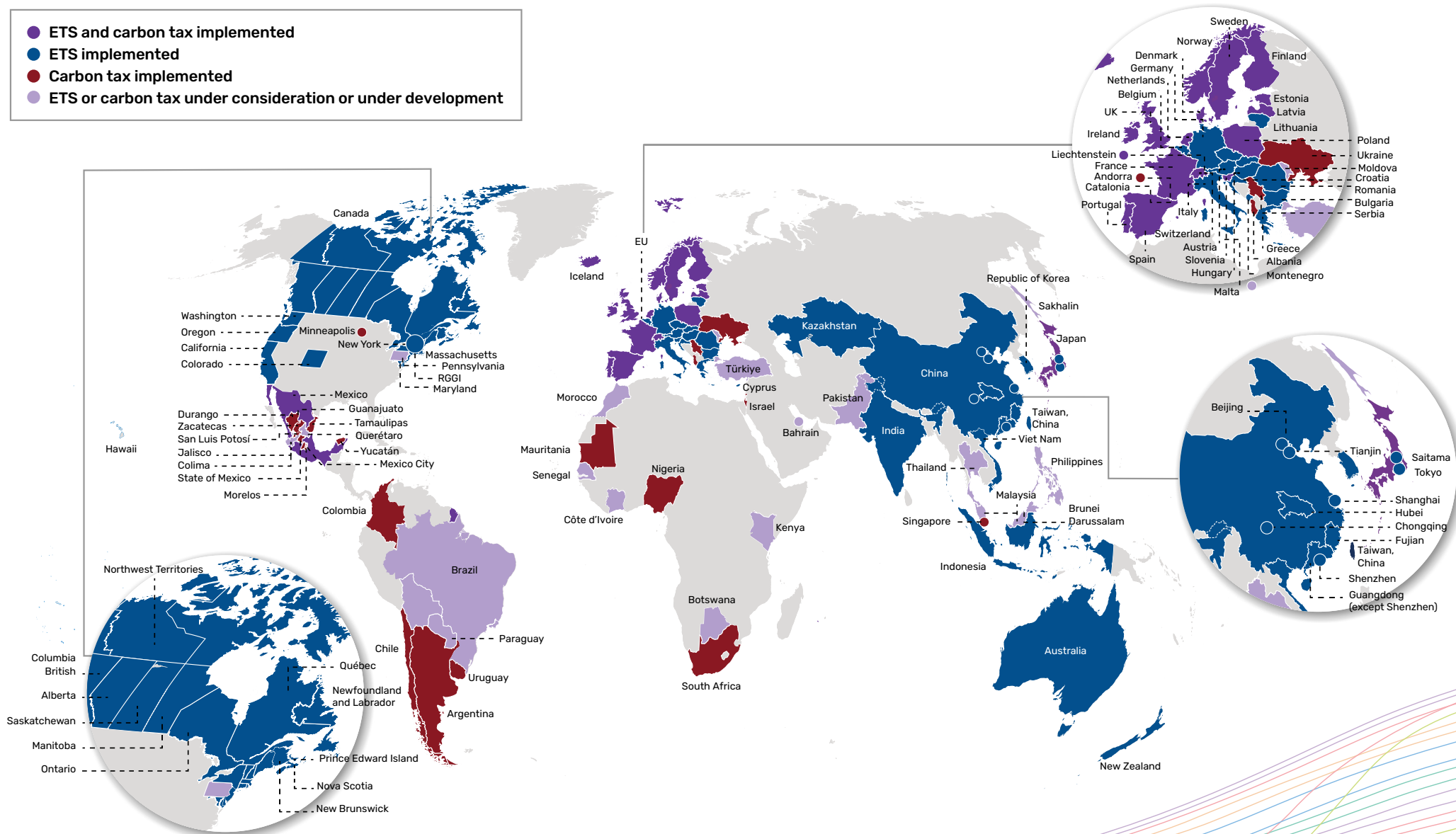
Growth in ETSs is expected to continue as policies under development are implemented. As discussed below, potential growth in carbon pricing coverage is largely from ETSs, (see world map below, Figure 3) with significant policies being developed in Brazil, in the EU (EU ETS 2), and Viet Nam. In addition, Malaysia and Thailand could potentially augment their planned carbon taxes with an ETS.

FIGURE 2 Comparing carbon taxes and ETSs in the past 10 years



Source: World Bank analysis.



FIGURE 3 Map of ETSs and carbon taxes implemented, under consideration or under development¹⁵

Newly implemented ETSs in India and Japan are among the world's largest in terms of emissions covered. Under India's Carbon Credit Trading Scheme (CCTS), compliance mechanism is a baseline and crediting based trading system for hard-to-abate sectors currently covering eight emission-intensive sectors. The scheme is built on Perform Achieve and Trade (PAT) Scheme which is a flagship energy efficiency program in India that reduces energy consumption in energy-intensive industries through a market-based trading mechanism. Under the this mechanism of the CCTS, obligated entities are notified with the annual Greenhouse gas Emission Intensity (GEI) targets for the defined trajectory period. The Obligated Entities that overachieve their targets are issued Carbon Credit Certificates (CCCs), which can be sold to other Obligated Entities who needs to comply with their emission norms standards. Currently, seven sectors covering 490 industries have been notified with their GEI targets for the year 2026 and 2027, with an estimated coverage of approximately 477 million tCO₂e.¹⁶ Importantly, the CCTS is set to expand to include the iron and steel sector, which has not yet received emissions intensity targets. An initial trading period for market participants is expected to take place later in 2026. Japan's GX-ETS entered its second phase on April 1, 2026 and now mandates participation from over 700 companies, covering over 50 percent of Japan's national GHG emissions, or approximately 524 MtCO₂e. The GX-ETS will cover many of the fuels and activities already included in its national carbon tax. Allowances will be freely allocated to participants until auctions commence in 2033. Only China's National ETS, the EU ETS and the Republic of Korea's ETS cover a larger amount of GHG emissions in absolute terms than India or Japan's national ETSs.

Domestic ETSs and carbon taxes cover 29 percent of global GHG emissions (Figure 4). The net increase in global coverage over the past year is approximately 625 million tCO₂e or 1.2 percent of global GHG emissions. Most of this increase reflects the commencement of ETSs in India and Viet Nam. In Viet Nam, liabilities under the ETS will apply to 2025 GHG emissions; it is therefore also included in the 2025 global coverage estimate. Importantly, the global coverage estimate is adjusted to account for overlap between existing systems, to avoid double counting. This includes where jurisdictions (national and subnational) cover the same emission sources or where a jurisdiction has implemented multiple carbon pricing instruments

(for example, a carbon tax and an ETS). Importantly, Japan's GX-ETS applies to activities and emission sources that are already covered by existing carbon pricing instruments—both the national carbon tax on fuels, and subnational ETSs in Tokyo and Saitama. The global coverage estimates account for these cross-policy overlaps and therefore newly implemented instruments may not lead to an increase in global totals, where the new instruments overlap with existing policies.

The success of carbon pricing counteracts its uptake—emission reductions can reduce the proportion of global GHGs covered. The introduction of new carbon pricing instruments (and the expansion of existing ones) increases the proportion of global GHG emissions covered. However, this growth is counterbalanced by the emission reductions that these policies are designed to deliver. Effective carbon pricing incentivizes businesses to cut emissions, and this over time reduces the total volume of emissions being covered from those sources – which, all else equal, reduces the share of global GHGs subject to a carbon price. As an example, a declining cap in an ETS highlights the emission reductions being delivered by the instrument. This is the case in California, which reduced emissions from facilities covered by its cap-and-invest program from 324 MtCO₂e in 2016 to 256 MtCO₂e in 2024—a decline of over 21 percent in just eight years.¹⁷ Similarly, sectors covered by the EU Emissions Trading System reduced their GHG emissions by approximately 1.3 percent in 2025 compared to the previous year.¹⁸ In short, a shrinking share of globally covered emissions can itself be a marker of efficacy.

While the EU Carbon Border Adjustment Mechanism (CBAM) applies to less than one percent of global GHG emissions, it continues to be a driver for policy reforms. The EU's CBAM began applying a carbon price to emissions embedded in select imports (see Box 2) in January 2026. Early estimates suggest that the embedded GHG emissions of EU imports covered by CBAM were approximately 171 MtCO₂e, which equates to approximately 0.3 percent of global GHG emissions.^{19,20} Although the EU CBAM's coverage is small, it is driving other countries to consider their own carbon pricing instruments or border carbon adjustments (see Box 2).



BOX 2 Carbon Border Adjustment Mechanisms (CBAM) and exporter country responses

The EU CBAM entered its definitive phase in 2026, applying a carbon price to the emissions embedded in imports of selected goods into the EU from third countries.²¹ From 1 January 2026, importers of CBAM goods face a carbon price comparable to that paid by producers covered by the EU ETS by surrendering CBAM certificates. CBAM declarants (importers) will be required annually (by 30 September the year following imports) to declare the embedded emissions in the CBAM goods to EU authorities and surrender CBAM certificates covering those emissions. The EU CBAM includes provisions to allow for carbon prices already effectively paid in a third country to be deducted from the CBAM financial obligation.²² There are initial discussions but no formal agreement, at the time of writing, on whether credits generated under Article 6 (Paris Agreement) could be used to reduce CBAM obligations, based on the monetary value paid for the credits.²³ The financial obligation will be gradually phased in during 2026 to 2034, with reductions in certificate obligations reflecting the extent to which EUAs are allocated free of charge in installations (industrial facilities) producing CBAM goods within the EU.

The EU CBAM currently only covers a relatively small portion of global trade, but it can be material for some countries. Based on 2023 World Bank analysis, global trade valued at US\$ 113 billion would be impacted by CBAM. This translates to 4.2 percent of the US\$ 2.7 trillion of total EU merchandise imports from non-EU countries and represents 0.5 percent of global merchandise exports (US\$ 22.5 trillion).^{24,25} The expected impact will be larger for individual countries and sectors. For example, the CBAM Trade Exposure Index, developed by the World Bank, identifies the level of exposure to CBAM for industries at a country level, in terms of their expected CBAM certificate costs.²⁶ If a country's emissions intensity exceeds that of EU producers, its exports lose

competitiveness in the EU market. Conversely, having a lower emissions intensity than EU producers can boost a country's export competitiveness.

Despite its relatively low coverage of traded goods, the EU CBAM has created a motivation for carbon pricing globally, especially for EU trade partners. For example, EU candidate countries such as Albania have recently taken steps to implement their own carbon pricing. Albania has amended its legislation on the carbon tax of coal to better reflect the carbon content, with a gradual increase in rates up to 2030, aligning more closely with prevailing EU ETS prices. Beyond Europe, the Malaysian government has previously cited alignment with EU CBAM as a rationale for its forthcoming carbon tax on industry.²⁷

Other countries continue to examine the potential to implement their own border carbon adjustment (BCA) instruments. The UK CBAM is expected to enter into force in 2027, with a similar framework to the EU CBAM. Based on 2023 data, trade valued at approximately US\$ 26 billion would be impacted by UK CBAM. This translates to 3.5 percent of the US\$ 747 billion of total UK merchandise imports from non-EU countries, and represents 0.1 percent of global merchandise exports. Serbia's recently passed carbon tax is accompanied by its own BCA for imports such as aluminum, cement, fertilizer and steel from companies above a compliance threshold. California's recent updates to its cap-and-invest program include a provision to examine the potential introduction of BCA on imports into the state. Thailand's recent Climate Change Act (approved in principle by the Cabinet in December 2025) explicitly includes a provision to enable BCA as part of its broader climate policy framework. Similarly, policy makers in Australia, Canada and Taiwan, China are considering potential BCA for imports of select goods.



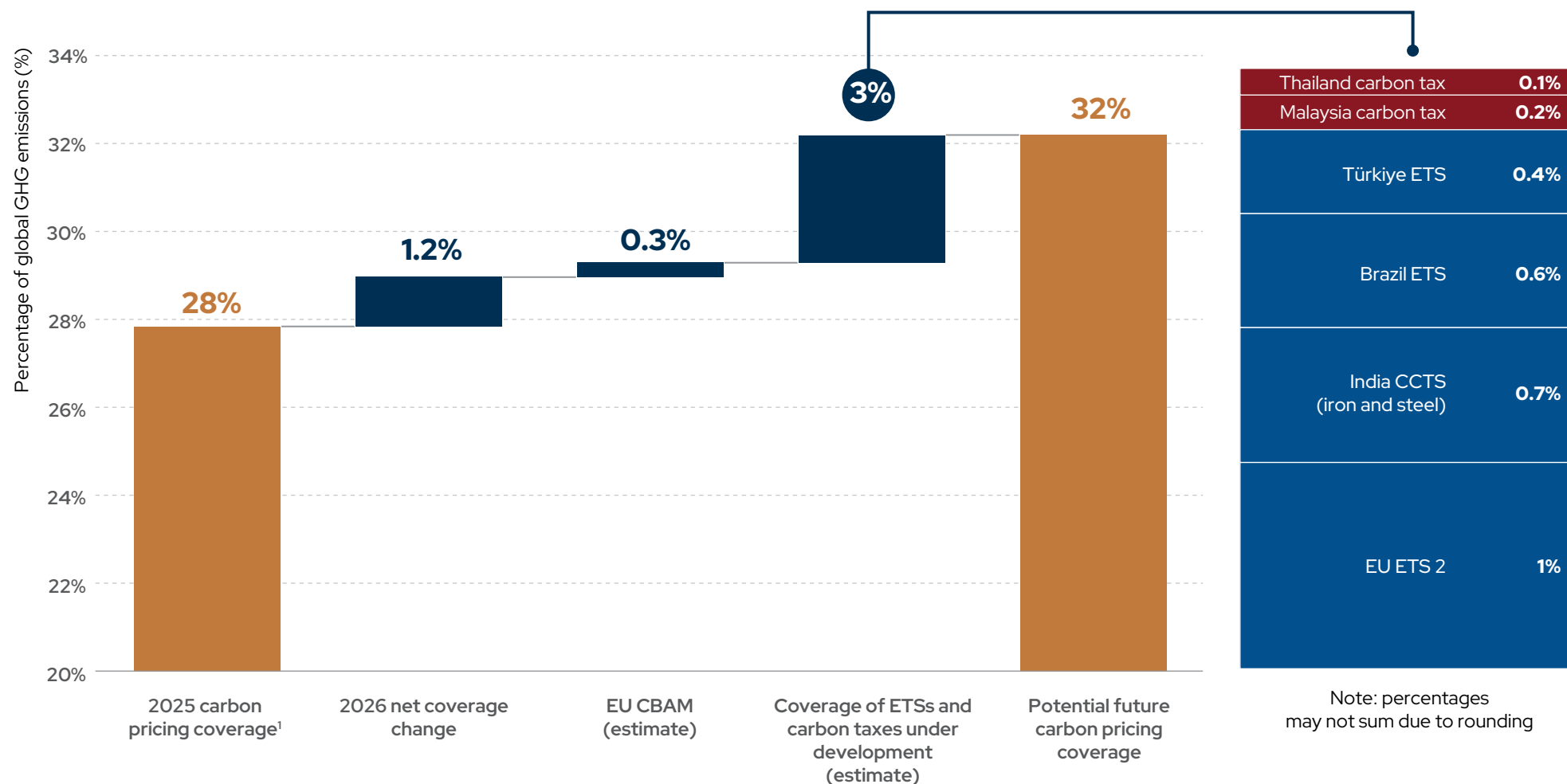
Nearly one-third of global GHG emissions could be covered by carbon pricing by 2030 if planned carbon pricing instruments become operational (Figure 4).

Carbon pricing instruments are currently under development in major emerging markets and developing economies. These include planned ETSs in Brazil, Thailand and Türkiye and a carbon tax on power, iron, and steel in Malaysia, as well as the expansion of India's CCTS to include iron and steel facilities once emissions intensity targets are finalized. The roadmap to implement Indonesia's planned carbon tax on coal-fired power plants is still being developed, and the carbon tax could have significant overlap with the existing ETS. This limits its impact on global GHG emissions covered but could influence the global average carbon price (see section 2.2 below). Similarly, planned ETSs in Chile, Colombia and Ukraine

will likely overlap with existing carbon taxes implemented in each country, reducing the potential impact on global coverage. Moreover, the EU is also planning for the introduction of a second ETS focused on the buildings, road transport, small industry and construction sectors (EU ETS2). EU ETS2 will overlap with national level ETSs and carbon taxes that also apply to emissions from buildings and road transport. In many cases, the exact emissions coverage and implementation timeline for these policies has not yet been finalized. However, an initial indicative estimate of the increase from these instruments suggests global coverage could increase by approximately 1.5 GtCO₂e, or nearly three percent, if stated timelines to introduce policies by 2030 are met.



