GHG Market Sentiment Survey 2022

This year's key findings:

1. **Bullish sentiment on carbon prices globally**. Expected prices for the periods up to 2025 and 2030 have increased significantly for every emissions trading system included in the survey. In the EU and the UK, ETS prices are expected to reach almost €100 (£86) by 2030. This builds on the bullish sentiment expressed in the 2021 survey.
2. **Respondents anticipate that the war in Ukraine and subsequent concerns over energy security will lead to more ambitious EU climate policy.** Half of respondents expect the war in Ukraine to lead to the EU strengthening its "Fit for 55" package. Respondents consider EU policies aiming to reduce Russian gas imports and accelerate the deployment of renewables as key drivers behind EU carbon price increases by 2030.
3. **The agreement reached at COP26 is considered to be insufficient to achieve the long-term goals of the Paris Agreement.** Despite the successful outcome of the Article 6 negotiations, 39% of respondents believe that the agreement is not sufficient, with stronger commitments required to achieve the goals of the Paris Agreement. In addition, respondents were pessimistic about progress made in translating commitments into action since COP26, with 52% stating there has not been significant progress.

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Executive summary:

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2. **Respondents anticipate that the war in Ukraine and subsequent concerns over energy security will lead to more ambitious EU climate policy.** Half of respondents expect the war in Ukraine to lead to the EU strengthening its "Fit for 55" package. Respondents consider EU policies aiming to reduce Russian gas imports and accelerate the deployment of renewables as key drivers behind EU carbon price increases by 2030.
3. **The agreement reached at COP26 is considered to be insufficient to achieve the long-term goals of the Paris Agreement.** Despite the successful outcome of the Article 6 negotiations, 39% of respondents believe that the agreement is not sufficient, with stronger commitments required to achieve the goals of the Paris Agreement. In addition, respondents were pessimistic about progress made in translating commitments into action since COP26, with 52% stating there has not been significant progress.
4. **The EU's proposal to establish the Carbon Border Adjustment Mechanism (CBAM) is considered effective in protecting EU industries against the risk of carbon leakage.** The majority (65%) of respondents expect the introduction of the CBAM and the gradual phase out of free allocations to be "somewhat effective". However, several responses expressed concerns over competitiveness for export-oriented industries unless a suitable regulatory solution is found.
5. **Prices in the Chinese National ETS are expected to lag behind other national and regional ETS systems in the survey until at least 2026.** Despite the bullish sentiment on carbon prices across all markets, respondents expect that prices in the Chinese National ETS will remain low; the lowest of all the systems polled.
6. **Respondents were split on whether the United States will implement an explicit federal carbon price.** 34% of respondents did not expect the US Congress to consider implementing a carbon price at all. The majority of those who expected a carbon price believed it would only be implemented after 2025, with a significant proportion not expecting a carbon price until after 2027.
7. **Political changes in Latin America might have varying implications for carbon pricing in the region.** Although a large share of respondents consider that government change in Chile and Brazil can or has led to a "somewhat positive" or "very positive" effect on carbon pricing, the uncertainty about the impact of political change on carbon pricing remains high in the region, particularly in Peru, Costa Rica and Colombia.
8. **Participants showed cautious optimism over the role of new voluntary carbon market (VCM) governance bodies in improving the integrity of carbon credits.** The majority of respondents answered yes (36%) or maybe (41%) to whether the establishment of new governance bodies will improve the integrity and long-term sustainability of the VCM. However, the quality of carbon credits was identified as the biggest challenge for the VCM over the next 12 months.

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About IETA

Since its foundation in 1999, IETA has been the leading voice of business on market-based ambitious solutions to climate change. Our objective is to build international policy and market frameworks to reduce greenhouse gases at lowest cost, delivering real and verifiable emission reductions with environmental integrity. To produce meaningful prices that drive change, we support market-based policies with effective emissions targets, clear rules and flexible compliance choices. Our membership includes leading international companies from across the carbon trading cycle. See www.ieta.org for more information.

Message from President and CEO of IETA

The world is going through one of the most testing times in our history, with the promise of even greater tests to come as the climate crisis draws ever nearer. Yet I am heartened by the resolve that is being displayed on a daily basis.

Even as the threat of Covid seems to be slowly receding, it has been overtaken by geopolitical turmoil and war, which have maintained the pressure on treasuries and on consumers, dampened growth and given us all cause for concern.

In the foreword to last year's Sentiment Survey, I wrote that one word could sum up the report: optimism. Optimism as global economies were resilient to Covid-19, that policymakers were upping their climate goals, and that net-zero ambitions were driving growth, particularly in natural climate solutions.

The past 12 months have done nothing to alter this impression. Despite the new daily challenges, governments have clung to their determination to drive the transition to a low-carbon future.

This year's survey underpins that resolve. For example, most of our respondents believe that the war in Ukraine is leading the European Union to double down on its climate ambition, rather than relax the pace of action to ease the burden on consumers and industry.

Consequently, we see bullish sentiment for emissions prices in all the markets covered by our Survey. Even after carbon allowances in Europe more than doubled to €80 in 2021, respondents still believe this market will approach €100 in the coming years.

Other markets have also set record highs in the past year, as market participants act on their belief that limits on greenhouse gas emissions are only going one way. California, RGGI, New Zealand and the UK have all seen all-time highs in 2021 and early 2022.

Europe continues to set the global carbon market agenda in many respects. The bloc's momentous proposals for a Carbon Border Adjustment Mechanism and for a second market to cover emissions from buildings and transport demonstrate the region's desire to use market-based mechanisms to drive abatement, and to find ways to ensure that leading the way does not harm businesses' competitiveness.

These proposals are encouraging more countries to look at carbon pricing systems. More markets will bring more opportunities to link, to achieve economies of scale and to "bake in" greater climate ambition.

The newest market, the UK Emissions Trading System, is just one year old and in spite of turbulent EU-UK relations, half of our respondents still believe this market will eventually link to the EU system. Japan is expected to be the next Asian country to introduce a compliance market, and others are likely to follow.

A change of government in Australia, after this survey closed, has also increased hopes that the country's existing mechanisms will transition to a liquid trading market.

This sustained ambition at a national level needs to be matched by an uptick in the pace of progress at an international level, our survey finds.

While the voluntary carbon market (VCM) is progressing as fast as its private sector stakeholders can push, the UN is wrestling with its own agenda as negotiators work to stand up the supervisory body that will govern the new global market mechanism under Article 6.4.

With so many stakeholders and competing agendas, the onus is on the various initiatives to ensure that rules and guidelines for voluntary carbon offsets are as clear and as robust as possible. Respondents expressed general optimism that these efforts will bear fruit, but that the real challenge will be how the VCM aligns with the Article 6 mechanisms.

It's clear though that there is no let-up in these efforts, both international and national. And while last year's survey may have been summed up as "optimism", this year, I believe that word is "resolve".

Dirk Forrister
President and CEO of IETA

About the survey

This year's IETA greenhouse gas (GHG) Market Sentiment Survey reflects key issues and developments in greenhouse gas markets since COP26 against a backdrop of political uncertainty and economic volatility. We designed the survey to assess key dimensions of market sentiment, such as future price and policy expectations. The survey was conducted among IETA members, with more than one response per organisation possible, and was open from 2 May to 23 May 2022.

We received responses from 214 IETA member representatives from a broad range of locations and organisations. Multiple responses were provided by some member companies. Participants were given some freedom to select which sections and topics they answered, and therefore some statistics are based on samples smaller than 214.