FIGURE 4 Current ETS and carbon tax coverage and estimated potential future coverage by 2030, percent of global GHG emissions



¹ Viet Nam's 0.5% ETS is implemented in 2026 but also applies to 2025 emissions

Note: Analysis does not account for potential overlaps between emissions covered by ETSs and carbon taxes and that are also subject to EU CBAM

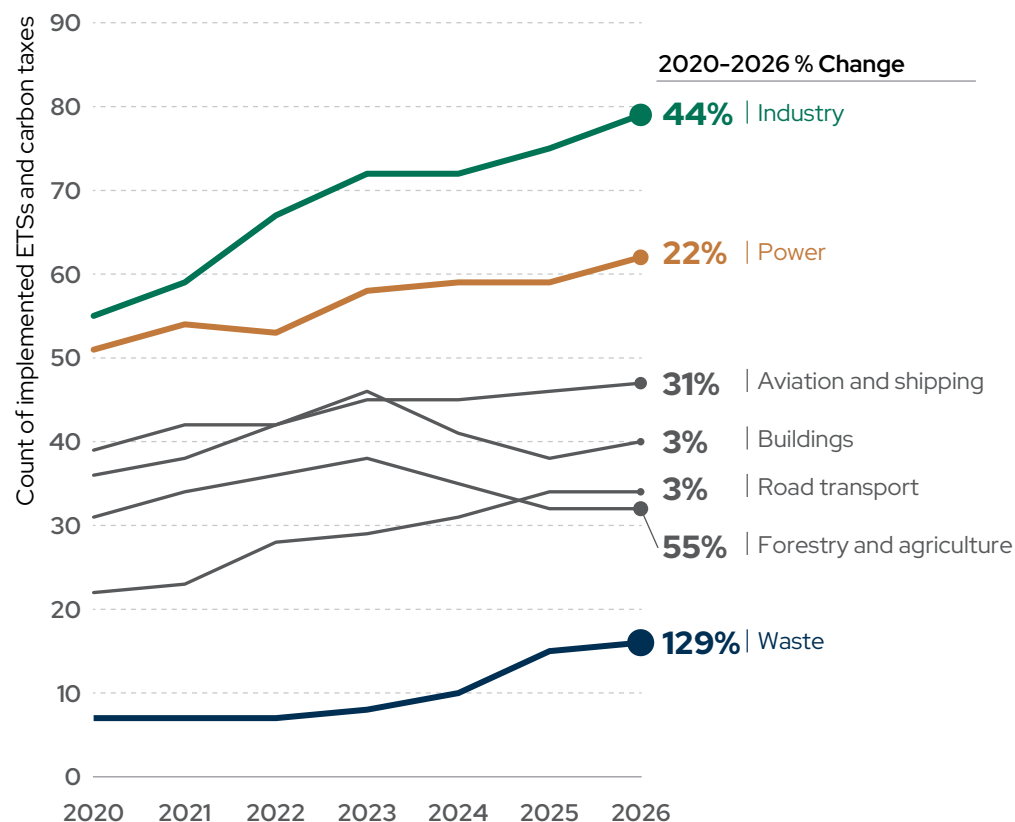
Source: World Bank analysis.



Carbon tax and ETS policy designs have diversified in recent years. For ETSs, the EU's forthcoming ETS2, whose implementation was postponed by 12 months until 2028, is designed to provide a separate price signal for fuel use in the buildings, road transport, smaller industrial facilities, and construction sectors, which are not covered by the existing EU ETS. The approach of parallel ETSs for separate sectors differs from California's, for example, where buildings and transportation fuel suppliers participate in a common cap-and-invest program alongside facilities in the power and industrial sectors. In the context of carbon taxes, a carbon price is being applied to the oil and gas industry in Nigeria. Its national flaring tax, revised under the government's Petroleum Industry Act of 2021, applies penalties to companies for gas flared or vented in their operations.²⁸ All non-routine flaring or venting is charged at a rate of US\$ 3.50 per thousand standard cubic feet. Nigeria's tax is not expressed directly in terms of GHG emissions. By contrast, Norway's carbon tax, for example, varies the tax rate depending on fuels but the rates are denominated in GHG emissions. Despite this, Nigeria's motivation for the tax is to contribute toward its 2030 goal of zero routine flaring and venting, which reduces a source of methane emissions.²⁹

Since 2020, the inclusion of industry and waste sectors by implemented carbon pricing instruments has outpaced that of the power sector (Figure 5). The number of implemented instruments covering industry grew from 55 to 70 ETSs and carbon taxes between 2020 and 2026, a 44 percent increase. This compares to 22 percent growth in instrument coverage of the power sector over the same period, from 51 to 62. This reflects both the introduction of new instruments and revisions to existing policies, such as the expansion of China's national ETS to cover industrial sectors from 2024 onwards. Forthcoming ETSs will also include industrial sectors—Malaysia's potential carbon tax, for example, is planned to include its iron and steel sectors. One potential reason for the growth in industrial sector coverage is a reaction to the introduction of EU CBAM (see Box 2), which was first proposed by the European Commission in July 2021. However, the motivation to include additional sectors is broader than that. For example, the number of implemented ETSs and carbon taxes that include the waste sector, whose emissions are not subject to EU CBAM, grew 129 percent from six to 15 between 2020 and 2026.

FIGURE 5 Change in the number of implemented ETSs and carbon taxes in each sector, 2020-2026



Source: World Bank analysis.



The increased heterogeneity in carbon pricing instruments (implemented and under development) has increased government interest in improving policy alignment and interoperability. The Open Coalition on Compliance Carbon Markets, launched at COP 30 with 18 member countries, seeks to “establish shared standards and connect different carbon credit trading systems to generate liquidity, predictability and transparency for the sector”.³⁰ This work builds on efforts—under the Joint Task Force on Climate Action, Carbon Pricing and Policy Spillovers—to support policy coordination on carbon pricing to reduce negative cross-border spillovers and close gaps on transparency, implementation and ambition.³¹ Improved alignment could take various forms, such as defining best practices for Monitoring, Reporting, and Verification (MRV) of emissions across carbon pricing instruments, noting that pursuing the formal linking of ETSs is not a stated objective for the coalition. Improved alignment has the potential to reduce administrative and compliance costs, particularly for micro, small and medium enterprises and low-capacity countries who could face multiple carbon prices as carbon border adjustments increase. Similarly, an OECD initiative to help optimize the global impact of emissions reduction efforts, the Inclusive Forum for Carbon Mitigation Approaches (IFCMA), has endorsed interoperability as a guiding principle for its work on carbon intensities. This forum of 61 members has published a report providing practical guidance to enhance interoperability between emission, MRV systems underlying carbon pricing.³²

2.2 Average carbon prices have increased for both carbon taxes and ETSs since April 2025

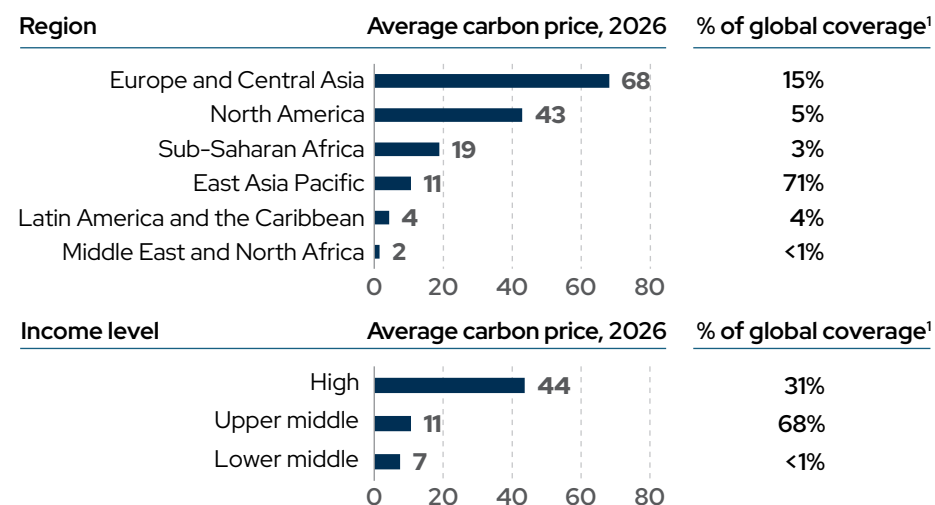
Average carbon prices have doubled over the past decade, primarily driven by allowance price increases in large ETSs (Figure 6). The average carbon price for emissions covered by an implemented carbon price rose seven percent compared to 2025 in real USD terms, reaching nearly US\$ 21/tCO₂e.³³ Average ETS prices are currently around US\$ 22/tCO₂e, a rise of 6.5 percent compared to 2025, while average carbon tax rates grew by over 11 percent, reaching around US\$ 19.50/tCO₂e in 2026. The increase in EU ETS allowance prices over the past 12 months was the largest contributor to this increase. Average carbon tax rates increased in real terms by around 11.4 percent compared to 2025 levels. Macroeconomic factors can also be at play—a strengthening of currencies in countries with high carbon prices increased their relative value in the global weighted average, for example. While average prices have doubled in real terms compared to 2026, they remain below their 2022 peak of over US\$ 25/tCO₂e. However, these price fluctuations coincided with large expansions in carbon pricing coverage—the 2026 average price is based on a coverage base that is three GtCO₂e, or five percent of global GHG emissions, larger than in 2022. For example, since 2024 China’s national ETS has expanded to include industrial sectors. The average carbon price metric provides a useful indication of progress, but it should not be interpreted as a comprehensive measure of ambition or effort.



FIGURE 6 Average carbon price for ETSs, carbon taxes, and both combined 2016–2026, US\$2026/tCO₂e

¹ Calculated as percentage of global GHG emissions covered by an ETS or carbon tax. Values exclude newly implemented ETSs in India, Japan and Viet Nam where carbon prices are not available at time of publication. Prices are as of April 1, 2026

Source: World Bank analysis.



Importantly, the quoted carbon prices only include direct carbon pricing instruments, and do not reflect price incentives provided by other instruments.

For instance, it is also relevant to consider indirect carbon pricing, such as fuel taxes, which are included in broader measures such as the World Bank's Total Carbon Price (TCP)³⁴ or the OECD's Net Effective Carbon Rate (Net ECR),³⁵ which both account for direct carbon prices, fuel excise taxes, and fossil fuel subsidies that lower pre-tax fuel prices. The TCP also accounts for value-added tax differentials, recognizing that differentiated tax rates across fuels can influence price incentives in some countries. Measuring changes in broader carbon price incentives are particularly helpful to better understand policy responses to energy price shocks. This is because they capture not only fluctuations in carbon tax rates or ETS prices but also changes in broader fuel taxes and fuel subsidies due to shifts in either policy or market prices.

Average carbon prices vary significantly by region and country income level.

Regionally, the highest levels of direct carbon pricing adoption are in Europe and Central Asia (the region includes 30 of 87 implemented ETSs and carbon taxes), and it is also the region with the highest average carbon price of US\$ 68/tCO₂e. The largest contributor is the EU ETS as the largest direct carbon price in the region, though there are national ETSs and carbon taxes with higher prices. This average price is significantly higher than average carbon prices of ETSs and carbon taxes in North America (US\$ 43/tCO₂e), Sub-Saharan Africa (US\$ 19/tCO₂e), the East Asia Pacific region (US\$ 11/tCO₂e) or Latin America and the Caribbean (US\$ 4/tCO₂e). In the Middle East and North Africa (MENA), the only implemented policy is Israel's carbon tax for around US\$ 2/tCO₂e. As expected, high-income countries have average carbon prices above peers in upper-middle income countries, US\$ 44/tCO₂e

and US\$11/tCO₂e respectively. Examples of lower-middle income countries are limited to Nigeria and Mauritania's carbon taxes and ETSs in India and Viet Nam (prices for India's and Viet Nam's ETSs were not available at the time of publication).

While average ETS prices increased, there was significant variation in trends of individual ETSs (Figure 7).

Several European ETSs experienced price increases, including in the EU (seven percent), Switzerland (32 percent) and Austria and Germany (both 22 percent).³⁶ Beyond Europe, prices in the Republic of Korea's ETS (K-ETS) increased (64 percent), but auctioned allowance prices declined in California's cap-and-invest program by approximately one percent over the past 12 months, and by 26 percent in New Zealand's ETS. Tracking ETS allowance price changes on an annual basis fails to capture price volatility within a 12-month period, which can vary significantly. For example, allowance prices in the EU ETS have fluctuated from EUR 62–91/tCO₂e from January to April 2026 due to a range of drivers, potentially including heightened policy uncertainty and

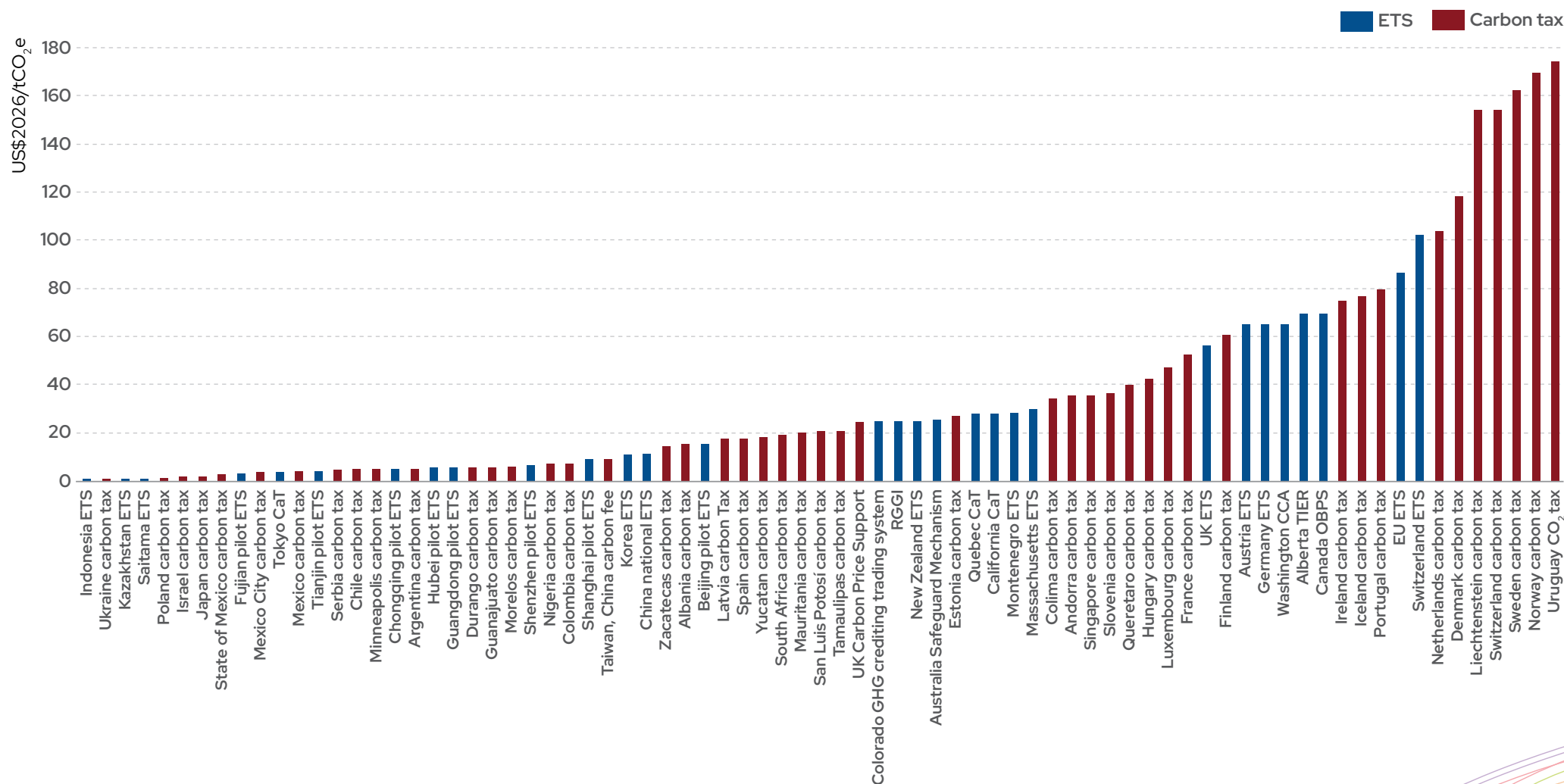
fluctuation in energy market prices.³⁷ In other instances, policy changes could contribute to rising ETS prices, such as announced plans to increase the use of allowance auctions (and therefore reduce the free allocations of permits) in Phase 4 of the K-ETS from 2026–2035.³⁸

There was significant variation in price trends across individual instruments in the 12 months prior to April 1, 2026 (Figure 2.5).

The most significant change in carbon tax rates was the elimination of Canada's federal fuel charge from April 1, 2025 onwards. Elsewhere, several European countries with tax rates above the high-income average, such as Ireland, Portugal and Sweden, maintained their nominal carbon tax rates from 2025 levels. However, there are examples of governments significantly increasing their carbon tax rates. Singapore's carbon tax, for example, increased 80 percent from SGD 25 to SGD 45/tCO₂e, and South Africa continued to increase its carbon tax with a 31 percent rise from ZAR 236 to ZAR 308/tCO₂e for 2026.



FIGURE 7 Carbon prices across ETSs and carbon taxes as of April 1, 2026



Source: World Bank analysis.