This report consists of seven sections, which reflect the key areas of focus for carbon markets over the past year:

1. European Union and the United Kingdom
2. China and Asia-Pacific
3. The Americas
4. Middle East and Africa
5. Price trajectories
6. International: Voluntary Carbon Markets
7. International: Article 6 & UNFCCC Negotiations

Figure 1: Location of survey respondents

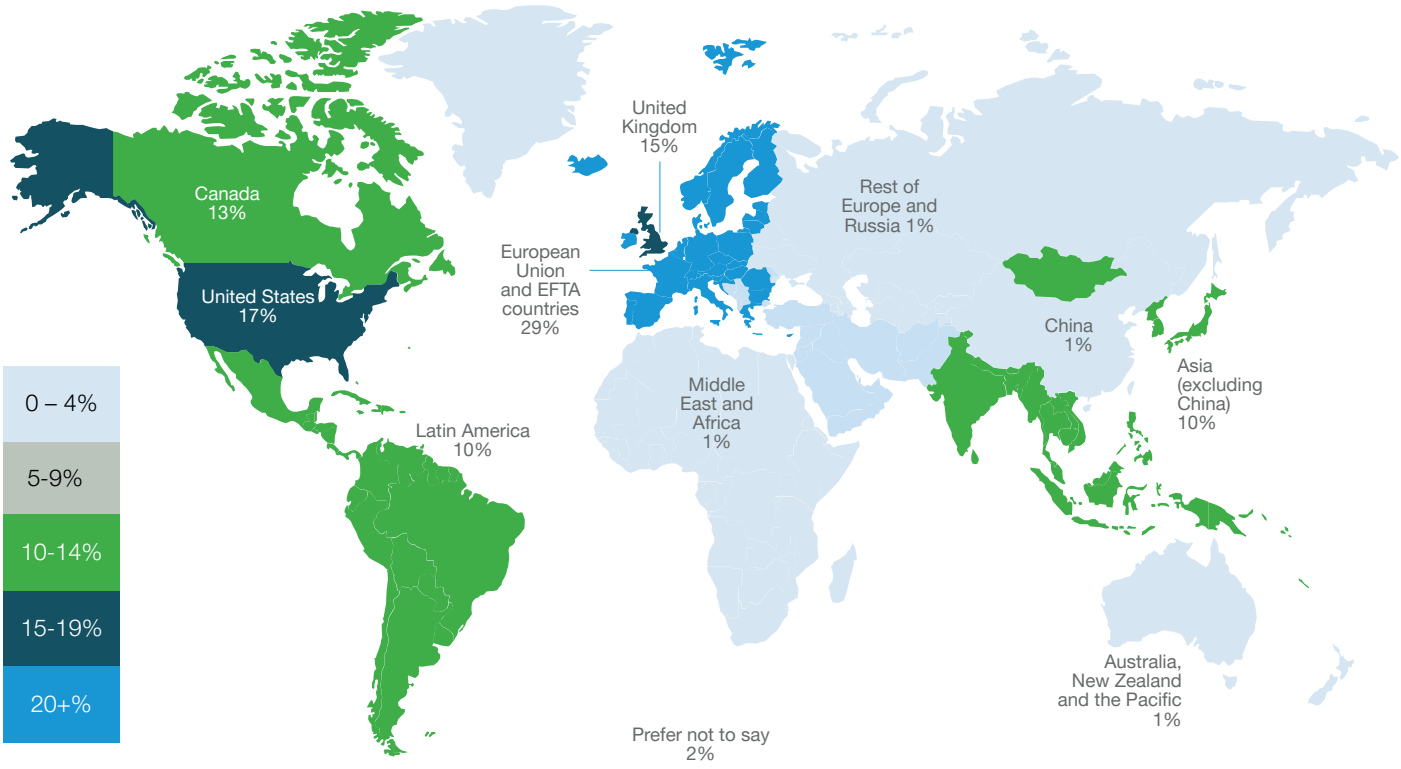
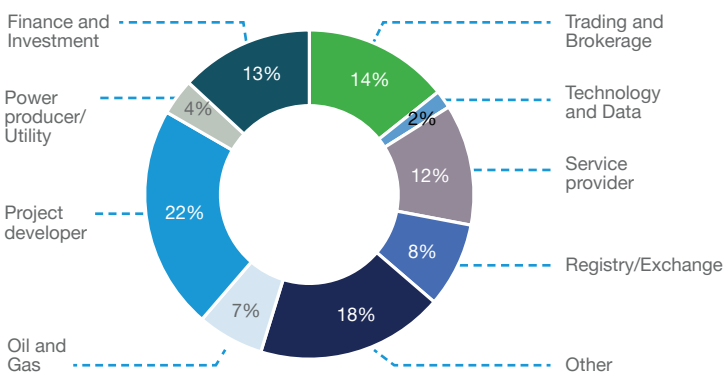
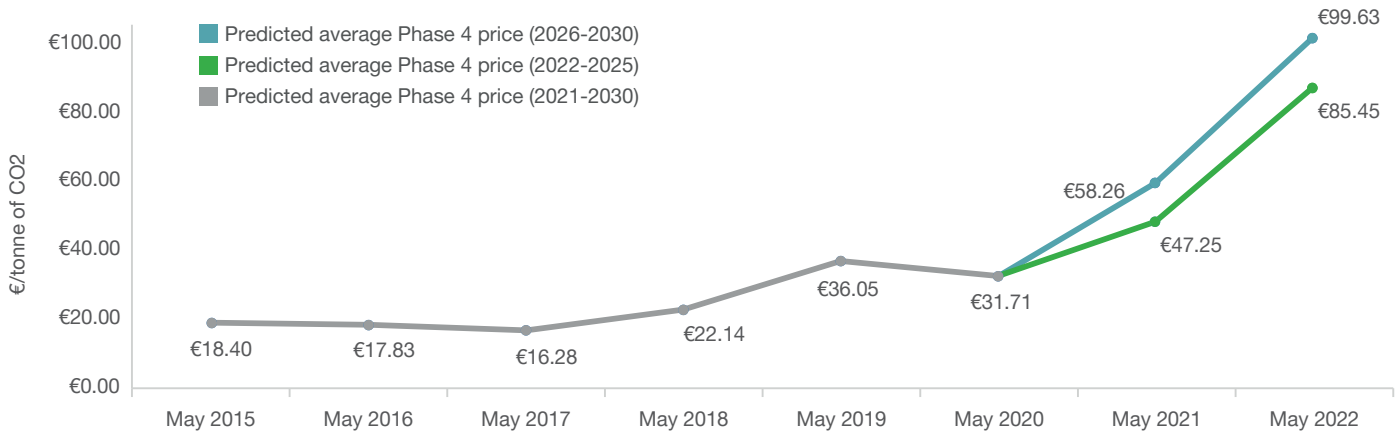


Figure 2: Type of IETA organisations responding to the survey



1. European Union and the United Kingdom

Figure 3: Average carbon price expectations for the EU ETS over successive surveys



Bullish sentiment expected over the next decade for the EU ETS

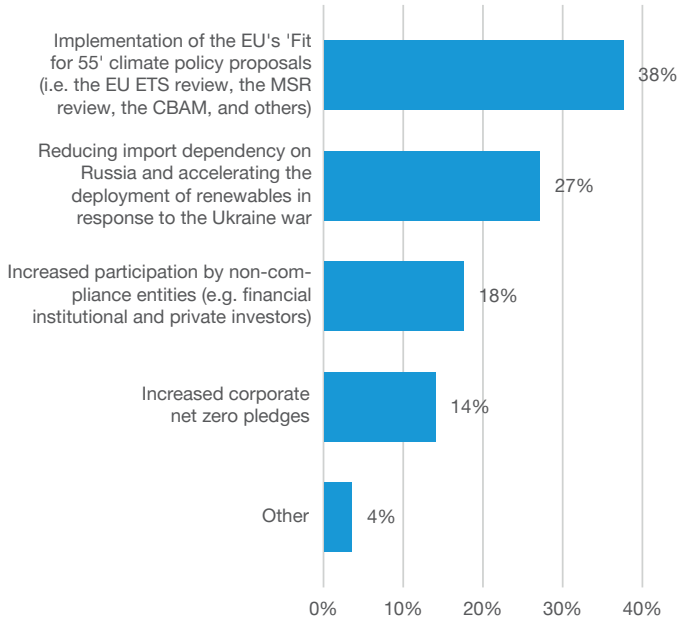
The past 12 months have seen significant price rises for the EU ETS. Against a backdrop of policy changes, economic volatility, and the ongoing war in Ukraine, European Union Allowance (EUA) prices increased 64% between June 2021 and May 2022, peaking at €96.90/tCO2 in February 2022[1]. Bullish sentiment has been reflected by survey participants this year, with average EU ETS price predictions over the next decade increasing significantly. Participants expect a price of €85.45/tCO2 between 2022-25 and €99.63/tCO2 between 2026-2030, a respective increase of 81% and 71% from last year. In 2021, the average price predicted for the EU ETS Phase 4 was €47.25/tCO2 (2021-2025) and €58.26/tCO2 (2026-2030).

The surge in EUA price and increased confidence in the EU's carbon market have come as the EU is preparing for the final negotiations over multiple policy proposals outlined in July 2021 under the "Fit For 55" package (including the EU ETS Review, the Market Stability Reserve (MSR) reform, the establishment of the Carbon Border Adjustment Mechanism (CBAM), the creation of the Social Climate Fund and others)[2]. Several legislative changes are necessary to enable the EU to reach its increased climate target to cut GHG emissions by at least 55% by 2030. 38% of respondents anticipate that the implementation of the "Fit for 55" policies will be the main driver behind future changes to the price of allowances under the EU ETS.

Participants identified three key policies that will have the greatest impact on meeting the EU's climate goals:

- Increase of the EU ETS linear reduction factor from 2.2% to 4.2%, combined with a rebasing of the cap;
- Implementation of the CBAM and the gradual phase out of free allocation to sectors covered by the CBAM; and
- Establishment of a separate ETS for the building and road transport sectors.

Figure 4: Which factors do you expect will be the main drivers behind future changes to the price of allowances under the EU ETS?



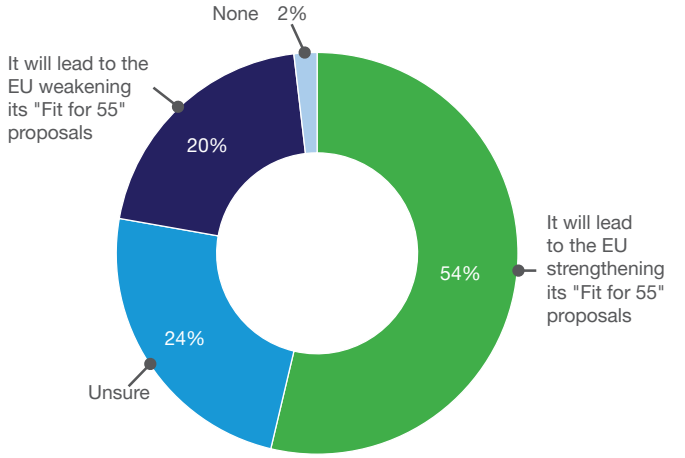
The EU's planned "ETS 2", a separate emissions trading system for the road transport and buildings sectors, has been proposed to start in 2026 with the price of permits capped at €50.00/tCO2 until at least 2030. However, the final design of the system may differ from the current proposal. Over half of respondents anticipate that the ETS 2 will be integrated into the EU ETS. Of those that expect it will be integrated, 69% expect the integration to take place after 2030.

Furthermore, at the end of 2022 the European Commission is planning to present a legislative proposal for a certification framework on carbon removals. Following this move, over two-thirds of respondents expect that carbon removals will be integrated into the EU ETS. Of those, 65% anticipate that the integration will take place before 2030. In addition, the majority (57%) expect that it would include both technology-based and nature-based removals.

The war in Ukraine and subsequent concerns over energy security will lead to a strengthening of the EU climate policy

The ongoing war in Ukraine has brought about global economic instability, with major implications for European energy markets. In the first quarter of 2022, European short-term gas prices reached record highs with prices more than five times higher than their five-year average[3, 4]. This has raised concerns over European energy security, as it attempts to reduce its reliance on energy imports from Russia. Survey respondents expect that the war would drive more ambitious EU climate policy, with 54% of survey participants expecting the EU to strengthen the "Fit for 55" package. Respondents also noted that the EU's efforts to sharply reduce its reliance on Russian energy imports and accelerate the deployment of renewables will likely be a critical driver of future EU ETS prices[5].

Figure 5: What impact will the war in Ukraine and the subsequent concerns over European energy security have on the negotiations of the Fit For 55 policy proposal?



CBAM expected to be effective against the risk of carbon leakage

In July 2021, the European Commission proposed the establishment of the CBAM. The CBAM would apply a carbon levy on imports of certain goods from countries with less ambitious climate policies.

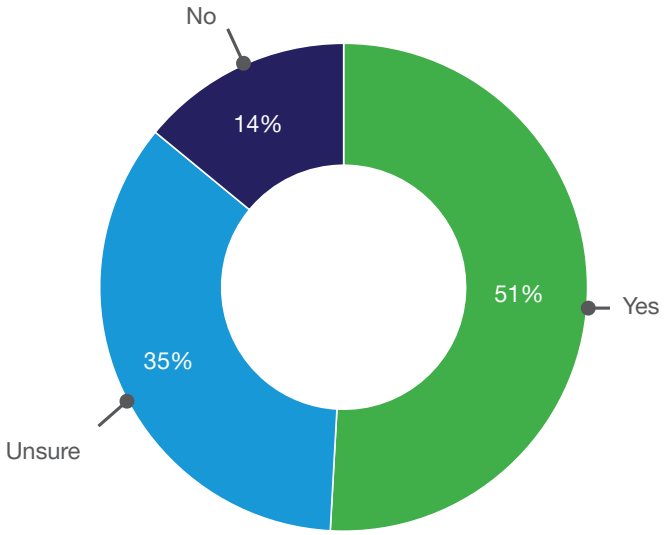
Based on the proposed timeline, from 2026 importers will start paying a financial adjustment and the free allocation of emission allowances for the CBAM sectors would be gradually phased out, to be removed entirely by 2035. The CBAM would initially cover electricity generation as well as the industrial production of iron and steel, cement, fertiliser and aluminium. However, exemptions would be granted to EU trade partners that have put in place emissions trading systems equivalent to the EU's.

In the survey, 65% of respondents believe that introducing the CBAM will be a "somewhat effective" way to mitigate the risk of carbon leakage, with a further 14% stating it will be "very effective". However, several responses expressed concerns over competitiveness for export-oriented industries unless a suitable regulatory solution is found. Respondents were split over whether EU trade partners would respond to the CBAM by establishing their own carbon pricing mechanisms in the next five years. 43% anticipate that they will, with a further 37% unsure and 20% disagreeing.

> "The CBAM will provide good protection within the internal market, however, a solution for exporting industries is required to ensure competitiveness.

Eventual linkage between the UK and EU ETS anticipated

Figure 6: The EU ETS and Swiss ETS established a provisional link in 2020, and 2021 saw the completion of the first compliance cycle under the linkage. Do you think that such a link is likely to be created in the future between the EU and the UK ETS?



May 2022 marked one year of trading under the UK ETS. Prices throughout the year have exceeded expectations, with an average auction price of £51.41/tCO2 (€59.74/tCO2)[6]. As a result, the UK Cost Containment Mechanism (CCM) – a mechanism designed to control price spikes in the UK ETS – was triggered twice (December 2021 and January 2022), but regulators decided to refrain from market intervention. Nearly half (48%) of respondents were unsure whether the current CCM thresholds are appropriate. In addition, several respondents questioned the purpose of the CCM if regulators are not prepared to use the mechanism when the thresholds are met or crossed.