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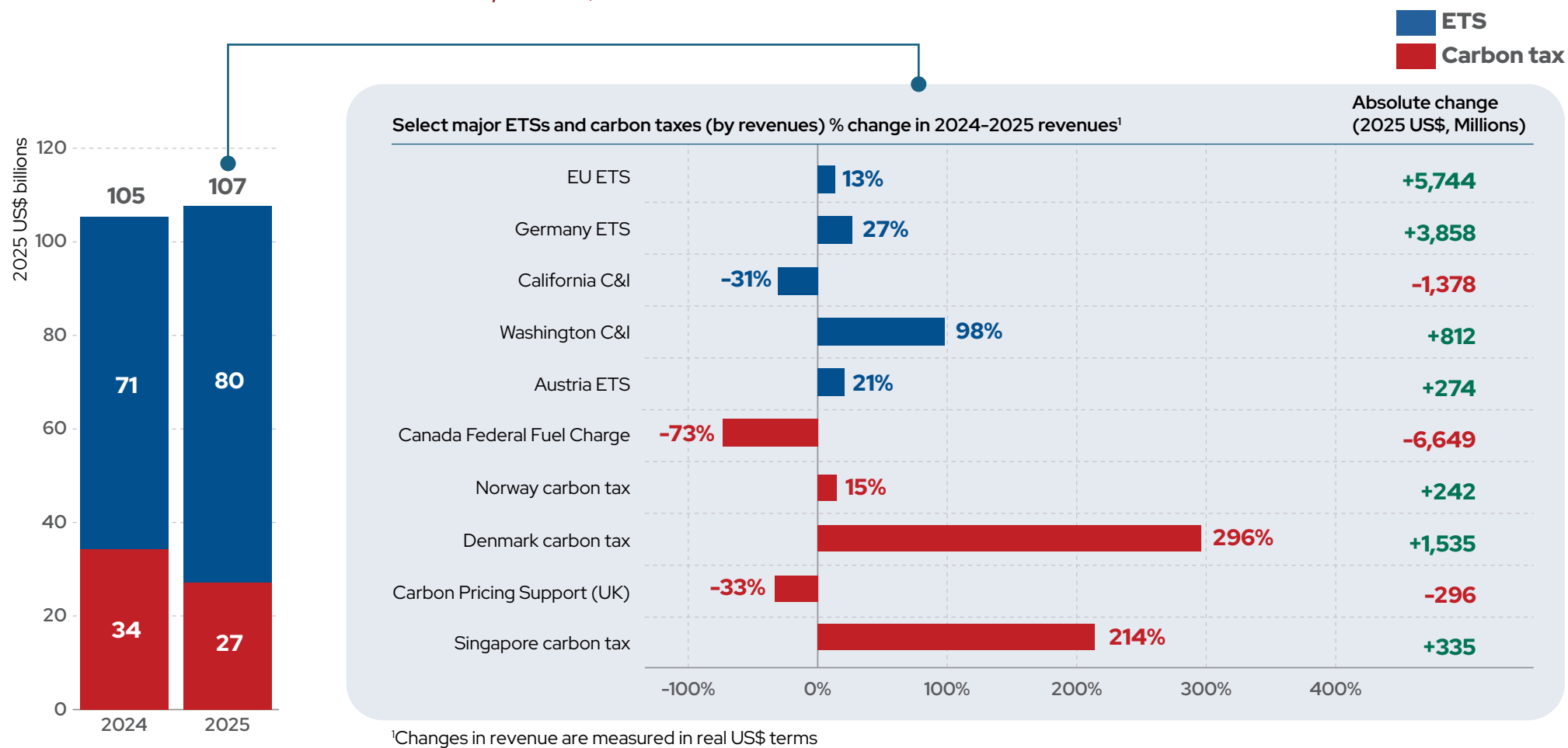
2.3 Government revenues from carbon pricing in 2025 rose by two percent to US\$ 107 billion, with ETSs contributing over 70 percent of total carbon revenues

In 2025 carbon pricing revenues reached US\$ 107 billion, an increase of around two percent from 2024 levels in real terms (Figure 8). Revenues from ETSs and carbon taxes have exceeded US\$ 100 billion, in real terms, each year since 2021. Revenues from carbon taxes decreased 20 percent to US\$ 27 billion, while revenues from ETSs increased 13 percent to over US\$ 80 billion. The largest absolute change in revenues occurred in the EU ETS, driven by increasing prices for allowances sold at government auctions. The largest contributor to the decline in carbon tax revenue was due to Canada's federal fuel charge being reduced to zero from

April 1, 2025 and therefore revenues were collected only during the first three months of the year. These developments help explain why almost three-quarters of carbon pricing revenues now come from ETSs. Viewed over the past decade, ETS revenue growth has outpaced carbon taxes (see Figure 8). These increases were not uniform across jurisdictions, however. For example, the largest relative changes in revenues occurred in Denmark and Singapore, where increased carbon tax rates generated annual revenue growth of 296 percent and 214 percent, respectively. Conversely, reduced allowance prices in California resulted in annual revenues roughly 30 percent lower than in 2024. New Zealand's allowance auctions did not receive bids at its reserve price of NZD 71/tCO₂e, which removed almost all government revenues from its ETS.



FIGURE 8 ETS and carbon tax revenues 2024–2025, 2025 US\$



Source: World Bank analysis.



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Almost all carbon revenues are raised in high-income countries and are regionally concentrated in Europe and North America. Despite around 70 percent of global GHG emissions covered by carbon pricing occurring in middle- or low-income countries, these countries generate approximately one percent of global carbon pricing revenues. There are multiple reasons for this. Carbon prices are generally lower in middle-income countries relative to high-income peers (see Figure 6). Policy design can also limit the potential to raise revenues. For example, newly implemented ETSs in India and Viet Nam do not auction allowances and therefore provide no revenue for governments (Viet Nam plans to commence allowance auctions in 2029 when the ETS is fully operational). China's national ETS similarly does not currently auction emissions allowances. Conversely, California's cap-and-invest program auctioned over 40 percent of emissions allowances in 2025, and the EU ETS auctions up to 57 percent of its allowances in its current phase (though other systems have lower use of auction, such as roughly three percent of allowances under the Republic of Korea's ETS).³⁹ Changes to allowance allocation rules can therefore change the potential for revenue collection. These examples can help explain the concentration of carbon pricing revenues in the Europe and Central Asia region, which accounted for over 85 percent of revenues in 2025, with North America, particularly subnational cap-and-invest programs in California and Washington State and Québec's cap-and-trade system, comprising a further 10 percent of total revenues.

Planned and newly operational carbon pricing instruments and border carbon adjustments are allocating a significant share of revenues to fund green investments, along with general budget support. Türkiye's ETS revenues will be allocated exclusively for special budget revenues for green transformation and climate action, though these activities have yet to be defined and all allowances are expected to be freely allocated for the initial phases of the ETS.⁴⁰ This strategy aligns with that of the EU, which in 2023 passed reforms to mandate that 100 percent of its ETS revenues be used for climate- and energy-related purposes. Revenues raised through auctions on power generators under Japan's GX-ETS will be used to redeem "GX Economy Transition" bonds, which fund domestic energy transition projects.⁴¹

In addition, discussions are ongoing at the EU level on how revenues generated through EU CBAM will be allocated, including the potential to support the EU's budget, allocations to member states or to fund a proposed Temporary Decarbonization Fund to support carbon-intensive sectors at risk of carbon leakage.⁴²

The EU and individual member states are channeling revenues toward funds with specific policy objectives, similar to approaches undertaken in North America.

The EU's Social Climate Fund, which launched in 2026, exemplifies the trend toward funding a socially just transition. The fund expects to mobilize more than EUR 86 billion by 2032, financed partially through revenues from the forthcoming ETS2 on buildings and road transport. The fund will target investments that provide direct income support or solutions such as energy efficiency and clean heating for vulnerable households and small businesses. The EU is also dedicating EU ETS revenues to its Innovation Fund and Modernization Funds, which finance the demonstration of low-carbon technologies and the modernization of energy systems. EU Member states are following a similar approach, such as Germany's Climate and Transformation Fund, which has become a central instrument for scaling up renewable energy, electrification, and industrial decarbonization. At both the supranational (EU) and member-state levels, these funds are similar to examples from North America. For example, subnational ETSs in the United States direct allowance auction revenues toward disadvantaged communities. Washington State mandates that at least 35 percent of auction revenues benefit overburdened communities, with a further 10 percent reserved for projects supported by Tribal communities.⁴³ In California, auction proceeds to its Greenhouse Gas Reduction Fund provide support for affordable housing and low-carbon transport. There are also examples of innovation funds, such as the technological innovation fund in Alberta, where CAD 2 billion (US\$ 1.4 billion) in revenues from its Technology Innovation and Emissions Reduction (TIER) regulation were allocated to fund deployment of low-carbon technologies between 2009 and 2022.⁴⁴ In concert, these developments demonstrate a model where carbon pricing revenues are institutionalized to align with a government's broader economic, social and industrial policies.



Governments are changing their carbon pricing policies in ways that could affect future potential revenues. For example, the EU ETS currently plans to reduce the number of freely allocated allowances to industry participants between 2026 and 2034, which would increase the potential revenue available through allowance auctions. Similarly, the UK's planned introduction of a CBAM on imports of aluminum, fertilizer, hydrogen and iron and steel sectors from 2027 will be paired with a gradual

phase-out of free allowances for these sectors. There are also measures that support participants in carbon taxes that have revenue implications: Serbia's carbon tax, for example, will permit electricity generation facilities to receive a tax credit for 20 percent of eligible investments in approved measures that reduce their emissions, up to a maximum of 80 percent of their calculated tax liability.⁴⁵



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Carbon crediting mechanisms

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Carbon crediting mechanisms

Carbon credit markets saw a slight decline in total credit retirements, a steady rise in credit issuances, and minor reductions in carbon credit prices. Behind the global aggregates, however, is a more nuanced picture. Credit retirements for voluntary purposes held steady, and the yearly decline is mainly attributable to compliance retirements, particularly in California. The largest year-on-year increase in credit issuances were industrial processes and forestry and land use projects. Credit prices vary not only based on the project type but other factors, such as their potential end-use, whereby CORSIA-eligible credits continued to display price premia. There's growing evidence that higher-rated projects attract higher prices.

3.1 The universe of carbon crediting frameworks is expanding, with credits increasingly eligible for overlapping use cases

There are three sources of supply for carbon credits—governmental, independent and international crediting mechanisms. In each case, the mechanisms enable activities to be credited based on the reduction or removal of greenhouse gas emissions achieved.

- **Governmental crediting mechanisms:** These are administered by one or more national or subnational governments. Examples of such mechanisms include the Thai-VER scheme, the Californian Compliance Offset Program, and the Australian Carbon Credit Unit Scheme.
- **Independent crediting mechanisms:** This category includes mechanisms administered by nongovernmental organizations. Examples include Verra's Verified Carbon Standard (VCS) and Gold Standard.
- **International crediting mechanisms:** These are administered or managed by an international organization established with the authority of national governments,

such as UN agencies. The principal international crediting mechanism is the centralized Paris Agreement Crediting Mechanism (PACM), established under Article 6.4 of the Paris Agreement.

Retirements of carbon credits could occur across four categories: These are voluntary use, domestic compliance, achieving Nationally Determined Contributions (NDCs), and international compliance.

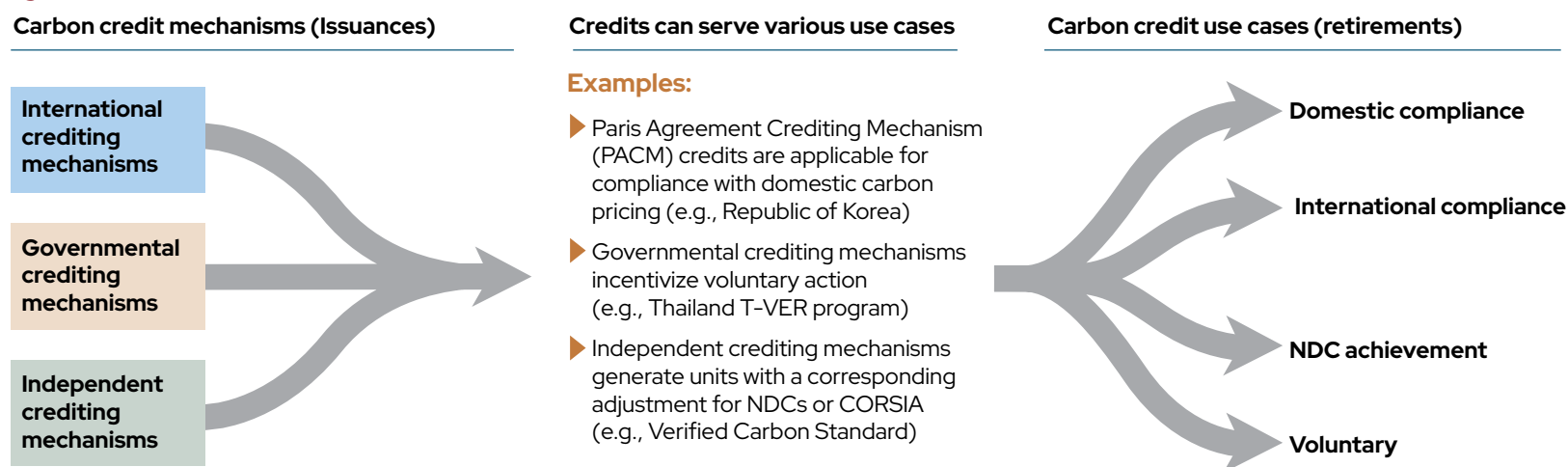
- **Domestic compliance:** This consists of liable entities under mandatory compliance schemes, such as ETSs and carbon taxes, being allowed to purchase carbon credits to meet a portion of their compliance obligations. Examples include liable entities purchasing credits for compliance with Colombia's carbon tax, the Republic of Korea's ETS, and California's Cap-and-Invest Program.
- **International compliance:** CORSIA, introduced by the International Civil Aviation Organization, is currently the only international sectoral compliance system. CORSIA requires covered airlines to offset the growth in their CO₂ emissions beyond 2019 levels by purchasing carbon credits issued by approved crediting mechanisms.
- **NDC achievement:** This refers to sovereign demand for international carbon credits (internationally transferred mitigation outcomes) authorized under Article 6 of the Paris Agreement to meet (or outperform) national climate targets (articulated through NDCs submitted to the United Nations Framework Convention for Climate Change). Examples of sovereign buyers include Japan, Singapore and Switzerland.
- **Voluntary:** This involves private entities purchasing carbon credits to meet voluntary mitigation commitments. These commitments include corporate net zero targets and other voluntary climate or environmental claims.



Carbon credits supplied through crediting mechanisms can therefore potentially satisfy a broad range of demand types (Figure 9), and this is expanding the market for emission reduction or carbon removal activities. For example, independent crediting mechanisms do not only serve voluntary buyers. A subset of credits issued through independent crediting mechanisms such as Gold Standard or Verra can be retired for compliance in implemented carbon taxes and ETs, including those in Chile, Colombia and South Africa, and potentially in Brazil and Türkiye once their ETs are fully implemented. The European Union has agreed to use international credits to meet up to five percent of 1990 EU net emissions toward its 2040 climate target, starting from 2036. Crediting mechanisms such as ART TREES⁴⁶ and the

World Bank-administered Forest Carbon Partnership Facility, alongside governmental mechanisms such as the Thailand Voluntary Emissions Reduction Program, are being approved by the International Civil Aviation Organization to supply to the Carbon Offsetting Reduction Scheme for International Aviation (CORSIA), conditional on meeting additional requirements such as a corresponding adjustment from the host country.⁴⁷ Finally, credits generated by the newly operational PACM could be retired for voluntary corporate claims, in addition potentially helping buyer countries achieve their NDCs (contingent on authorization from the host country). Carbon credits that meet certain conditions can therefore access multiple demand sources.

FIGURE 9 **Crediting mechanisms and use cases for carbon credits**



It is important to note that retirements do not necessarily reflect current-year demand for carbon credits. Retirement figures do not always reflect demand in the same year. While retirements are a useful indicator, credits purchased in a given year may not be retired until a later date—meaning annual retirement data can lag behind actual buying activity. This lag sometimes occurs when the value chain between credit issuance and final retirement involves multiple intermediaries. Final users—those who ultimately retire credits—are frequently not the first purchasers, especially among voluntary buyers. Between issuance and retirement, credits may be exchanged via agents and brokers who aggregate supply on behalf of final users, as well as traders and speculators who acquire credits for investment purposes. As a result, observed retirement volumes in any given period reflect a blend of purchasing decisions made across multiple prior years.