Although the UK has signalled that it is open to linking its ETS with other international systems, no concrete steps have been taken in this direction so far. The EU ETS is deemed the most natural link, with the UK system design largely based on the EU's. 51% of respondents believe that a link between the UK and EU emissions trading systems will be established, with the majority expecting it to happen by 2025. However, this response marks a significant deviation from last year's survey, where 89% of respondents believed a link between the two systems would be created.

2. China and Asia-Pacific

China

Chinese National ETS prices expected to remain low

Launched in 2021, the Chinese National ETS became the world's largest ETS, covering 12% of global CO2 emissions. However, prices have remained low compared to other systems, with an average secondary market price of ¥46.61/tCO2 (€6.55/tCO2)[7]. Despite bullish sentiment on carbon prices across all markets surveyed, respondents still expect that prices in the Chinese National ETS will remain the lowest of all the systems covered in the survey. However, it still represents a significant increase from last year's sentiment, with an average price of €32.37/tCO2 between 2022-2025 and €44.82/tCO2 between 2026-2030, representing year-on-year increases of 159% and 114% respectively.

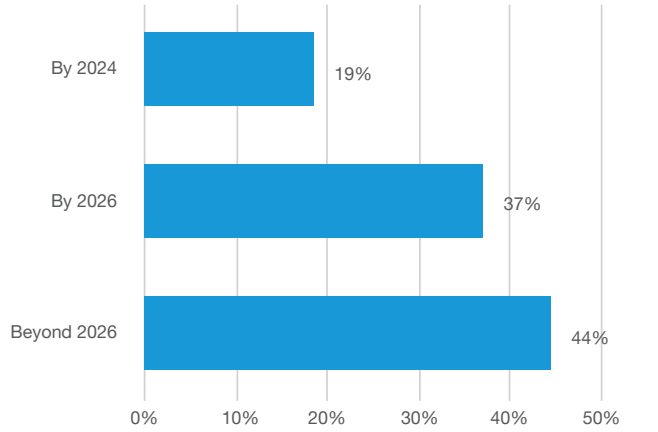
Auctioning under the Chinese ETS currently takes place through a free allocation of allowances. In 2021, the Chinese Ministry of Energy and the Environment stated that auctioning of permits could be introduced into the market. However, survey respondents were conservative in their expectations, with 52% believing that auctioning will come into force in 2026 or beyond. Only 22% of respondents expect that auctioning will be introduced into the market by 2024.

Currently, the Chinese ETS operates with an intensity-based cap, where the cap is based on an entity's actual production levels. Recent announcements to establish a more robust legal framework for the ETS indicate that the market may move towards setting an absolute cap. However, most respondents (46%) were unsure as to whether the Chinese ETS will change from an intensity-based cap to an absolute cap in the future.

Regional pilot integration not expected until after 2026

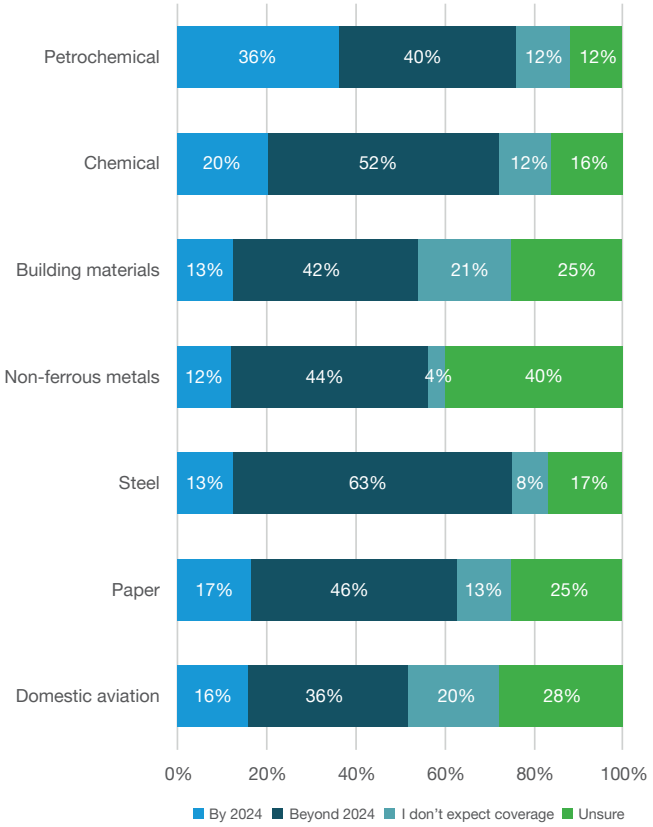
In line with last year's results, there was limited consensus amongst respondents around which industries are likely to be included next in the Chinese National ETS. Petrochemicals were identified as the most likely sector to be covered next, with 36% of respondents expecting coverage by 2024 – a slight increase from last year's survey. Chemicals (20%) and paper (17%) followed as the next most likely to be included by 2024. Overall, respondents considered building materials (21%) and domestic aviation (20%) as the least likely to be covered at any point in the future.

Figure 7: Existing Chinese regional ETS pilots are transitioning into the national ETS. When do you expect all pilots will be integrated into the national ETS?



The existing Chinese regional ETS pilots continue to operate in parallel to the national system. Over time, it is expected that the regional systems will integrate into the national ETS. However, 81% of respondents expect the regional ETS pilots to be integrated after 2024, an increase from last year's result of 57%.

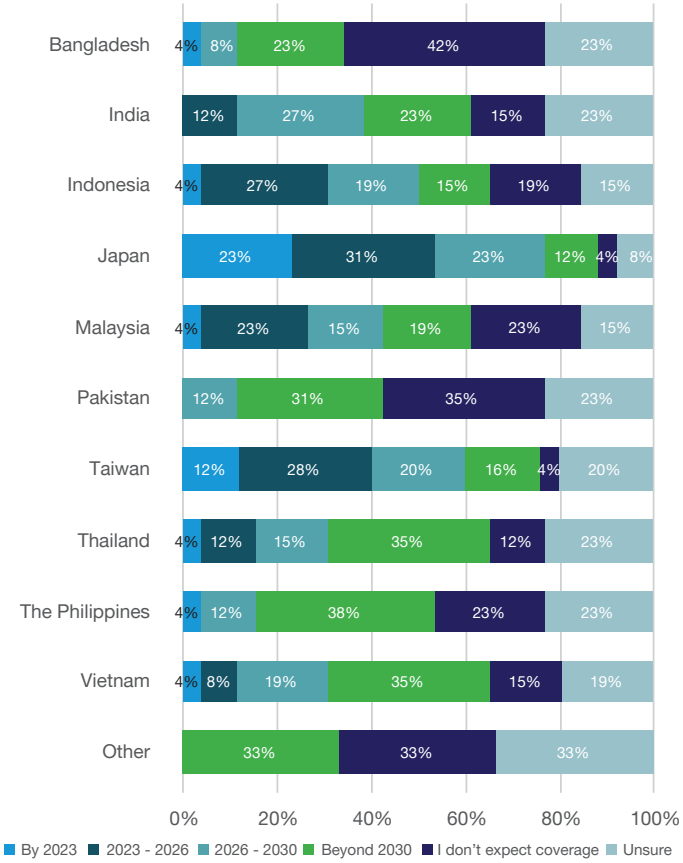
Figure 8: The Chinese ETS launched in 2021, becoming the world's largest ETS, covering over 4bn tCO2 in the power sector. When do you expect the following additional industries to be covered by the Chinese ETS (if at all)?



Rest of Asia-Pacific

Japan most likely to implement a carbon pricing scheme over the medium term

Figure 9: When do you expect the following countries and regions to implement a carbon price (covering at least the power sector), if at all?



Most respondents do not anticipate that a new carbon pricing scheme will emerge in Asia-Pacific by 2023. Consistent with last year's findings, Japan is considered the most likely to implement a carbon price (covering at least the power sector), with 54% of respondents expecting this to happen by 2026. This comes as the Japanese Ministry of Economy, Trade and Industry (METI) is expected to launch a voluntary market for Japanese companies in 2022, named the GX League. The GX League Basic Concept was announced earlier this year, with a call for companies to endorse it. The vast majority of respondents (69%) anticipate that the GX League will turn into a mandatory compliance mechanism. Respondents do not expect such a move to take place before 2026.

Elsewhere, respondents expect that a carbon pricing mechanism could be introduced in Taiwan (40%), Indonesia (31%) and Malaysia (27%) in the short-to-medium term (by 2026).

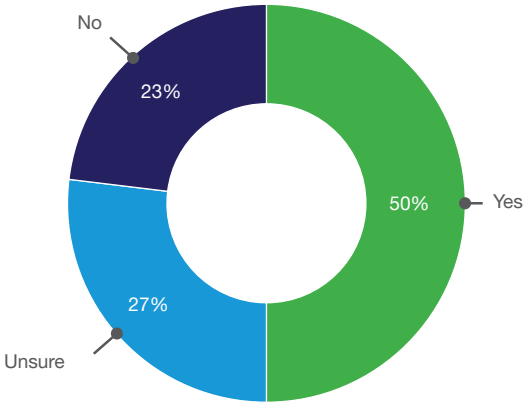
Improving market liquidity in Korea's National ETS

In 2021, financial institutions and emission trading brokers were included in the list of entities eligible for participation in the Republic of Korea's carbon market. In previous years, respondents have identified the inclusion of third parties as an important lever to enhance liquidity in the Korean ETS. However, this year, only 42% believed that the introduction of financial institutions and third parties into Korea's ETS improved market liquidity. This is a *significant deviation* fromy last year, where 71% of respondents believed inclusion would enhance liquidity.

The introduction of auctioning is considered effective in accelerating the withdrawal of free permits in the New Zealand ETS

In 2020, the Climate Change Response Amendment Act was passed in New Zealand, bringing about a number of significant reforms to the NZ ETS. This includes the introduction of an auctioning mechanism in March 2021. When asked about the impacts of auctioning, half of respondents (50%) believed that the introduction of auctioning in 2021 will speed up the phasing out of the free allocation of permits.

Figure 10: Auctioning was introduced to the New Zealand ETS in 2021. Do you think that the introduction of permit auctioning will speed up the phase out of free allocation of permits?



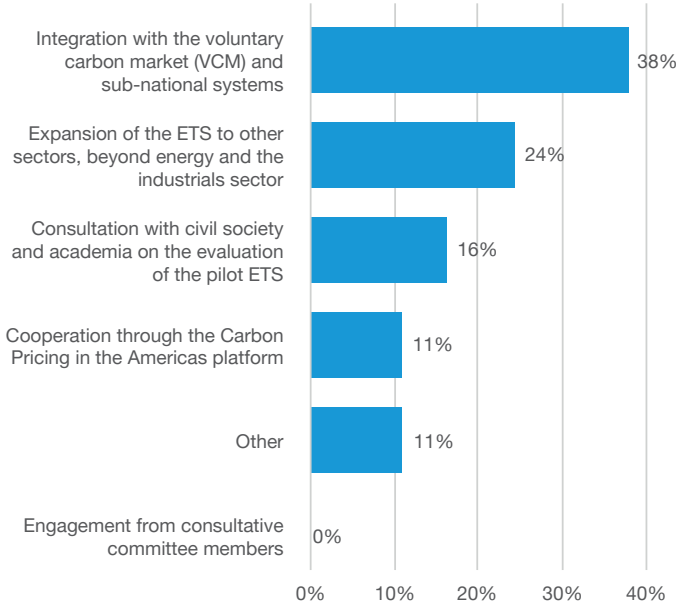
3. The Americas

Latin America

Mexico is expected to be the first country to introduce an ETS in Latin America

The Mexico Pilot ETS started operating in 2020, covering 40% of national emissions with participation from the energy and industry sectors. It has now entered its transition phase, as the system is prepared to become operational from 2023 onwards. The majority of respondents (62%) believed that "integrating the pilot ETS with the voluntary carbon market and subnational systems" or "expansion of the ETS to other sectors" will be the key factors to ensure the efficiency of the system.

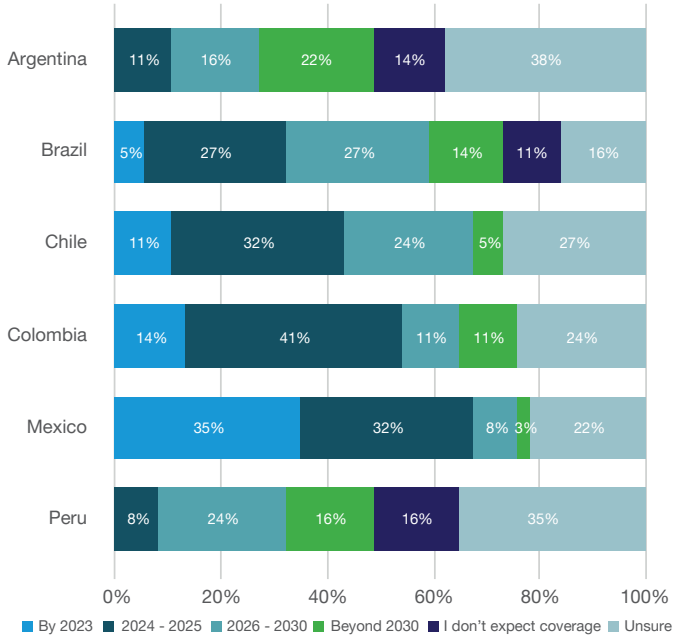
Figure 11: Mexico has entered the transition phase of its pilot ETS and started preparing the basis for its operational phase. What do you believe to be the primary condition for ensuring the efficiency of its ETS design?



As Mexico has the most mature ETS pilot in the region, it is unsurprising that the majority of respondents (68%) expect it to launch an operational ETS by 2025. Respondents anticipate Colombia (55%), Chile (43%) and Brazil (32%) will be the next most likely to launch an ETS in the region over the same timeframe. Peru and Argentina were considered the least likely to implement an ETS in the short term, with no respondents believing they will establish a system by 2023. Only 8% (Peru) and 11% (Argentina) of the respondents expect that either country will implement a system by 2025.

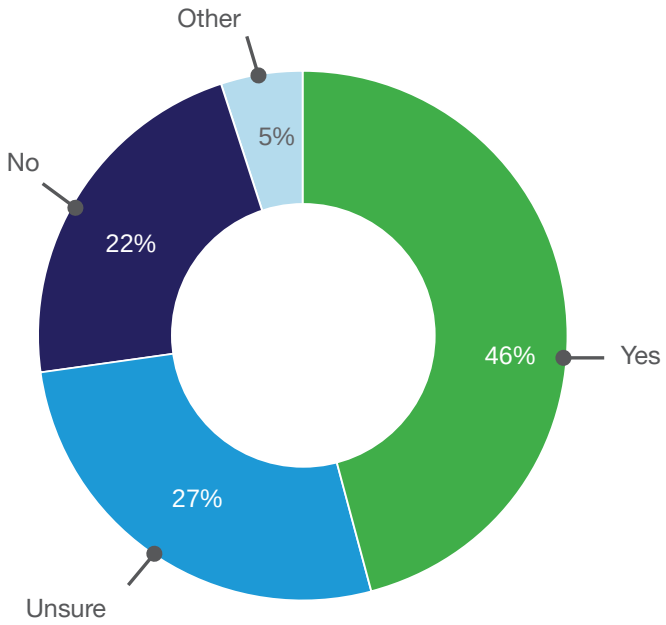
Sentiment around the likelihood that Brazil will establish an operational ETS remains low in the short-term. Only 5% of respondents anticipate that this will occur by 2023. However, 73% of respondents believe that Brazil will implement an operational ETS at some point in the future, an increase from last year's result of 69%. Respondents believe that if Brazil were to establish an operational carbon pricing scheme, the most important sectors to be covered would be: Oil & Gas (20%); Industry (17%); Power (15%); and, Agriculture, Forestry and Other Land Use (AFOLU) (15%).