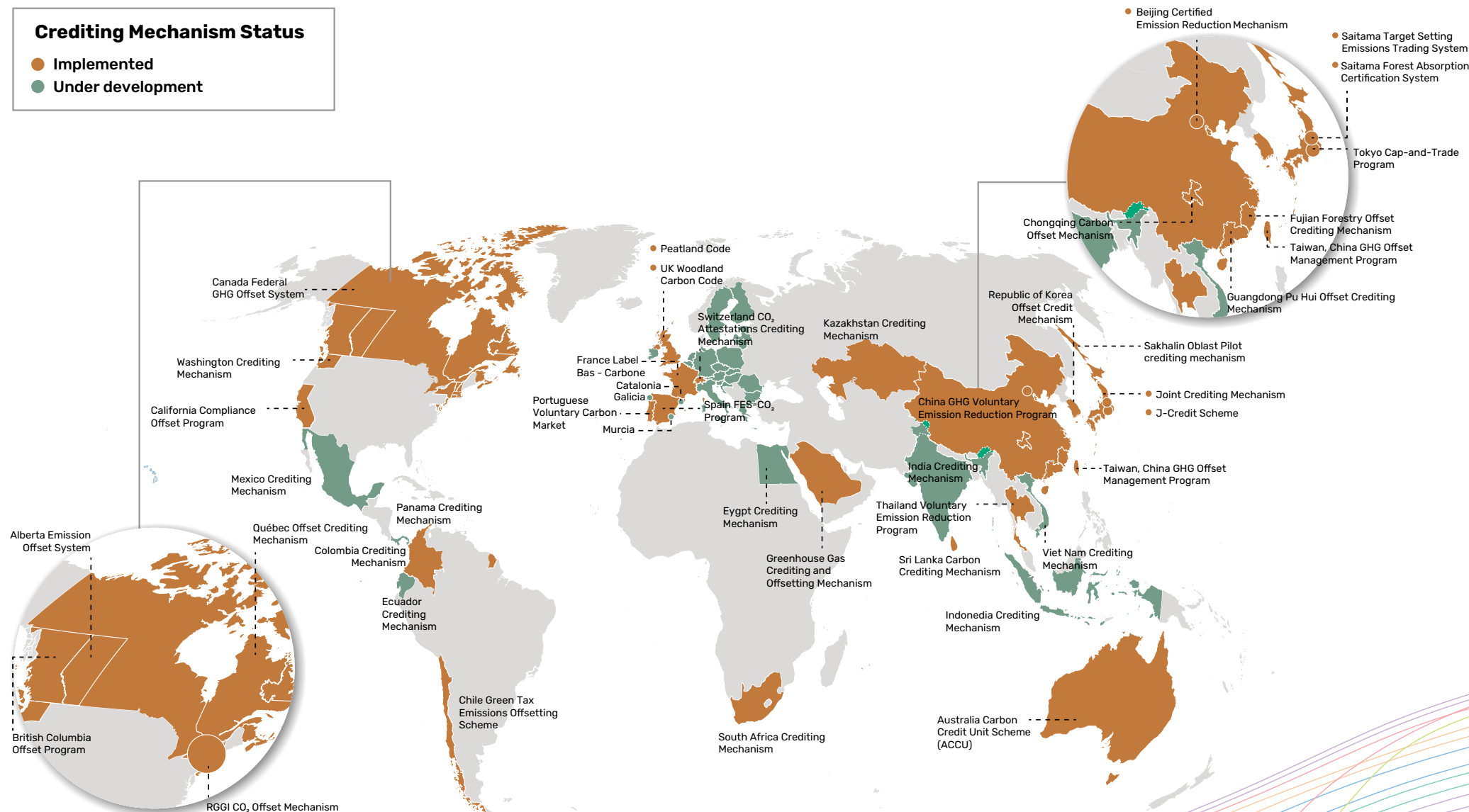
Governments and international bodies are playing an increasing role in carbon markets. Independent carbon credit mechanisms, such as ACR (formerly American Carbon Registry), Gold Standard and Verra continue to issue the most carbon credits globally. However, governments are engaging both by administering their own crediting mechanisms that issue credits and by integrating carbon credits into domestic carbon pricing policies including ETS and carbon taxes. Governments are also engaging internationally under Article 6 of the Paris Agreement to manage transfers that contribute toward meeting NDCs and other international mitigation

purposes, including potentially the European Union after 2030 (see Box 3). In parallel, governments and private initiatives are increasingly converging around the development of verification systems aimed at ensuring emissions data are robust, comparable and credible.⁴⁸

There are 34 governmental crediting mechanisms currently implemented globally (Figure 10). There are also 11 mechanisms under consideration or under development. This includes crediting mechanisms in countries that are also developing carbon pricing mechanisms. For example, India's Carbon Credit Trading Scheme (CCTS) has both a compliance mechanism, the emission intensity-based ETS discussed in the previous chapter, and an offset mechanism, where entities from a list of 10 approved sectors can generate Carbon Credit Certificates (CCCs). Both mechanisms are part of the same legislative framework (the CCTS) and are administered by the same authority, (the Bureau of Energy Efficiency), under the oversight of the National Steering Committee for Indian Carbon Market. While the obligated and nonobligated entities shall register and trade the CCCs on the exchanges registered by the commission for the purpose of the CCC trade under the Indian Carbon Market, no decision has been taken on whether CCCs generated under the CCTS's offset mechanism can be used toward obligations under the CCTS's compliance mechanism.⁴⁹



FIGURE 10 Map of governmental crediting mechanisms implemented or under development, as of April 1, 2026



The Paris Agreement Crediting Mechanism (PACM) is now operational. PACM is managed by the UNFCCC as a crediting mechanism to support countries to meet their NDCs. Units generated by PACM can also be used for voluntary purposes. There are two channels available for projects to be approved by PACM—a track for older Clean Development Mechanism (CDM, Kyoto era) projects to transition, and a separate process for new projects where standards and methodologies are awaiting approval. Transitioning projects must receive approval from the PACM and the host country. While the window for CDM projects to receive approval from PACM has passed, the deadline for receiving host country approval has been extended to June 30, 2026. Among the projects that have received host party approval, a clean cookstove programmatic (i.e., multi-activity) project from Myanmar has become the first to obtain provisional credit issuance under PACM (see Chapter 3.2).

Countries are advancing their policy and regulatory environment to enable scaled-up participation in international carbon markets. In their latest NDC submissions, over 100 countries have indicated their willingness to leverage international carbon markets through Article 6 (Paris Agreement) to meet their climate and development goals.⁵⁰ To this end, more countries have adopted legislation related to carbon markets in 2025, bringing the total number of countries with authorization arrangements in place or in progress to more than 50.⁵¹ That said, the form of legislation differs across these countries and each provides varying levels of detail. For example, Indonesia,⁵² Philippines,⁵³ Malaysia,⁵⁴ and Uzbekistan have each published regulatory frameworks in the past year that clarified key decisions and institutional responsibilities, processes, and eligible mitigation activities for authorizing Article 6 transfers. Some countries like Pakistan⁵⁵ and Panama⁵⁶ launched draft carbon market frameworks for public consultation which, when finalized, will be enacted as regulation. Beyond detailing oversight and approval procedures, countries like Uganda,⁵⁷ Tanzania,⁵⁸ Zimbabwe,⁵⁹ or Peru⁶⁰ have also specified fees that they intend to collect per project for registration or providing corresponding adjustments for Internationally Transferred Mitigation Outcomes (ITMOs). Viet Nam,⁶¹ and Kazakhstan⁶² each also launched carbon exchanges to promote international trading of carbon credits from projects in their jurisdictions.

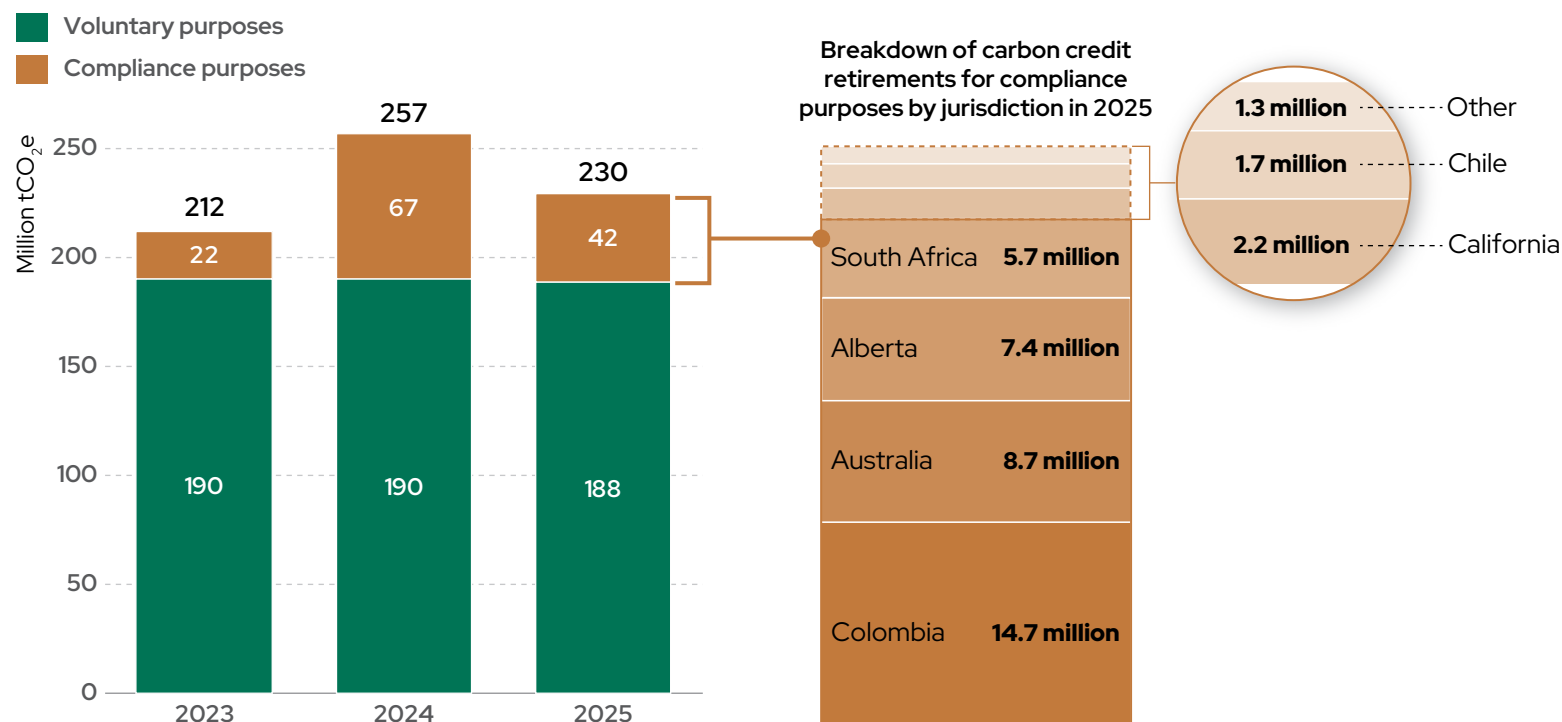
Increased alignment in market infrastructure is fostering interoperability across jurisdictions and markets. For example, under Article 6.2, which provides a pathway for bilateral trading of credits for meeting NDC commitments, host countries have the flexibility to rely on existing mechanisms and methodologies to generate credits, so long as there is agreement with buyer countries. To address potential fragmentation that may arise given this flexibility, Verra and Gold Standard alongside the Government of Singapore launched the Article 6.2 crediting protocol at COP30.⁶³ This protocol aims to streamline processes and approaches for implementation of Article 6.2 using independent crediting mechanisms and registries. In parallel, UNFCCC has commenced work on development of an Article 6.2 International Registry,⁶⁴ which is intended to support tracking, transfer and reporting of ITMOs, and could particularly be useful for countries that do not have the capacity to operate their own national registries. Implementation of this registry is expected to further promote consistency of accounting approaches and data standards across countries and enable future interoperability.

3.2 Carbon credit retirements declined in 2025, but demand for credits could increase as ETs under development become operational

In 2025 overall global carbon credit retirements declined by around 11 percent compared to 2024 levels (Figure 11).⁶⁵ Retirements for voluntary purposes remained stable, but retirements of carbon credits for compliance purposes declined by around 38 percent compared to 2024 levels. This can be attributed to California's cap-and-invest program, where retirements levels returned closer to 2023 after a single-year spike in 2024 due to companies looking to meet obligations under California's three-year compliance cycle. As a result, the share of retirements for voluntary purposes represented approximately 82 percent of total retirements in 2025, an increase from 74 percent in 2024.



FIGURE 11 Carbon credit retirements for voluntary and compliance purposes, 2023–2025



Source: AlliedOffsets and World Bank data.

Domestic compliance demand from implemented carbon pricing instruments has continued to evolve in response to these varying policy priorities. Governments typically limit the type and quantity of credits eligible for ETS and carbon tax compliance. Permitting carbon credits allow policymakers to provide flexibility for market participants, but limits on their use can maintain the incentive for covered

facilities to reduce emissions within their own boundaries. Restrictions on the types of carbon credits that are eligible for use could help manage the potential risk of nonadditional or nonpermanent credits being used to offset emissions from facilities covered by the ETS or carbon tax.



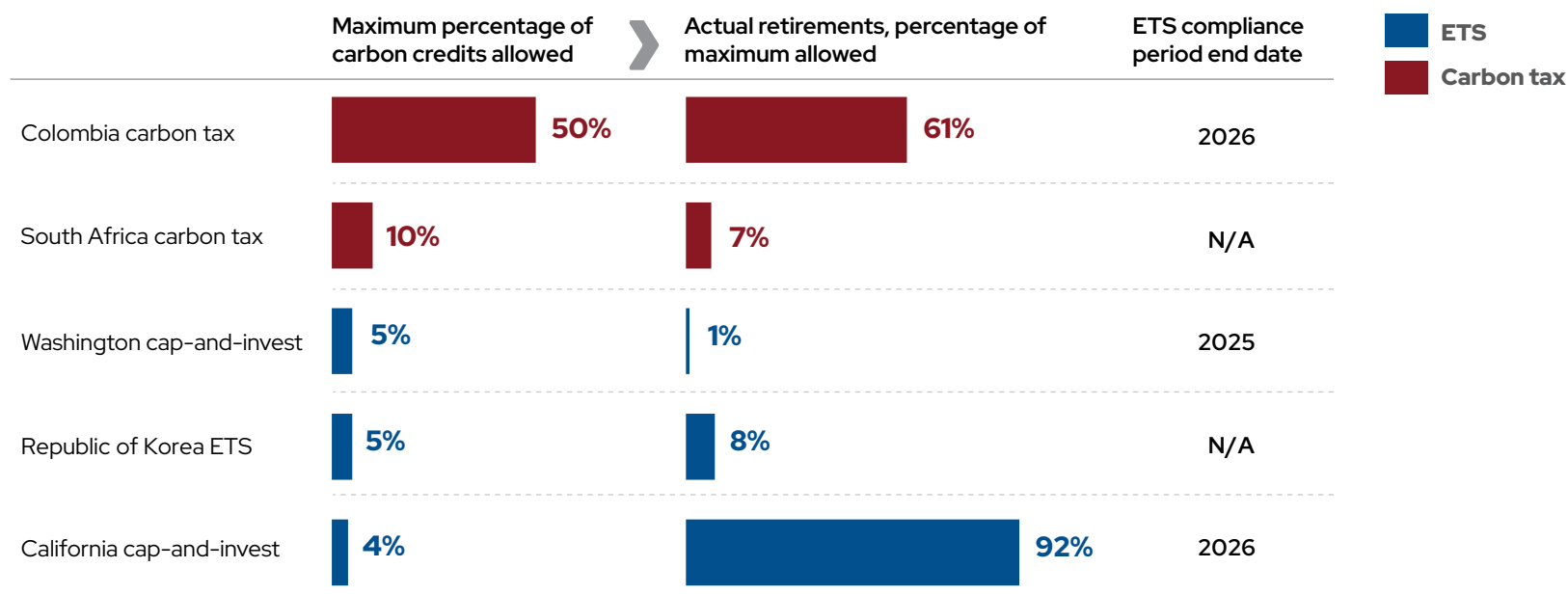
Several jurisdictions have adjusted quantitative and qualitative requirements on the eligibility of carbon credits for their carbon pricing mechanism, including:

- **California's Cap-and-Invest program**, where the legislature passed Assembly Bill 1207 to extend until 2045. Beyond providing a longer-term signal to market participants, the Bill also increased the proportion of the emissions cap that can be offset with the use of carbon credits from four percent to six percent. The Bill also introduced measures that will withdraw allowances from future emissions caps for each carbon credit retired, thereby effectively bringing offsets "within" the emissions cap rather than being accounted in addition to it.⁶⁶
- The **Republic of Korea's ETS**, which enters Phase 4 in 2026, will permit international credits that are compliant with Article 6 as part of its five percent limit for participating companies. This is similar to the situation in Singapore, which also permits international credits aligned with Article 6 to be used toward carbon tax compliance.
- The **United Kingdom** is considering the inclusion of domestically generated carbon dioxide removals in its national ETS, with potential legislation in 2028 for implementation from 2029 onwards.
- The **Regional Greenhouse Gas Initiative (RGGI)**, an ETS covering nine northeastern and Mid-Atlantic U.S. states, plans to end its offsetting program from 2027 onwards, though existing credits will remain eligible for compliance. Only one project has issued credits, totaling 48,000 tCO₂e, during RGGI's implementation.
- In **Tamaulipas, Mexico**, the existing carbon tax reformed the rules around offset eligibility. Currently, companies in the state can retire either domestic or international offsets for compliance up to a limit of 25 percent of their carbon tax obligation. However, the requirement to validate carbon credits through its Low Carbon Label process was eliminated, meaning that there is currently no formal certification process for credits, which may create legal and financial uncertainty for companies purchasing credits.

Carbon credits are allowed in some ETSs and carbon taxes up to a quantitative limit, but historically carbon credits are retired at a level lower than the maximum permitted (Figure 12). In recent years, the biggest source of compliance demand has been from entities with obligations within the California cap-and-Invest program and the Colombian tax jurisdictions. Other systems also allow carbon credits up to a legislated limit.⁶⁷ It is important to note that in practice the use of carbon credits as offsets is often below legislated limits. Across a sample of five ETSs and carbon taxes from 2022 to 2025, actual retirements remain below the legislated maximum credits allowed. This could suggest that carbon credits are not always a price competitive option for meeting compliance obligations, or that the availability of eligible credits is insufficient relative to maximum permitted demand, and that market dynamics can limit the need for market participants to procure carbon credits. In an ETS, it is also important to note the timing of compliance periods—in the Republic of Korea's ETS, for example, it is possible that market participants will increase their carbon credit retirements in 2026 to finalize their obligations in the third compliance period from 2021 to 2025.⁶⁸ This is similar to the single-year increase in retirements in California's cap-and-invest program in 2024.