Figure 12: When do you expect the following countries to launch an operational ETS?



In 2018, Colombia passed a law that included provisions to develop an operational ETS. However, the design of the ETS is currently under review by the government. In addition, Colombia has a carbon tax with an offsets component in place and is expected to engage in Article 6 transactions. Although respondents are optimistic that Colombia will establish an operational ETS by 2025, maintaining efficiency across different carbon pricing mechanisms in the country has been highlighted as a potential challenge. Nearly half of respondents (46%) indicated that, by engaging in Article 6, Colombia could establish a more efficient carbon pricing regime, attracting foreign investment that could increase the ambition of mitigation activities in the country.

Figure 13: Colombia has a carbon tax with an offsets component in place, and is also developing a domestic ETS. Do you think engaging in Article 6 transactions could contribute to establishing a more efficient carbon pricing regime?



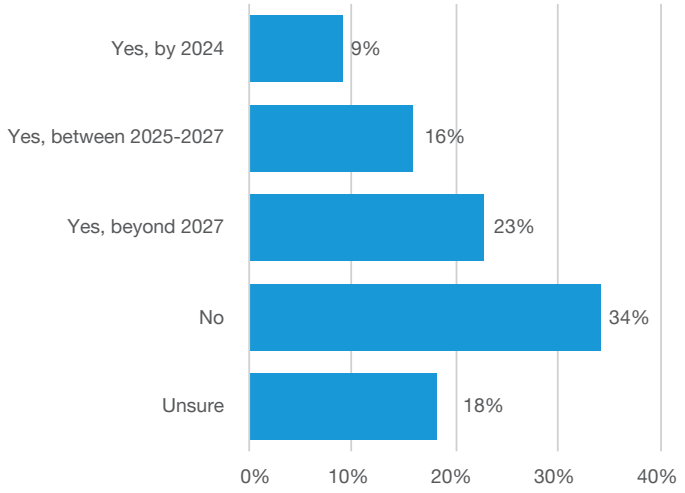
Political changes in Latin America might have varying implications for carbon pricing in the region

As Latin America emerges from the Covid-19 pandemic and several countries hold presidential elections, political changes might generate consequences for climate policy in the region. In Chile and Brazil, a large share of respondents, 57% and 49% respectively, consider that recent or eventual government changes could lead to "somewhat positive" or "very positive" effects on carbon pricing. However, a high level of uncertainty remains in the region in relation to the impacts of political change on carbon pricing. This uncertainty is particularly evident in Peru, Costa Rica and Colombia, where a significant number of respondents were unsure of the implications of political change on carbon pricing in the region.

North America

US unlikely to implement a federal carbon price

Figure 14: With the Business Roundtable, US Chamber of Commerce, and the American Petroleum Institute all endorsing carbon pricing, do you think that the US Congress will consider implementing a carbon price?



At the beginning of President Joe Biden's term, there was optimism that a federal carbon price would be implemented. In the 2021 survey, 47% of survey respondents considered it likely that Biden would introduce a carbon price in the US. However, optimism has declined and only 9% now expect the US Congress to implement a carbon price by 2024. 34% of respondents did not expect the US Congress to consider implementing a carbon price at all. This trend continues at state and city level, where in New York City (which outlined proposals for a citywide ETS in 2021), only 16% of respondents expect the City to introduce its own ETS as a part of its GHG reduction strategy.

In Washington State, an economy-wide emissions trading system will launch in January 2023. A key feature of the system is that it allows for linkages with other jurisdictions in the future, notably the Western Climate Initiative (WCI). However, respondents were split over when such a link would be implemented, with 36% of respondents expecting the link to take place beyond 2025, while a further 36% expect it to be by at least 2025.

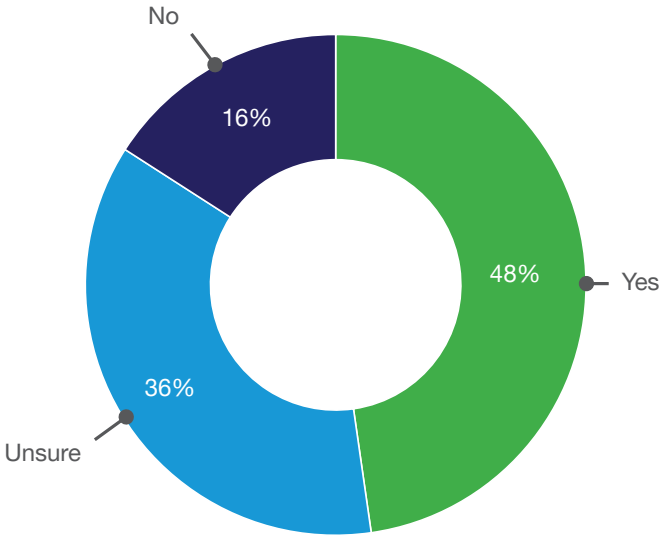
Canada expected to establish a Border Carbon Adjustment (BCA)

In March 2022, the Canadian Government launched its 2030 Emissions Reduction Plan, providing a sector-by-sector roadmap to achieve its NDC target of 40-45% emissions reduction by 2030. As part of the plan, the Government has updated its Pan-Canadian carbon pollution pricing benchmark, increasing the federal benchmark price on pollution by C$15 per year from 2023 up to C$170 per tonne by 2030.

In addition, Canada has committed to exploring measures that help guarantee the price of pollution, including the flagship Federal GHG Offset System. This system – launched in June 2022 – aims to encourage cost-effective domestic emissions reductions and removals from activities that are not covered by carbon pollution pricing. Survey respondents identified that "reaching agreements with provinces and territories" pose the biggest challenge to the implementation of Canada's federal offsets system in the coming year. This was followed by "finalising federal protocols establishing the approach for quantifying GHG emissions reductions for a given project" (15%) and "political instability" (15%). Over the coming year, federal consultations will occur on Canada's Clean Electricity Standard and approach to Oil & Gas caps. Oil & Gas cap compliance along with potential future voluntary schemes, were deemed the largest future demand sources for Canada's Federal offsets. Both were selected by 30% of respondents.

Last year, the Canadian Government signalled its intent to develop a Border Carbon Adjustment (BCA) mechanism. This included a public consultation process to gain feedback on the impacts of introducing a BCA in Canada. Survey respondents were optimistic about the likelihood of Canada introducing a BCA mechanism, with 48% of respondents expecting such a system to be introduced by 2030.

Figure 15: In 2021, the EU announced that a Carbon Border Adjustment Mechanism (CBAM) will be introduced by 2026. Do you think that Canada will follow suit and implement a Border Carbon Adjustment (BCA)?



4. Middle East & Africa

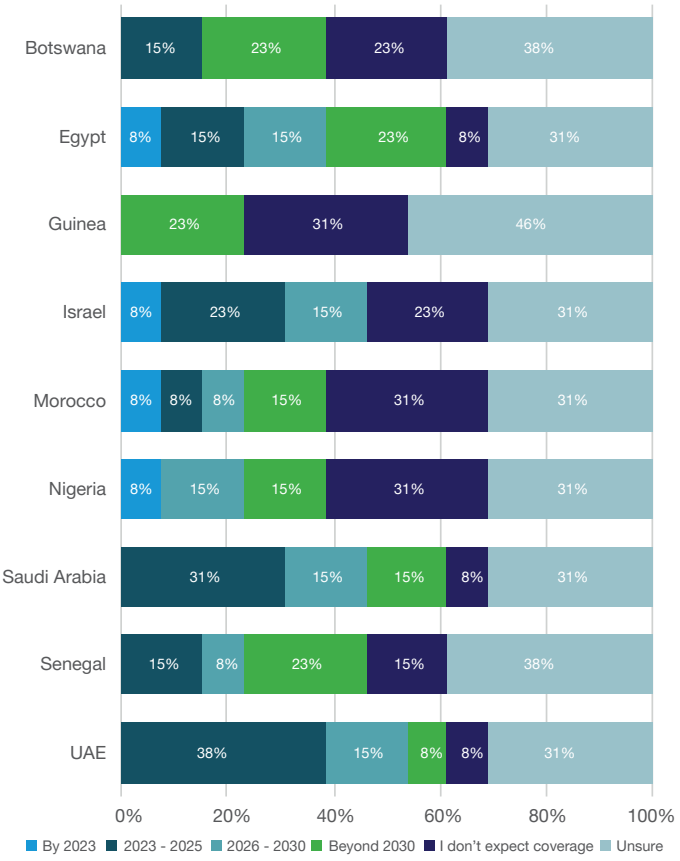
There are currently no emissions trading systems in operation across the Middle East and Africa, although some countries (including Botswana, Côte d'Ivoire, Israel, Morocco and Senegal) have implemented carbon taxes.