FIGURE 12 Comparison of maximum estimated theoretical demand and actual retirements for carbon credits from ETSs and carbon taxes



Note: ETS allowances and carbon credits for a given year are typically retired the following year (e.g., units surrendered for 2025 GHG emissions are surrendered during 2026).

Source: AlliedOffsets and World Bank data

Beyond currently implemented policies, there are emerging indications of additional potential demand. For example, the legislation establishing a national ETS in Brazil provides a framework for liable entities to potentially use credits to offset compliance liabilities. The potential inclusion of credits, their eligibility, and the permitted level of use are still under consideration by the government of Brazil. Türkiye has also signaled the potential for domestic carbon credits to be eligible to offset up to 10 percent of ETS obligations, but this will not be permitted during the pilot phase, which is expected to commence in 2026. Another source of

emerging demand is from EU member states to meet the bloc's 2040 climate target. The EU Parliament and the Council have approved use of up to five percent of 1990 EU net emissions to be met through purchase of credits from 2036–40; these will need to be compliant with Article 6 and any additional EU criteria. It has not yet been decided whether these credits may be used to meet EU ETS obligations (Box 3).

BOX 3 European Union NDC and international credits

Modifications to the EU's climate targets include a role for carbon credits sourced internationally. In December 2025, EU member states reached a political agreement to amend the existing European Climate Law by setting an objective of reducing net EU emissions by 90 percent compared to 1990 levels. Up to 5 percent of this reduction can be met using eligible international carbon credits that meet EU quality criteria. In March 2026, the European Council formally adopted this amendment to EU climate law.⁶⁹ Credits would be eligible from 2036–2040, with a “pilot” program for procuring international credits from 2031–2035. One estimate of potential demand by European think tank Climate and Company estimates approximately 932 million credits between 2036 and 2040 (there is however a high degree of uncertainty in projecting total demand for credits).⁷⁰

Under the agreement, credits sourced internationally through Article 6 of the Paris Agreement can be used to achieve the EU's climate target. The eligibility of these credits to be used for compliance under the EU ETS, or forthcoming EU ETS 2 for buildings and road transport, has not yet been determined. Implementing acts will set out detailed governance arrangements for the EU's procurement of international credits, including eligibility criteria.

Carbon Dioxide Removals (CDR) from projects within the European Union could also be integrated into the EU ETS, with a review and decision expected later in 2026. If permitted, CDR credits that are “permanent” would be eligible to compensate for remaining emissions covered by the ETS. In February 2026 the European Commission announced that three methodologies for carbon removal—direct air capture with carbon storage, Biogenic emissions capture with carbon storage, and Biochar carbon removal— have been adopted under the EU's Carbon Removal and Carbon Farming regulation.⁷¹

The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) has commenced its first phase, but credit retirements remain low.

CORSIA completed its voluntary pilot phase in 2023 and is currently in its first phase for 2024–2026 emissions. Purchasing carbon credits is one compliance pathway available for airlines to meet their CORSIA obligations, along with energy efficiency improvements, sustainable aviation fuels and other measures. According to S&P Global Energy, collectively airlines face approximately 150 MtCO₂e in cumulative offsetting requirements during Phase I of CORSIA, and the International Air Transport Association estimates 150–240 MtCO₂e of cumulative demand in Phase I. Operators are expected to opt to comply primarily by cancelling CORSIA Eligible Emissions Units (EEUs).⁷² However, according to S&P Global Energy's outlook, eligible EEU supply may be insufficient to meet demand by the January 2028 compliance deadline.⁷³ CORSIA has approved 10 crediting mechanisms⁷⁴ to supply EEUs for the first phase.⁷⁵ Twenty-five crediting mechanisms have also already submitted applications to ICAO to secure eligibility to supply CORSIA's second compliance phase (2027–29).⁷⁶ However, to date, only three airlines, All Nippon Airways, Singapore Airlines and Japan Airlines, have retired EEUs, with a total volume of only 331,100 tCO₂e.⁷⁷ This can be partly attributed to the limited availability of correspondingly adjusted credits in the market (see Figure 16 in section 3.3 below). Future purchases and retirements may rise, but uncertainty over CORSIA enforcement by national regulators may also be dampening current demand.

Guidance for corporate buyers on retiring carbon credits as part of their voluntary climate commitments remains dispersed across initiatives.

Over the past few years, voluntary decarbonization initiatives on corporate use of carbon credits have attempted to move toward greater clarity. There are various potential standards for corporate use of carbon credits. First, the Science Based Targets Initiative (SBTi), which released a revised consultation draft of its corporate net zero target standard in November 2025 to potentially provide recognition for addressing Scope 1, 2 and 3 emissions through credits.⁷⁸ Second, the Voluntary Carbon Markets Integrity Initiative (VCMI), which published its updated code of practice for making corporate claims that include retiring carbon credits.⁷⁹ Thirdly, the International



Organization for Standardization (ISO), which is developing a standard for net zero aligned organizations that includes potential guidance on using carbon credits. ISO also announced a partnership with GHG Protocol to harmonize standards for GHG accounting and reporting.⁸⁰

The absence of universal guidance has prompted new government-led initiatives aimed at increasing confidence among voluntary buyers. For example, the Carbon Credit Charter,⁸¹ the Guidance on Role of Carbon Credits in Corporate Decarbonization,⁸² and the Principles for Voluntary Carbon and Nature Market Integrity⁸³ (published by the governments of France, Singapore and the United Kingdom respectively) address similar core principles, albeit in varying detail: namely that carbon credits should complement rather than substitute internal emissions reductions; that credits should meet defined standards of additionality, permanence, and verifiability; and that companies should disclose their credit use transparently as part of a broader decarbonization plan. Though each is voluntary, their convergence reflects a degree of alignment among major economies on how responsible corporate credit use should be approached. Building on these efforts, the Coalition to Grow Carbon Markets— comprising Canada, France, Kenya, New Zealand, Panama, Peru, Singapore, Switzerland, the UK, and Zambia—launched its shared principles for growing high-integrity use of carbon credits at COP 30 on November 4, 2025 (Indonesia has since then joined the Coalition). The principles aim to support national governments in developing policies that provide companies with greater clarity on how carbon credits can be used.⁸⁴

The increase in the volume and value of offtake transactions signal a pipeline of future demand for carbon credits, particularly carbon removals. Offtake agreements are long-term contracts where buyers commit to purchasing a set

volume of future carbon credits (either directly from developers or indirectly via funds), though they are not a guarantee that projects will be fully implemented. Whereas retirements are a proxy to understand contemporaneous demand (noting that credits bought in a particular year may not necessarily be retired the same year), offtake agreements give a potential indication of future demand. They also indicate that credit buyers are increasingly engaging upstream in the carbon credit process (prior to project implementation) rather than downstream (after credits have been issued to a project). Assuming full delivery, offtake agreements in 2025 totaled commitments to procure an estimated 158 MtCO₂e in future years, a four-fold increase from the previous year, and nearly 70 percent of total credit retirements in 2025.⁸⁵ In terms of value, offtake agreements signed in 2025 are estimated to have reached US\$ 12 billion, nearly three times the 2024 total of US\$ 4.2 billion and over five times 2023 levels (US\$ 2.3 billion). Another analysis estimates US\$ 16 billion of capital committed in 2025, encompassing both the value of offtake agreements and investments toward developing carbon credit projects.⁸⁶ Engineered carbon dioxide removals (such as Bioenergy with Carbon Capture and Storage and Direct Air Capture) and nature-based removals (such as afforestation, reforestation and revegetation) projects make up a significant majority of these offtake deals: AlliedOffsets estimates that 67 percent of the value of 2025 offtakes are for engineered carbon removals, with 19 percent for nature-based removals and 14 percent for avoidance or emission reduction projects. The relatively high value of offtakes from engineered and nature-based removals is partly due to the higher cost of developing these project types compared to emission reduction projects. Pricing of engineered carbon credits is detailed in section 3.4. This growth can be mainly attributed to large corporate buyers and particularly Microsoft making forward purchasing commitments, supplemented by the emergence of new financing models (Box 4).



BOX 4: Examples of emerging financing structures for new carbon credit projects

Historically, project developers would finance up-front costs of preparing and implementing a carbon credit project through their balance sheets and recoup costs by selling carbon credits later in the project lifecycle. However, financing approaches are shifting to larger, more structured and risk-managed capital stacks with the entry of larger corporate buyers, banks and specialized funds, particularly for nature-based projects.

Examples of new financing structures include:

- Forward offtake agreements for credits at a discounted price to provide upfront capital in exchange for future delivery of credits (for example, a US\$ 200m outcome bond for a cookstove project in Ghana structured by the World Bank)⁸⁷—the developer bears delivery risk while the buyer secures price certainty and contractual priority on credit volumes;
- Strategic corporate investments where buyers needing credits also provide equity into project special purpose vehicles locking in long-term supply and prices—the buyer shares full project risk as a co-owner but gains the highest assurance of credit supply and quality through direct oversight;

- Credit facilities structured as commercial project finance investments backed by long-term offtake agreements (for example, Chestnut Carbon's US\$ 210m credit facility with Microsoft as offtaker)⁸⁸—the lender bears credit risk mitigated by the offtake contract, while the buyer gains delivery assurance through legally binding, long-term purchase agreements; and
- Carbon funds that provide equity investments and / or direct project finance to project developers and a portfolio of projects (for example, IFC-Proparco-DEG US\$ 560m investment in AXA IM Alts' Natural Capital and Impact Investments strategy)⁸⁹—risk is diversified across a portfolio of projects, with fund managers providing quality oversight and due diligence on behalf of investors and buyers.

All these financing models focus on providing upfront capital to developers while giving buyers higher assurance of delivery and quality. The differentiating factors between these models lie in who provides the capital (corporates, banks, or pooled funds), what form it takes (prepaid offtake, equity, or debt), and how performance, volume, and price risk are allocated between developers, buyers, and financiers.



Buyers across market segments are increasingly leveraging tools like integrity labels and carbon credit ratings to filter projects based on quality criteria. The emergence of labels that provide a high-level binary assessment of standards and methodologies such as the Core Carbon Principles (CCPs) of the Integrity Council for the Voluntary Carbon Market (ICVCM), and project-level risk assessment tools such as third-party ratings, means that carbon credit buyers are potentially coalescing around a set of recognized quality benchmarks. Quality labels and ratings are increasingly a core element of buyer due diligence, helping to standardize expectations of what constitutes a high-quality credit and this is driving clearer market differentiation (see Section 3.4 for more detail on price differentiation). Beyond corporate buyers in voluntary markets, sovereign buyers such as Singapore are also beginning to reference CCPs in their procurement strategies,⁹⁰ while buyers participating in CORSIA must already consider CORSIA eligibility and criteria. Together, these developments could suggest the beginning of a trend toward reinforcing growing demand for projects with higher perceived quality and enhancing their fungibility across use cases. If this were to continue, compliance and voluntary demand could increasingly converge and compete for the same pool of credits.

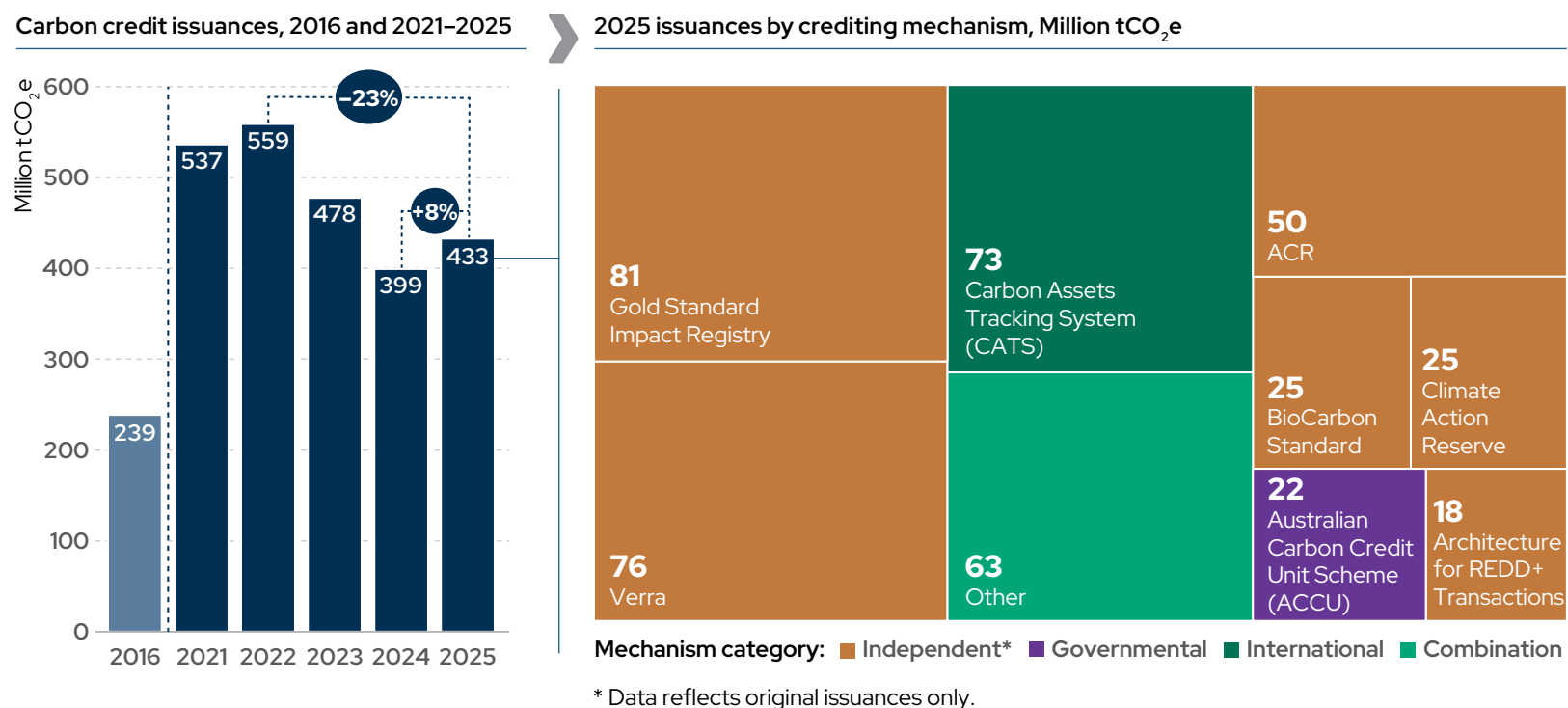
Risk allocation within carbon market transactions is also becoming more sophisticated through insurance and guarantees. While the use of these instruments remains nascent, demand for them is growing with independent mechanisms like Verra and Gold Standard mandating their purchase for projects that seek to be eligible to sell to the CORSIA mechanism (unless the project demonstrates that the host country has already applied a corresponding adjustment).⁹¹ Under CORSIA, all credits that are traded need to be accompanied by a commitment from the host country to avoid double counting by applying a corresponding adjustment. To mitigate the various risks that could prevent the delivery of these correspondingly

adjusted credits (political risks, revocation of authorization), project developers are required to secure appropriate insurance coverage. Beyond project developers, buyers and investors are also increasingly leveraging these instruments for carbon market transactions in Article 6 markets.

3.3 Carbon credit issuances grew slightly in 2025, driven by governmental mechanisms, with a future pipeline of credits to be issued through PACM

A total of 432 million credits were issued across crediting mechanisms in 2025 (Figure 13). This represents slight growth of eight percent from 2024, but issuances remain nearly 23 percent below issuance levels seen in 2022. Nevertheless, viewed over the course of the past decade, the volume of credits issued across crediting mechanisms has grown by around 85 percent. Issuances from independent crediting mechanisms, currently the largest category of crediting mechanisms by issuance, decreased in 2025 by around four percent to 306 million credits. Issuances from governmental mechanisms rose by nearly 40 percent to 53 million credits in 2025.⁹² The Australian Carbon Credit Unit (ACCU) scheme, for example, experienced a 15 percent rise in issuances from 2024 levels to reach nearly 22 million credits. Internationally, emission reduction units generated under World Bank programs increased nearly 70 percent from 25 million credits in 2024 to reach 73 million credits in 2025.⁹³ The PACM has approved the first issuance of credits under the UNFCCC-administered mechanism in March 2026. 135 existing CDM projects seeking to transition to PACM have also received approval from host countries, paving the way for more issuances through the mechanism in 2026.

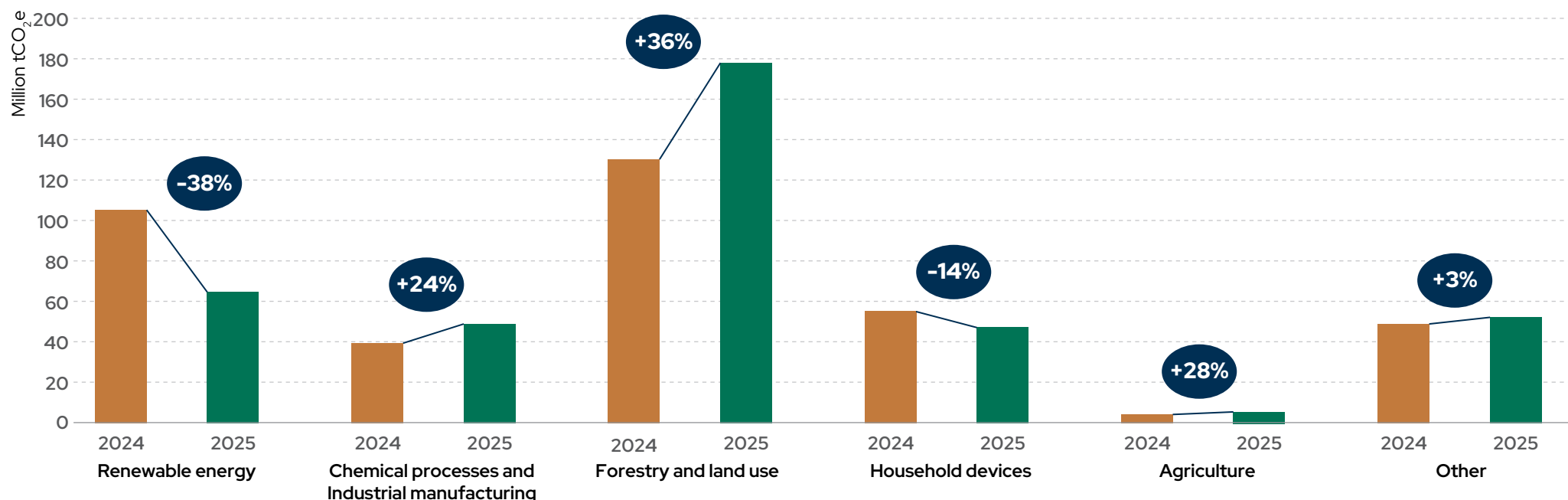


FIGURE 13 Total carbon credit issuances, 2021–2025, million tCO₂e

Source: AlliedOffsets and World Bank data

Issuances rose for land use and industrial pollutant projects but declined significantly for renewable energy (Figure 14), potentially due to concerns about credit quality. Industrial pollutants and forestry and land-use credits saw issuance grow by 24 percent and 36 percent from 2024 to 2025, respectively. However, renewable energy projects experienced a year-on-year decline of around 38 percent.

This could potentially be attributable to a corresponding decline in retirements of these projects in recent years, as well as ICVCM's rejection of several renewable energy methodologies. It may also reflect broader concerns about the additionality of projects where renewable energy has become cost competitive, along with restrictions placed on new projects by independent crediting mechanisms.

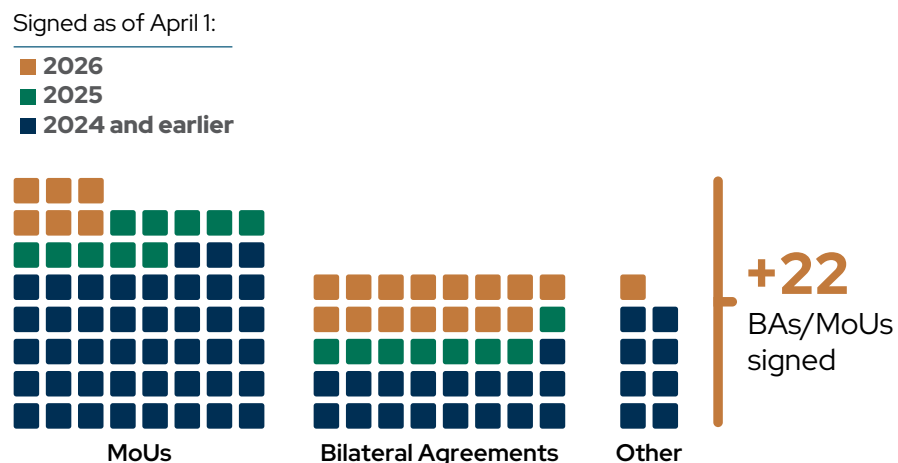
FIGURE 14 Independent crediting mechanism carbon credit issuances by project type 2024–2025, million tCO₂e

Source: AlliedOffsets data

Market approaches under Article 6 of the Paris Agreement are moving from design to implementation. At COP29, countries formally concluded negotiations on Article 6, and therefore the priorities at COP30 were to establish rules, market infrastructure and governance (Box 5). Article 6.2 witnessed a growing pipeline of agreements, either through a memorandum of understanding (MoU) or bilateral agreement,⁹⁴ where countries intend to trade ITMOs to help meet their NDCs. The total now stands at 108 agreements, with 22 additional bilateral agreements or MoUs signed since April 1, 2025.⁹⁵ The buyer countries with the highest number of agreements in place are Japan (31, conducted through its Joint Crediting Mechanism or JCM), Singapore (28), Switzerland (20), and the Republic of Korea (11).⁹⁶ The list of newly signed agreements also includes a first-of-its kind deal between Switzerland and Norway for trading engineered carbon removals.⁹⁷

However, the number of successful ITMOs transacted remains limited. To date, the instances of ITMO units transferred includes Switzerland's cooperations with Thailand in 2024, and Ghana in 2025, and two transfers under Japan's JCM for projects hosted in Maldives and Thailand in 2025. Looking ahead, Singapore recently completed two requests for proposals that led to procurement of around 2.2 million tCO₂e from projects in Ghana, Peru and Paraguay, with the actual transfer of contracted ITMOs to take place between 2026 and 2030 (Figure 15).⁹⁸ The slow transition from Article 6.2 agreements to completed transfers could have several reasons. For instance, many host countries are still assessing the implications to their NDCs of undertaking corresponding adjustments for credits under existing or prospective bilateral agreements; furthermore, several project activities are still in the design and early development phase and will only generate transferable units as operations commence.



FIGURE 15 **Bilateral Agreements (BAs) and memorandums of understanding (MoUs) under Article 6.2, as of April 1, 2026**

Note: Bilateral Agreements and MoUs arranged in order of signing date. Includes MoUs under Japan's Joint Crediting Mechanism (JCM)

Source: UNEP Article 6 Pipeline data

Of **108** BA/MoUs, to date only 4 projects have issued and transacted ITMOs, with no issuances since 2024

	Host	Buyer	Project type	Issuances (ktCO ₂ e)
1	Thailand	Switzerland	Transport	1.9
2	Ghana	Switzerland	Cookstoves	11
3	Maldives	Japan (JCM)	Energy	0.43
4	Thailand	Japan (JCM)	Energy	1

In addition to bilateral agreements, host countries are unilaterally authorizing carbon credit projects from independent crediting mechanisms for international transfer. Historically, credits generated from independent crediting mechanisms served voluntary buyers. However, through Article 6, there is a pathway for projects to generate ITMOs authorized by host governments from these independent mechanisms. These credits could be used for a range of purposes, including:

- **CORSIA:** authorized for use for Other International Mitigation Purposes (OIMP). Currently, OIMP encompasses use by aircraft operators under ICAO's CORSIA scheme, with a corresponding adjustment applied by the host country on first transfer;

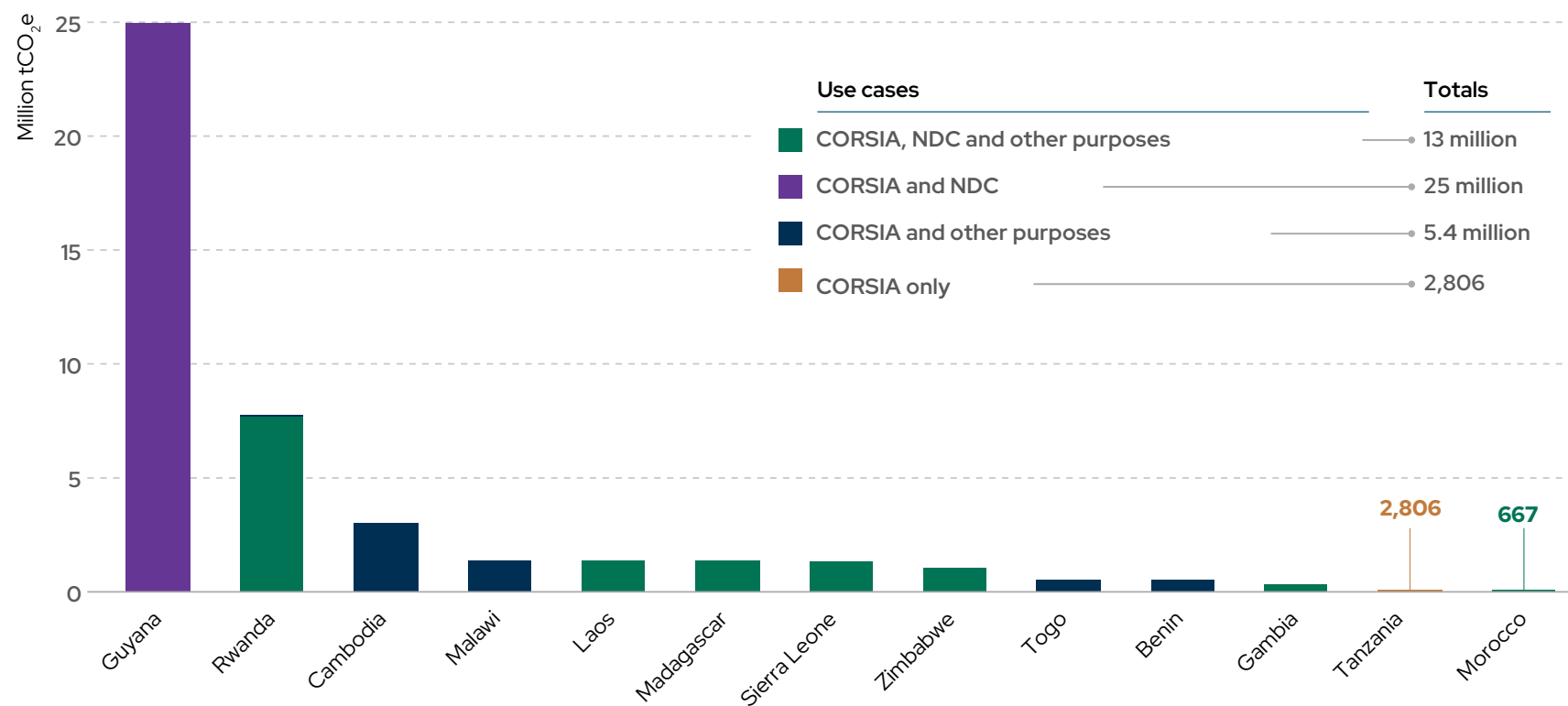
- **NDC:** authorized toward the acquiring party's NDC, with corresponding adjustments applied by both transferring and acquiring parties; and
- **Other Purposes:** authorized for additional uses determined by the first transferring Party, including voluntary carbon market or other compliance use.



Countries can specify the maximum number of credits authorized for transfer from each project in their Letters of Authorization alongside their eligible use cases (for example, NDC, and / or other international mitigation purposes such as CORSIA, voluntary mitigation). As of April 1, 2026,⁹⁹ of the approximately 270 million tCO₂e

cumulatively unilaterally authorized (maximum potential supply), around 43.5 million credits have been issued by 12 host countries (currently available supply). Figure 16 examines the composition of these issued credits, both by host country and the stated use case for the credits, which are described below:

FIGURE 16 **Unilateral authorizations under Article 6.2 by host country and approval stage, as of April 1, 2026**



¹ Credits in this stage will become eligible for Article 6.2 (NDC or CORSIA compliance, and other purposes) once a corresponding adjustment is issued

Source: AlliedOffsets data



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BOX 5 Developments on Article 6 at COP 30

The decisions at COP 29 provided clarification on Article 6, and therefore discussions at COP 30 focused on progressing rules on governance rather than reopening previous decisions. Below is a summary of key decisions reached on Article 6.2 and Article 6.4.

Article 6.2

- **Article 6.2 reporting:** Under Article 6.2 guidance, an “initial report” is a formal UNFCCC reporting instrument that a Party must submit once it is about to engage in cooperative approaches and transfer ITMOs; it demonstrates that participation requirements are met, explains how the NDC is quantified, and describes the accounting approach and tracking infrastructure for ITMOs.
- **Review of initial reports:** At COP30, the first wave of these Article 6.2 initial reports from early-mover countries was subjected to Article 6 Technical Expert Review (A6 TER). Review teams found recurrent inconsistencies in explaining how ITMOs are linked to NDC targets, how authorizations relate to national registries, and how participation would minimize negative environmental, social and economic impacts and support adaptation finance.
- **Recommendations from expert reviewers:** COP30 decisions urged review teams to spell out identified inconsistencies and set out concrete recommendations more clearly in their reports, and the secretariat was asked to organize an informal, nonpunitive dialogue at a future SB session to synthesize recurring issues and lessons learned for Parties.

PACM (Article 6.4)

- **Term limits for SB members:** Some Parties pushed to remove or relax term limits for members of the Article 6.4 Supervisory Body (SB), arguing continuity was needed as PACM moves into implementation. The final Article 6.4 decision did not remove term limits; proposals to allow members to serve more than two consecutive terms were effectively rejected, signaling that rotation and independence of SB members remain a priority for governance and environmental integrity.
- **Role of nature-based carbon in PACM:** COP30 decisions confirmed removals as eligible under PACM, covering both land-based (for example afforestation, soil carbon) and engineered removals, but with implementation conditional on robust methodologies and the adopted nonpermanence (reversal) standard.
- **CDM funds transferred:** COP30 confirmed the effective winding-down of the Clean Development Mechanism and agreed to a loan of about US\$ 26.8 million from the CDM Trust Fund to the Article 6.4 Mechanism Trust Fund.



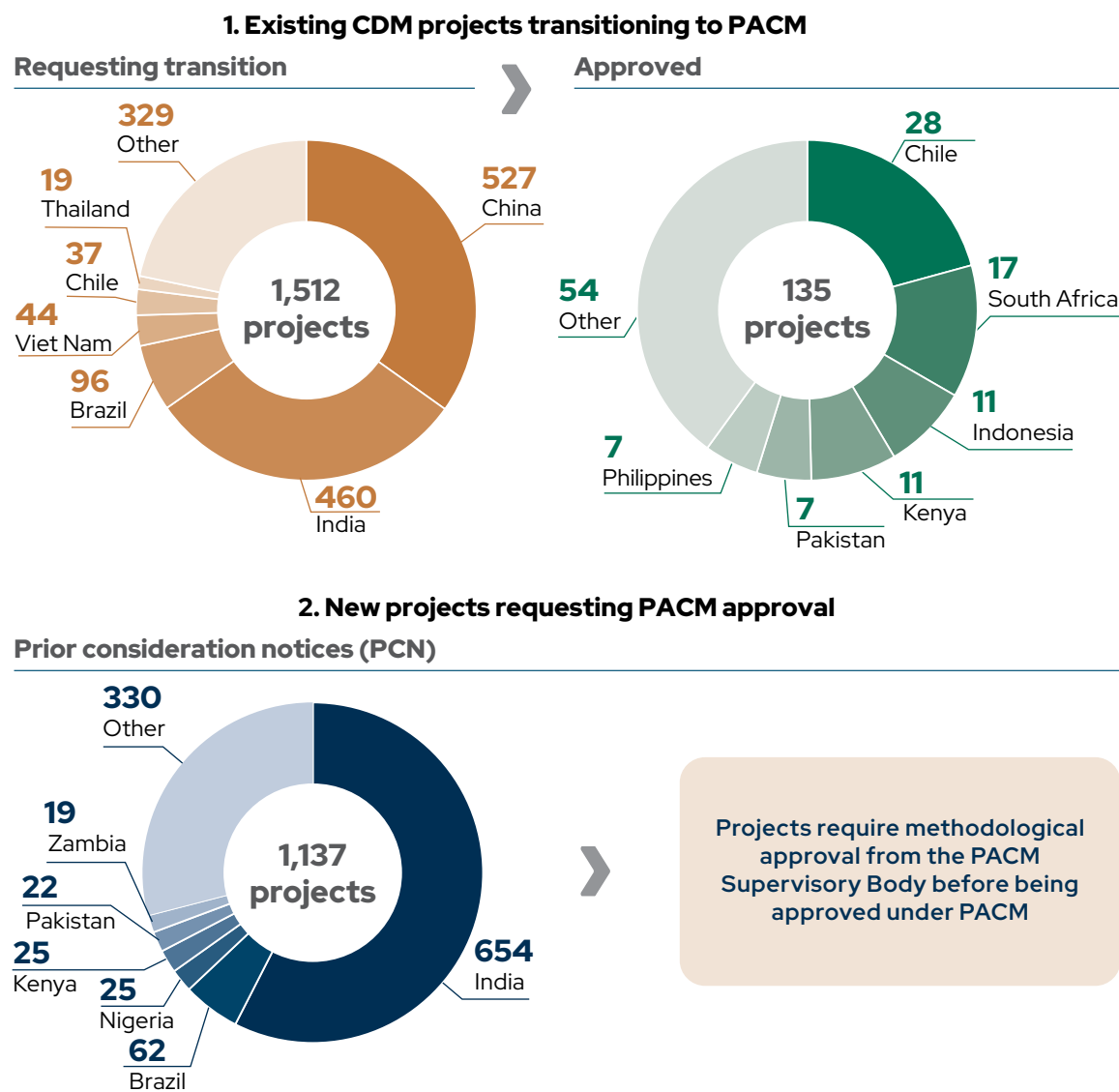
Momentum around PACM strengthened in 2025 as the Supervisory Body advanced essential rules and approved its first crediting methodology. The PACM is a centralized mechanism and in 2025, the Supervisory Body continued to lay groundwork for its operationalization by publishing more details on key rules and tools such as additionality, baselines, and leakage. This also includes the first methodology that was approved to generate new credits under PACM for projects reducing methane emissions from landfills. In 2026, additional methodologies are expected to be approved that, in conjunction with the finalization of a PACM registry, could mobilize a pipeline of new projects. The Methodological Expert Panel of PACM is reviewing five new methodologies for approval— low-carbon ammonia production, fertilizer production with renewable-based ammonia, N₂O abatement from nitric acid production, Comprehensive Lowered Emissions Assessment and Reporting methodology for clean cooking transitions, and Savanna Fire Management.¹⁰⁰ The Panel is also progressing work to refine CDM methodologies for use in PACM. Proposed revisions to methodologies for grid-connected renewables (only greenfield power plants) and N₂O abatement from nitric acid production have been published for public consultation while the Panel continues to work on updates

to methodologies on clean cooking, and thermal applications of nonrenewable biomass.¹⁰¹ These methodologies were prioritized based on the volume of mitigation activities proposed for transition from CDM to PACM,¹⁰² as well as new projects proposed for registration under PACM through prior consideration notifications (Figure 17).