Respondents were not optimistic about the likelihood of a carbon pricing mechanism (covering at least the power sector) being implemented in the Middle East or Africa in the short-term. The UAE (53%) was considered the most likely country to develop a scheme by 2030, followed by Saudi Arabia (46%) and Israel (46%).

This sentiment is likely to be linked with the announcement in March that the first regulated carbon credit trading exchange and clearing house will be launched in Abu Dhabi in 2022. Similarly, it was announced last year that Saudi Arabia will launch a trading platform for carbon offsets and credits produced in the Middle East and North Africa to help it reach its Paris Agreement climate goals.

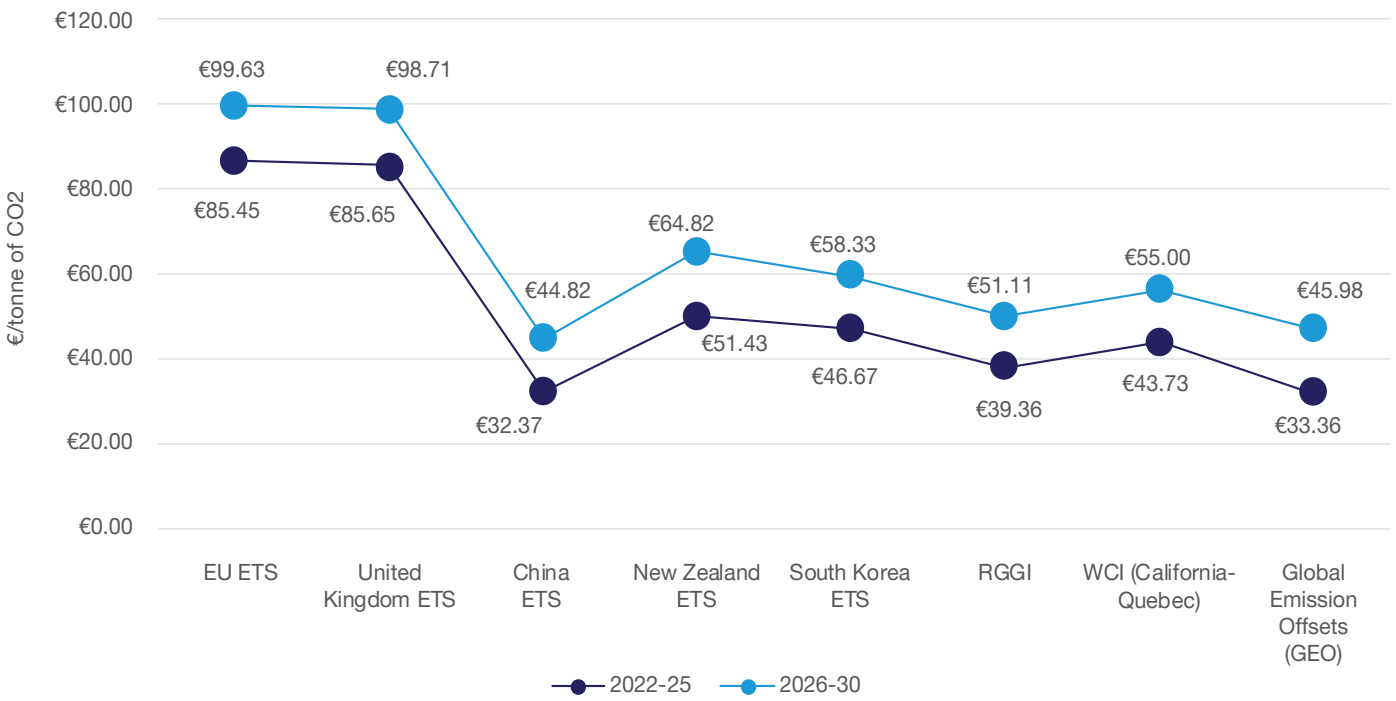
Guinea was considered the least likely to implement a scheme, followed by Nigeria, Botswana, and Morocco.

Figure 16: When do you expect the following countries and regions to implement a carbon pricing mechanism (covering at least the power sector), if at all?



5. Price trajectories

Figure 17: What do you expect the average carbon price to be for each of the following ETS in the periods 2022-2025 and 2026-2030?



Note: To calculate the expected average carbon price, where respondents selected the "Over €120" category this was assumed to be €135.

Each year, projected carbon prices are included in the survey in order to compare the market sentiment for prices year-on-year. Respondents selected price ranges which were then converted into weighted averages.

In contrast to last year, expected prices have increased across the board, as prices have risen dramatically in the past 12 months. In several instances, prices have already surpassed the projections made for the period 2026-30 in last year's survey. Most notably, the EU ETS broke the €90t/CO2 barrier for the first time in its history in February 2022, while the UK ETS has consistently traded at over £80t/CO2 (€93.78) throughout 2022.

Positive sentiment around the future of pricing across different systems is reflected in the survey responses, with significant increases expected across every system surveyed.

The EU and UK ETS have the highest expected average carbon price of any ETS across both periods of 2021-25 and 2026-30, with prices expected to nearly reach €100t/CO2 (£86) during the period 2026-30 for both systems.

Although initial trades on the Chinese ETS have been modest – at around €8/tCO2 – it is expected to reach €32.37/tCO2 during 2022-25 and €44.82/tCO2 between 2026-30, more than double what was expected in last year's survey. Similarly, following major reforms during 2021, the New Zealand ETS is expected to breach €50/tCO2 during the 2022-25 period. Global Emission Offsets (GEO)[8] were included in the survey for the first time, and significant increases in price are anticipated, with the price expected to reach €45.98/tCO2 by 2030.

Participants anticipate that the average global carbon price needed by 2030 to put the world on track to meet the 1.5°C goal is €124.35/tCO2, compared with €97.38/tCO2 to meet the 2°C goal. This is the first time that participants have been asked for sentiment on the required price to meet both the 1.5°C and 2°C goals, and represents a *significant increase* from last year's expectation that meeting the 2°C goal would require an average global carbon price of €63.20/tCO2. Similarly, the mean global carbon price needed by 2050 to meet 1.5°C is €200.50/tCO2, while the expectation for the 2°C goal has increased to €151.76/tCO2 (from €108.72/tCO2 last year).

71% of respondents use an internal or shadow carbon price in their investment decisions. Most companies (29%) use a carbon price below €20, followed by the €40-60 range (19%). 29% of respondents do not currently use an internal or shadow carbon price, but expect to implement one soon. Of those that use an internal carbon fee, nearly two-thirds invest the proceeds in further emissions reductions across the business.

Figure 18: Carbon price (€/tCO2) needed to meet the long-term goals of the Paris Agreement across successive surveys.

By 2030, what global carbon price do you believe is needed to meet the 2°C goal?