The first credits have been issued under PACM, with potentially more to come, predominantly from projects transitioning from CDM (Figure 17). A total of 1,647 CDM projects have requested transition to PACM, of which 135 projects have been approved by the respective host Parties (countries). A clean cookstove Programme of Activities project in Myanmar was the first to officially transition from CDM to PACM.¹⁰³ This project is provisionally seeking to issue about 648,783 tCO₂e of PACM credits for the crediting period between 2021 and 2022. In addition, 1,137 new projects (not previously certified by the CDM) across 97 host countries have submitted prior consideration notices to PACM’s supervisory body. However, the methodologies these projects intend to apply must first be approved by PACM before the projects can be registered.



FIGURE 17 Count of projects in the PACM pipeline, by host country



Source: AlliedOffsets data



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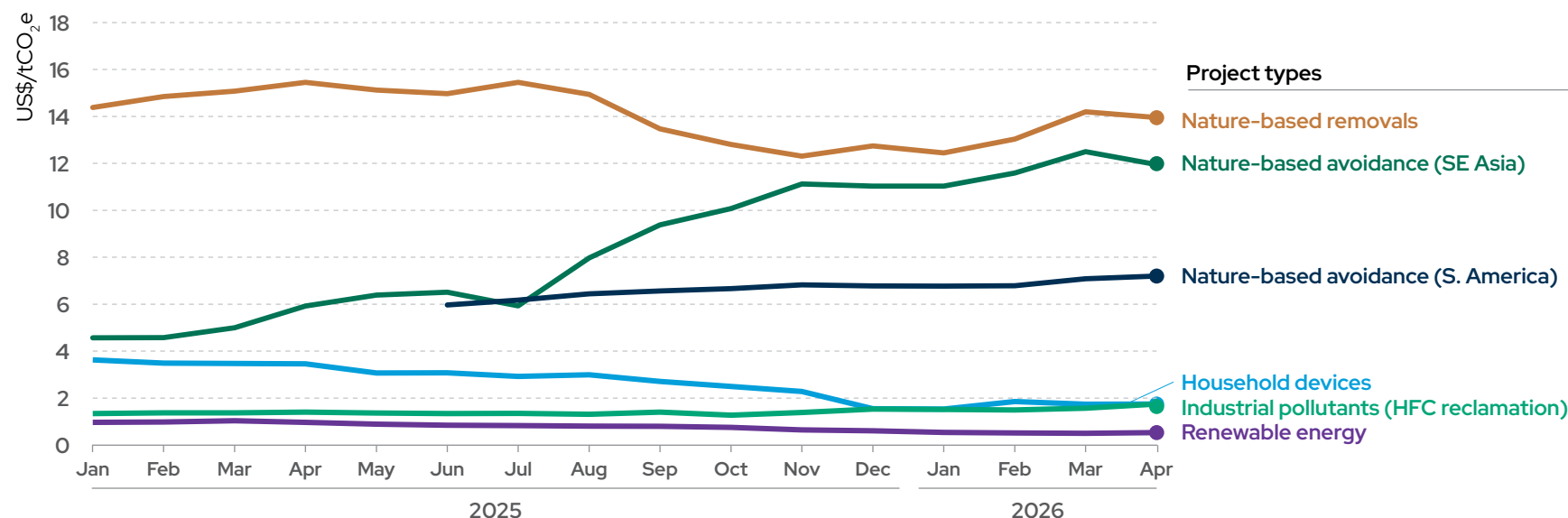


3.4 Carbon credit prices declined slightly across 2025, but individual projects that are CORSIA-eligible or highly-rated continue to generate a price premium

Carbon credit prices during 2025 varied depending on project type and geographical region (Figure 18). Nature-based removal credits from projects such as afforestation, reforestation and revegetation continue to attract the highest prices at an average of US\$14/ tCO₂e.¹⁰⁴ Renewable energy, household devices and industrial pollutant projects, which collectively make up over half of 2025 credit issuances,

represent the lower end of the carbon price spectrum, trading on average at US\$ 1–3/tCO₂e. Conversely, nature-based avoidance projects (for example REDD+), specifically in Southeast Asia, experienced a sharp rebound in prices from US\$ 6/ tCO₂e in July 2025 to nearly US\$ 12/tCO₂e in April 2026. This could potentially be attributed to constrained supply of credits from countries such as Indonesia, which until October 2025 had suspended exports of credits from avoided deforestation projects.^{105,106} As a comparison, nature-based avoidance credits in South America grew marginally over the same period, from US\$ 6/tCO₂e to US\$ 7/tCO₂e.

FIGURE 18 Carbon credit prices by project type January 1, 2025 – April 1, 2026 in US\$/tCO₂e

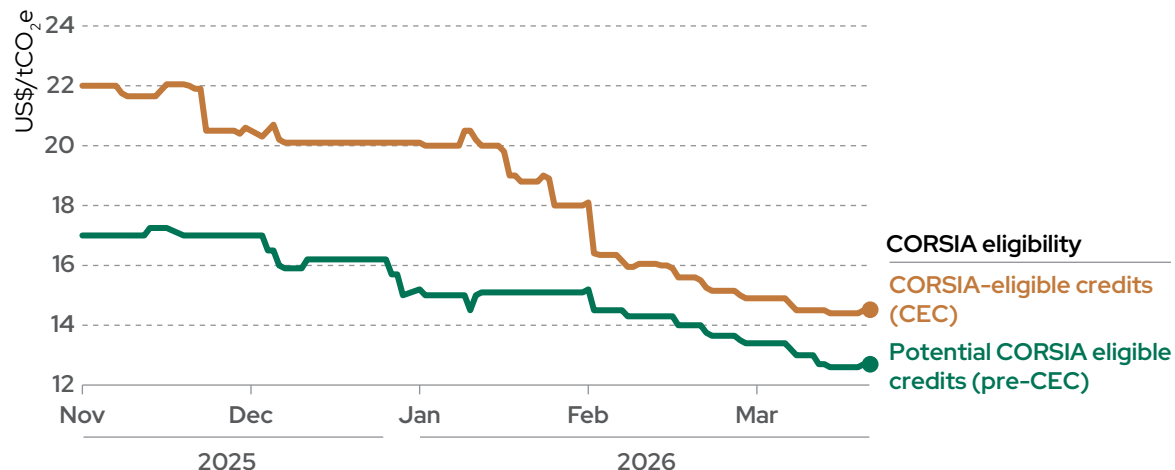


Source: Platts, S&P Global Energy, ©2026 by S&P Global Inc.

Prices reported for offtake purchases exceed spot market levels, reflecting a higher share of nature-based and engineered carbon removals. As mentioned in Section 3.2, offtake agreements between buyers and project developers are increasing, particularly for carbon removal projects. The prices embedded in these offtake agreements far exceed prices in the broader carbon credit market. Projects such as direct air capture and enhanced rock weathering continue to attract average prices of US\$ 400–600/tCO₂e.¹⁰⁷ Biochar and bioengineering with carbon capture and storage projects, which comprise the largest share of offtake agreements, are priced at US\$ 100–300/tCO₂e, trading much closer to corresponding spot market prices. Biochar projects outside of North America are becoming more price competitive, however. Data from S&P Global Energy suggests that prices for biochar projects in India are lower than projects based in the United States, which has historically developed the majority of registered biochar project under carbon removal standards such as Puro.earth.^{108,109}

CORSIA-eligible credits continue to attract higher prices relative to those that have only met preliminary eligibility criteria (Figure 19). Credits for projects that met all eligibility criteria for CORSIA declined slightly during 2025, from US\$ 22/tCO₂e in September 2025 to below US\$ 15/tCO₂e in April 2026. These projects have become fully eligible to supply to CORSIA by completing all steps including: i) using an approved standard and methodology; and ii) receiving either a corresponding adjustment or a letter of authorization and insurance, where required. These credits also meet the requirement to be of 2021 “vintage” or later. Prices for these projects continue to exceed assessed prices for projects that are partially eligible (that is, have met at least one but not both conditions listed above while pursuing achieving the remaining criteria). The price differential between these projects and CORSIA-eligible projects averaged US\$ 4–6/tCO₂e until February 2026, after which the price gap narrowed to approximately US\$ 1.50–3/tCO₂e as CORSIA-eligible credit prices declined.

FIGURE 19 Carbon credit prices for CORSIA-approved and potentially CORSIA-eligible projects, September 2025–April 1, 2026 in US\$/tCO₂e



Source: Platts, S&P Global Energy, ©2026 by S&P Global Inc.



Carbon credit quality labels and carbon credit rating agencies are reporting that carbon credit prices are also becoming more differentiated based on how projects are assessed. ICVCM, which assesses carbon credits at the level of ratings, estimates that credits with a Core Carbon Principles (CCP) label attract an average price premium of 25 percent compared to credits without the label.¹¹⁰ Although more data is needed to draw a definitive conclusion, this suggests that buyers are responding to efforts establishing a minimum quality benchmark across methodologies. In addition to CCP, there is increased evidence of correlation between carbon credit ratings from third-party service providers and carbon credit prices, particularly within project types. Data from carbon credit rating provider Sylvera suggests a consistent premium in credit prices for nature-based projects with a higher rating, including afforestation, reforestation and revegetation (ARR), improved forest management (IFM) and reduced emissions from deforestation and degradation (REDD+). For example, Sylvera notes that the median price for a $\geq$ BBB (higher-rated credits) ARR project is close to US\$ 30/tCO₂e, much higher than that of $\leq$ BB ARR projects (US\$ 8.70/tCO₂e) and unrated ARR projects (US\$ 6.30/tCO₂e).¹¹¹ Similarly, BeZero Carbon estimates that, for ARR projects, each notch on its rating scale is associated with an average credit price increase of 87 percent. BeZero also find that such ratings-based premia exist for other project types such as REDD+ (46 percent), Improved Forest Management (16 percent), Renewable Energy (nine percent) and Household Devices (five percent).¹¹²



Annexes

Annex A: Definitions

Carbon pricing

Carbon pricing seeks to align the costs of consuming carbon-intensive fuels or using carbon-intensive processes with the social costs of those activities. If well designed, and sufficiently ambitious, carbon pricing creates economic incentives to shift investments, production, and consumption toward low-carbon alternatives, drives clean technological innovation, and reduces the need for additional public spending. Carbon pricing can help raise revenues in a more efficient and less distortive way than alternative options, while delivering numerous benefits to society beyond climate mitigation. Carbon pricing is an important policy tool that can be used as part of a comprehensive policy package to decarbonize economies.

Direct carbon pricing

Direct carbon pricing is implemented to reduce GHG emissions by providing a price signal closely linked to actual emissions. Direct carbon pricing instruments are categorized as “compliance” instruments or “carbon crediting” mechanisms. Under compliance instruments (such as emissions trading systems [ETs] or carbon taxes), covered entities are obligated to pay for the emissions from covered activities. Participation in carbon crediting on the other hand is voluntary, with participants earning credits in recognition of quantified and verified emissions reductions or removals.

Indirect carbon pricing

Indirect carbon pricing refers to instruments that change the price of products associated with carbon emissions in ways that may or may not be directly proportional to the relative emissions associated with those products. These instruments

provide a carbon price signal, even though they are often (primarily) adopted for other socioeconomic objectives, such as raising public revenues or addressing air pollution. Examples of indirect carbon pricing include fuel excise taxes (proportional) and commodity taxes (not necessarily proportional), as well as fossil fuel subsidies affecting energy consumers. For example, fuel excise taxes apply a tax to the volume of fuels, such as gasoline and diesel (for example, dollars per liter), which indirectly places a price on the carbon emissions from the combustion of those fuels. However, the price is not determined relative to the emissions resulting from the combustion of those fuels. Conversely, fuel subsidies that reduce the price of fossil fuels create a “negative” indirect carbon price signal, which incentivizes higher consumption and therefore increases carbon emissions.

While carbon pricing policies can be categorized as direct or indirect, in practice, the distinction is not always obvious. The most economically efficient carbon pricing policy would apply an equivalent incentive to reduce greenhouse gas (GHG) emissions across all sectors and fuels. Indirect carbon pricing policies still create a price signal that applies to fossil fuels or products, but they are not designed to apply a consistent price across emissions from different GHGs (for example, the price is not linked to actual GHG emissions or the carbon content of fuels). ETs, carbon taxes, and carbon crediting are direct carbon pricing policies, but in reality, all examples of these policies currently in operation differ across sectors, fuels, activities, and/or gases. As a result, the distinction between direct and indirect carbon prices is in practice somewhat flexible, and carbon pricing policies sit on a spectrum from direct to indirect.



TERM CATEGORY	TERM	DEFINITIONS
Carbon pricing instruments	Emissions trading system (ETS)	In an ETS, the government places a limit on the amount of GHG emissions from covered entities. Entities must surrender emission units (or “allowances”) to cover their emissions within a compliance period. Each emission unit represents the right to emit a certain volume of emissions (typically 1 ton of carbon dioxide equivalent [tCO ₂ e]) and can be traded between covered entities or sometimes with other traders. There are several different types of ETSs, including “cap-and-trade” and “rate-based” approaches, and different terms are used for the emission units within different systems. The carbon price in these systems is usually a function of supply and demand for emission units.
	Carbon tax	Through a carbon tax a government levies a fee on covered entities for their GHG emissions, providing a financial incentive to reduce emissions. Under a carbon tax, the government sets the price of emissions (the tax rate). The resulting volume of emissions reductions achieved by the policy is determined by the response of the emitting entities to the set price.
	Carbon crediting mechanism	Under a carbon crediting mechanism, tradable credits (each representing 1 tCO ₂ e) are generated through voluntary mitigation activities that avoid emissions (preventing GHGs from being released, such as capturing methane from landfills) or remove them (extracting GHG from the atmosphere, for instance through afforestation that sequesters carbon). These credits are issued following established protocols designed to ensure that each credit corresponds to a real and measurable reduction or removal. Once issued, carbon credits can be sold, creating a source of revenue for the project. While carbon crediting mechanisms create a source of supply, they rely on a separate source of demand for credits in order to deliver a financial incentive to reduce emissions. Demand for credits can come from compliance instruments (for example, businesses regulated under an ETS or a carbon tax that allows the use of offsets), countries meeting nationally determined contribution targets under the United Nations Framework Convention on Climate Change (UNFCCC), or voluntary offsetting.
Types of carbon crediting mechanisms	International crediting mechanism	Mechanisms managed or administered by an international organization, including those established with authority of national governments, such as UN agencies. This category includes the Paris Agreement Crediting Mechanism.
	Independent crediting mechanism	Mechanisms administered by a nongovernmental organization, such as Verra and Gold Standard.
	Governmental crediting mechanism	Mechanisms administered by one or more governments, such as the California Compliance Offset Program and the Australian Carbon Credit Unit Scheme.



TERM CATEGORY	TERM	DEFINITIONS
Status	Under consideration	A government has announced its intention to work toward the implementation of a carbon pricing instrument and this has been formally confirmed by official sources.
	Under development	A government is actively working toward the implementation of a specific carbon pricing instrument (for example, a mandate may have been established, but regulated entities do not yet face compliance obligations, or no credits have been issued) and this has been formally confirmed by official government sources.
	Implemented	The instrument is in full operation. For a compliance instrument, the carbon pricing instrument has been formally adopted through legislation and compliance obligations are in force and enforced. For crediting, credits have been issued (or have frameworks in place to allow credits to be used domestically) and activities are ongoing.
Greenhouse gases	CO ₂	Carbon dioxide
	CH ₄	Methane
	N ₂ O	Nitrous oxide
	PFCs	Perfluorocarbons
	HFCs	Hydrofluorocarbons
	SF ₆	Sulfur hexafluoride
	Other	Other GHGs or substances that are not regulated under the UNFCCC, for example black carbon or nitrogen oxides.



TERM CATEGORY	TERM	DEFINITIONS
Sectoral coverage status	Covered	Point-source emissions from this sector are generally subject to compliance obligations (even if the regulation may apply to entities upstream or downstream from the emissions point source) or eligible for crediting. Some emissions from the sector may not be eligible or covered, for example if there are exemptions or exclusions for a particular GHG.
	Covered in principle	Some point-source emissions from this sector are covered, but in practice the share of emissions covered is very low. The low coverage rate is usually due to nonsector-specific exclusions such as certain fuels or gases being exempt, most entities in the sector falling below relevant thresholds for participation, or most entities already being covered by another initiative.
	Not covered	No point-source emissions from the sector are covered.
Sectors covered by a compliance carbon pricing instrument	Electricity and heat	Emissions resulting from fuels burned in facilities primarily producing electricity or heat for shared use.
	Industry	Emissions produced by industrial facilities including manufacturing, metal production, fertilizer production. Includes emissions from fuel used for energy in these facilities as well as emissions from industrial processes.
	Mining and extractives	Emissions from mines, rigs, and fuel processing. Includes emissions from fuel used for energy in these facilities as well as fugitive emissions.
	Transport	Emissions resulting from fuels burned for energy in the service of moving people or goods (for example, road, rail) except for aviation.
	Aviation	Emissions resulting from fuels burned in the aviation sector.
	Buildings	Emissions resulting from fuels burned for energy in residential, commercial, and public sector buildings.
	Agriculture, forestry, and fishing fuel use	Emissions resulting from fuels burned for energy in the agriculture, forestry, and fishing sectors.



TERM CATEGORY	TERM	DEFINITIONS
	Agricultural emissions	Emissions resulting from agricultural processes like livestock and fertilizer use. Excludes fuel use and land-use, land-use change and forestry.
	Waste	Emissions resulting from waste management facilities including incineration of waste, methane or CO ₂ produced from landfills, etc. Excludes fuel use.
	Land-use, land-use change, and forestry	Emissions (or removals) resulting from changes to carbon sinks in plants and soils.
Coverage threshold		Some initiatives set a threshold above which entities must, or can, join a compliance carbon pricing instruments. There are many different ways of expressing these thresholds—many use an emissions threshold (for example, installations with emissions above 25,000 tCO ₂ e).
Point of regulation	Point source	The point source is where the GHGs are physically released into the atmosphere (for example, at the installation combusting fuel). Regulation at the point source is where the compliance obligation is imposed on the entities that release the covered emissions into the atmosphere.
	Upstream	The compliance obligation is imposed at a point in the supply chain before the point source of emissions entering the atmosphere. For example, in relation to emissions from fuel combustion, upstream coverage could be at the point at which the fuel is first commercialized by extractors, refiners, or importers, or at point of sale to the final consumer.
	Downstream	Obligations apply at a point in the supply chain after the point source of emissions. This could include entities being liable for the emissions associated with the electricity they use. These entities are downstream from the point source of emissions (which would occur at a power station).



TERM CATEGORY	TERM	DEFINITIONS
Credit project categories under crediting mechanisms	Agriculture	Reducing emissions from any activities in the agricultural sector.
	CCS/CCU	Removals achieved through carbon capture and storage or carbon capture and utilization.
	Energy efficiency/ Fuel switching	Avoiding emissions from the participant's energy use through either reducing the amount of energy the participant consumes or switching to a less emissions-intensive energy source.
	Forestry and land use	Increasing the volume of emissions removed from the atmosphere or avoiding emissions being released through changes to terrestrial sinks.
	Fugitive emissions	Avoiding the release (intentional or unintentional) of GHGs during the extraction, processing, transformation, and delivery of fossil fuels to the point of final use.
	Chemical process/ Industrial manufacturing	Avoiding emissions produced by industrial facilities including manufacturing, metal production, fertilizer production. Includes emissions from fuel used for energy in these facilities as well as emissions from industrial processes.
	Renewable energy	Emissions avoided by integrating renewable energy into the energy supply in the place of fossil fuel power.
	Transport	Reduction of emissions resulting from fuels burned for energy in the service of moving people or goods (for example, road, rail), including for aviation.



TERM CATEGORY	TERM	DEFINITIONS
Issuance type	Original issuance	Issuances of credits that reflect the first time a credit has been issued for a specific emission reduction/removal activity. Original issuances do not rely on any previous issuances from other crediting mechanisms.
	Nonoriginal issuance	Issuances of credits that are connected to previous issuances from another crediting mechanism. Nonoriginal issuances can either be issued via “direct” or “adjusted” conversions. Direct conversions are issuances that are converted 1-1 from another crediting mechanism. Adjusted conversions are issuances that are converted from another crediting mechanism but in accordance with own standards (issuances volumes might be changed).
	Overlap	Overlap can occur as a record of eligible credits as a result of the conversion of a credit from one program to another—meaning the original credit representing the specific emission reduction has been cancelled or retired in the original mechanism’s registry in order for the subsequent credit to be issued.
Country income group		The World Bank classifies economies for analytical purposes into four income groups: low, lower-middle, upper-middle, and high income. For this purpose it uses gross national income per capita data in USD, converted from local currency using the World Bank Atlas method, which is applied to smooth exchange rate fluctuations. More information on country classification can be found on the Knowledge Base, available on the World Bank website: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519



Annex B: Methodologies and Sources

- **Sources and timelines:** The *State and Trends of Carbon Pricing 2026* report draws on a range of sources, including official reporting (that is, government budget documents), related legislation that underpins the carbon pricing initiative, statements from governments and public authorities, and information provided by jurisdictions. Data and updates in the report represent the situation as of April 1, 2026, unless stated otherwise.
 - **Emissions:** For countries, greenhouse gas (GHG) emissions data for the most recent year (2024), as well as GHG emissions data from previous years, is sourced from the EDGAR (Emissions Database for Global Atmospheric Research) Community GHG Database (2025),¹¹³ where available, to promote consistency across jurisdictions. The EDGAR dataset aggregates emissions data for certain countries, including France and Monaco; Montenegro and Serbia; Spain and Andorra; and Switzerland and Liechtenstein. In these cases, the GHG emissions estimate for each country was determined based on the relative emissions of each country in the most recent GHG emissions inventory reported to the United Nations Framework Convention on Climate Change or also with respective emissions of the PRIMAP-hist national historical emissions time series (v2.7).¹¹⁴ For subnational jurisdictions, GHG emissions data is based on the following:
 - GHG emissions values for Canadian provinces and territories are taken from Canada’s latest national inventory.¹¹⁵
 - GHG emissions values for US states are based on official subnational GHG inventory reports of each of the respective states, available from the US Environmental Protection Agency Greenhouse Gas Inventory Data Explorer.¹¹⁶
 - GHG emissions values for Mexican states are based on official state GHG inventory data, where available. To ensure a complete time series, known annual emission values from official state-level GHG inventories are extrapolated based on the correlation of each state’s GHG emissions with national GHG emissions data (as sourced through EDGAR). In the absence of specific GHG emissions inventory data for Zacatecas, state emissions were estimated based on the relationship between Zacatecas’ and the national GDP across all years.
 - GHG emissions values for China subnational jurisdictions are based on the Carbon Emissions Accounts and Datasets (<https://www.ceads.net/data/province/>). This data was supplemented with additional information provided by ICAP.
- Values are presented in gigatons of carbon dioxide equivalent emissions aggregated using Global Warming Potential values from IPCC AR5 (GWP-100 AR5). Consistent with decision 6/CP.27, parties transitioned to the AR5 GWP values in their national inventory reports by December 31, 2024.
- **Coverage:** The proportion of global GHG emissions covered by a direct carbon price is calculated based on direct carbon pricing instruments that are “implemented.” The estimate of emissions coverage for each carbon pricing instrument is based wherever possible on official government sources and considers the scope (sectors, fuels, and/or gases) of policies but does not necessarily factor in all exemptions and/or free allocations. A bottom-up approach is used to calculate emissions coverage by economic sector based on data provided by governments on the point of coverage (upstream or point source), overlaps with other policies, and coverage thresholds (the level of emissions, fuel use, or power generation above which the carbon price applies). Each jurisdiction’s total GHG emissions from national greenhouse gas inventory sectors (Intergovernmental Panel on Climate Change [IPCC] 2006 Guidelines)¹¹⁷ is mapped to a set of 24 detailed economic sectors (Table B.1), while also removing GHG emissions that are specifically excluded from or not covered by the carbon pricing policy and adjusting for coverage thresholds. The bottom-up estimates are reconciled with the economy-wide coverage data provided by governments and overlap between instruments (where applicable) is removed to avoid double counting.



TABLE B.1 Mapping of economic sectors and IPCC 2006 Guidelines for National Greenhouse Gas Inventories emissions codes

DETAILED LIST OF ECONOMIC SUBSECTORS	IPCC 2006 INVENTORY CODE(S)	AGGREGATED LIST OF ECONOMIC SECTORS
1. Electricity and Heat Combustion	1.A.1.a	Power
2. Manufacturing Combustion	1.A.2 apportioned between 2. Manufacturing Combustion, 3. Metal production Combustion, 4. Mining Combustion and 6. Construction Combustion using International Energy Agency (IEA) Energy End-uses and Efficiencies database	Industry
3. Metal production Combustion		Industry
4. Mining (excluding fuels) Combustion		Mining and extractives
5. Fuel extraction and production Combustion	1.A.1.b, 1.A.1.c, 5B	Mining and extractives
6. Construction Combustion	see entry for 2. Manufacturing Combustion	Industry
7. Domestic aviation Combustion	1.A.3.a	Aviation
8. Road transport Combustion	1.A.3.b_noRES	Transport
9. Domestic shipping Combustion	1.A.3.d	Maritime
10. Pipeline Combustion	1.A.3.e	Transport
11. Rail Combustion	1.A.3.c	Transport
12. Residential Combustion	1.A.4 apportioned using IEA Energy End-uses and Efficiencies database	Buildings
13. Services Combustion		Buildings
14. Agriculture, forestry and fishing Combustion		Agriculture, forestry and fishing fuel use



DETAILED LIST OF ECONOMIC SUBSECTORS	IPCC 2006 INVENTORY CODE(S)	AGGREGATED LIST OF ECONOMIC SECTORS
15. Other Combustion	1.A.5	Transport
16. Manufacturing Non-combustion	2.A.1, 2.A.2, 2.A.3, 2.A.4, 2.B, 2.D, 2.E, 2.F, 2.G	Industry
17. Metal production Non-combustion	2.C	Industry
18. Fuel extraction and production Non-combustion	1.B.1, 1.B.2	Mining and extractives
19. Agricultural emissions Non-combustion	Section 3 and 5 A	Agricultural emissions
20. Waste and wastewater Non-combustion	Section 4	Waste
21. Forestry and land use Non-combustion	3B and 3D*	LULUCF
22. International aviation Combustion	1A3ai	Aviation
23. International shipping Combustion	1A3di	Maritime
24. Other extra-territorial emissions	N/A**	<i>Not included</i>

Note: *Forestry and land use non-combustion emissions were not included in the EDGAR data or global totals at this stage. The only carbon pricing instruments covering forestry and land use at this time is the New Zealand ETS.

** Other extra-territorial emissions were not included in the EDGAR data or global totals at this stage. These emissions will be tracked in future as jurisdictions start broadening the scope of their carbon pricing instruments to cover these emissions.



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• **Indicative estimates of the potential GHG emissions covered by carbon pricing instruments under development (Figure 2)** All emissions data are based on GHG emissions from the EDGAR (Emissions Database for Global Atmospheric Research) Community GHG Database (2025). Assumptions are as follows:

- For carbon pricing instruments under development where the expected sectoral coverage is known (such as the EU ETS 2 covering buildings and transport), the estimate of potential covered emissions is quantified using the emissions profile of those sectors;
 - When no expected sectoral coverage is known, it is assumed that the carbon pricing instrument under consideration or under development will cover emissions from industrial combustion, power industry and processes sectors;
 - The analysis assumes that 70 percent of emissions from each covered sector will be included in the carbon pricing instrument once implemented; and
 - To provide a conservative estimate, the analysis excludes emissions from any proposed instruments that would cover a sector that is already covered by an existing carbon pricing instrument.
- **Price:** Carbon prices from carbon taxes and ETSs are nominal prices and are generally based on the exchange-traded or auction prices on April 1, 2026, or the most recent available. Additional price information is further clarified here:
- As of the time of writing, no information on the value of allowances in the Mexico ETS is available.
 - China national ETS price data is the closing price on April 1, 2026, sourced from the Shanghai Environment and Energy Exchange.
 - China pilot ETS price data (Shanghai, Shenzhen, Guangdong, Tianjin, Hubei, Chongqing, and Fujian pilots) is the closing price on April 1, 2026, sourced from the respective regional emissions exchange for each pilot. Where the April 1 closing price is not available, the closest preceding trading day is used.
 - Beijing Pilot ETS price is the average transaction price on March 16, 2026.
 - Massachusetts ETS price data is equal to the auction clearing price for 2026 vintage units from the auction held on March 18, 2026.

- California cap-and-trade price data is from the Intercontinental Exchange (ICE) California Carbon Allowance Vintage 2026 Futures December 2026 contract on April 1, 2026. Québec cap-and-trade price data is converted from USD to CAD based on the April 1, 2026 USD/CAD exchange rate.¹¹⁸ Regional Greenhouse Gas Initiative price data is the weighted average of the allowance transfer transaction prices on March 31, 2026. Prices are converted from USD per short ton carbon dioxide equivalent (CO₂e) to USD per metric ton CO₂e.
- UK ETS price data is the UK Allowance Daily Futures Price on April 1, 2026.¹¹⁹
- New Zealand ETS price is the spot price on April 1, 2026.
- Korea ETS price data is the KAU26 closing price on April 1, 2026, sourced from the Korea Exchange (KRX).
- Washington Cap-and-Invest price data is equal to the auction price of Tier 1 allowances from the auction held in March 4, 2026.¹²⁰

Carbon prices are converted from nominal to real (2026 USD) by adjusting the observed value to the base year (2026) by way of a two-step process: (1) local currencies are converted into USD using the market exchange rate as of April 1 in the observed year (using the International Monetary Fund (IMF) exchange rates); (2) the USD historical values are then adjusted to a base year of 2026 using the average consumer price index for the United States from the IMF World Economic Outlook Database.¹²¹

- **Average carbon prices:** Average carbon prices are determined by multiplying each instrument's carbon price in real terms (based on average market prices or price levels submitted to the World Bank) in each year by the volume of emissions covered in the jurisdiction by that instrument, divided by the total emissions covered by the carbon pricing instrument in a given year. Norway and Poland include multiple rates but apply a single rate to the majority of emissions. For these carbon taxes the most common carbon tax rate is used. Both metrics for average carbon prices are shown in real 2026 USD. Regional and income-level data is based on World Bank classifications.
- **Revenue:** Revenue is for the period January 1, 2025, to December 31, 2025. Adjustments are made for jurisdictions with fiscal years that do not align with



a calendar year. For countries with fiscal year running from April to March (for example, the UK), three-quarters of the revenue from the current budget (2024–2025) and one quarter of the previous budget (2023–2024) are summed to estimate the 2025 revenue. For countries with fiscal year running from July to June (for example, Australia), half of the revenue from the current budget (2025–2026) and half of the previous budget (2024–2025) are summed to estimate the 2025 revenue. Where 2025 revenue was not available before the report was finalized, official revenue forecasts for 2025 in previous years' official budget documents were used, or revenue is estimated based on revenue collected in 2024 (for which there have been no policy changes). Revenue values are converted from nominal to real (2025 USD) by way of a two-step process: (1) observed revenue values in local currencies are converted to USD using the market exchange rates as of April 1 in the observed year (using the IMF exchange rates); (2) the USD historical revenue values are then adjusted to a base year of 2025 using the GDP deflator index for the US from the IMF World Economic Outlook Database.¹²²

- **Exchange rate conversions:** Price data are converted from national currency to USD using the IMF representative exchange rate for April 1 of the relevant year.¹²³ Revenue data are converted from national currency to USD using IMF annual average exchange rates.¹²⁴ Where exchange rates from national currency to USD

are not available from the IMF, rates from the respective countries' central banks are used.

- **Crediting data:** Carbon credit issuance, project registrations, and retirement data by project category are for the period January 1, 2025, to December 31, 2025. Data from independent and international crediting mechanisms is sourced from the applicable publicly available registries. Data from governmental crediting mechanisms were provided by governments for the following crediting mechanisms: Alberta Emission Offset Program, Australia Carbon Credit Unit Scheme, Beijing Certified Emission Reduction Mechanism, British Columbia Offset Program, California Compliance Offset Program, Colombia Crediting Mechanism, Guangdong Pu Hui Offset Crediting Mechanism, J-Credit Scheme, Joint Crediting Mechanism, Kazakhstan Crediting Mechanism, Quebec Offset Crediting Mechanism, Republic of Korea Offset Crediting Mechanism, Spain FES-CO₂ Program, South Africa Crediting Mechanism, Switzerland CO₂ Attestations Crediting Mechanism, Crediting Mechanism in Taiwan, China, Tokyo Cap-and-Trade Program and Washington Crediting Mechanism.
- Price data is provided by S&P Global Energy, covering the period from January 2025 to April 2026, unless otherwise stated. It reflects the most competitively priced credits that meet the specifications of the Platts carbon credit price assessments. More information is available in the S&P Global Energy Carbon Markets Specifications Guide.

NOTE: For "S&P Global Energy Carbon Markets Specifications Guide", please add the following hyperlink: <https://www.spglobal.com/content/dam/spglobal/ci/en/documents/platts/en/our-methodology/methodology-specifications/energy-transition/carbon-markets-specifications.pdf>



Endnotes

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