Year	Median	Mean	Min	Max
2022	€100.00	€97.38	€5.00	€200.00
2021	€50.00	€63.20	€10.00	€180.00
2020	€50.00	€55.97	€12.00	€180.00
2019	€50.00	€56.37	€20.00	€150.00

By 2050, what global carbon price do you believe is needed to meet the 2°C goal?

Year	Median	Mean	Min	Max
2022	€145.00	€151.76	€11.00	€550
2021	€100.00	€108.72	€10.00	€459.00
2020	€80.00	€96.84	€30.00	€250.00

By 2030, what global carbon price do you believe is needed to meet the 1.5°C goal?

Year	Median	Mean	Min	Max
2022	€120.00	€124.35	€5.00	€500

By 2050, what global carbon price do you believe is needed to meet the 1.5°C goal?

Year	Median	Mean	Min	Max
2022	€150.00	€200.50	€9	€950

6. International: Voluntary Carbon Markets

Demand for voluntary carbon credits expected to soar

Demand for carbon credits in the voluntary market saw significant growth in 2021, as the total market value of the global voluntary carbon market (VCM) exceeded $1 billion for the first time[9]. Respondents stated that the main drivers behind the increase in demand is linked with increases in corporate net zero pledges, challenges in reducing GHG emissions across corporate value chains, and due to demand from compliance obligations (e.g. schemes such as CORSIA).

Figure 19: What do you think are the primary drivers for the increase in demand for carbon credits?

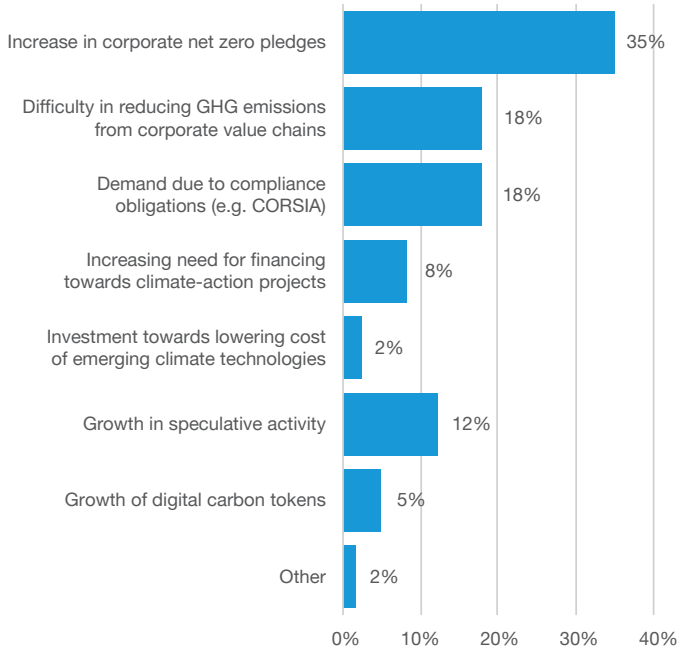


Figure 20: Do you expect to see market partition between carbon reduction/avoidance credits and carbon removal credits by 2030?

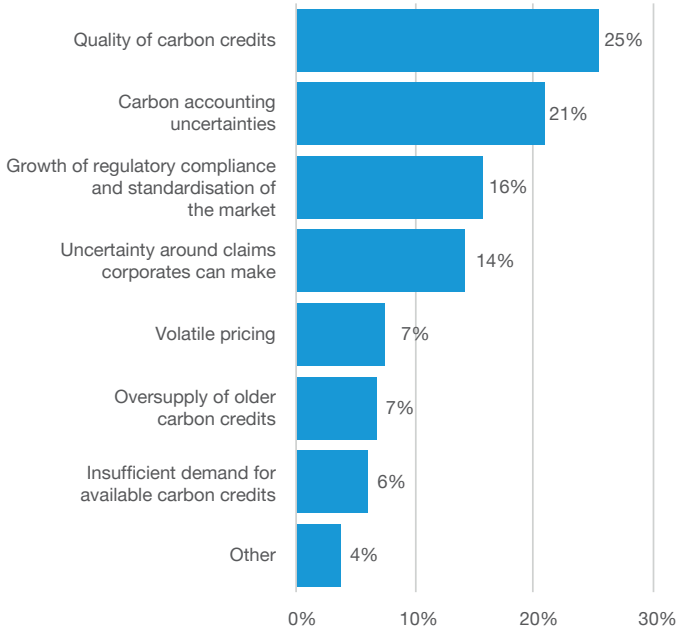
There is growing recognition of the importance of carbon removals in the transition to net zero. 70% of respondents expect to see market partition between carbon reduction/avoidance credits and carbon removal credits by 2030, an increase from 66% last year. The majority of respondents plan to use nature-based removal credits as part of their market growth strategy, with the most selected project types being Natural Climate Solutions (including forests, soil and wetlands projects) (26%) and reforestation projects (26%).

As the VCM is expected to continue to grow rapidly over the next decade, it has brought about questions over whether the VCM will be able to accommodate the increased demand. However, the majority of survey respondents (66%) believe that the VCM will be able to accommodate the growth needed to meet demand from net zero commitments and pledges to reduce emissions by 2030, an increase from 48% last year.

Challenges identified to scale up the voluntary carbon market

The biggest challenges for the continued development of the VCM over the next 12 months were identified as being the quality of carbon credits, carbon accounting uncertainties, and the growth of regulatory compliance and standardisation of the market.

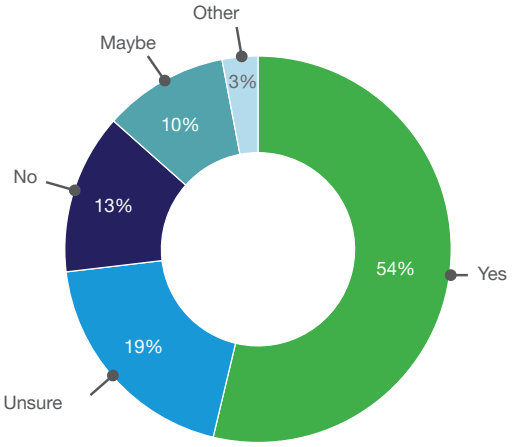
Figure 21: What are the two most important challenges facing voluntary carbon markets in the next 12 months?



In 2020, the Taskforce on Scaling Voluntary Carbon Markets (TSVCM) was established to deal with many of these issues. The TSVCM has since developed into the Integrity Council for the Voluntary Carbon Market (ICVCM) and other institutions – such as the Voluntary Carbon Markets Integrity Initiative (VCMI) – have also emerged to bring standardisation and credibility to the VCM.

However, there was mixed sentiment and agreement over whether these new governance bodies will bring greater transparency and standardisation to the VCM. The majority of respondents stated "maybe" (41%) or "yes" (36%) over whether they believe the new bodies will improve the integrity of carbon credits and contribute towards the long-term sustainability of the market. Only 12% of respondents disagreed.

Figure 22: Do you believe that governance bodies should be looking to address the conversion of carbon credits into digital tokens?



Since October 2021, around 20 million unretired carbon credits have been converted into digital crypto tokens. In response, the majority of respondents agree that governance bodies should be looking to address the conversion of carbon credits into digital tokens. In addition, respondents believe that the IETA Task Force for Digital Climate Assets should focus on "Monitoring, reporting and verification of digital assets" (34%), "Establishing the digital infrastructure to protect buyers and sellers" (22%), and "Creating a public record for digitalized tokens" (18%).

Alignment with Article 6 expected to present challenges for the Voluntary Carbon Market

Following the agreement on Article 6 at COP26, including the requirement that Corresponding Adjustments (CAs) be made for all credits used for compliance purposes, there has been debate about their application to the VCM. However, the majority of respondents (47%) disagreed that only carbon credits with a corresponding adjustment should be eligible for credible carbon neutrality claims.

The biggest challenges around future alignment of the VCM and Article 6 identified were "Challenges around aligning accounting methodologies for VCM and Article 6 projects" (32%), "Lack of incentives for host countries to provide corresponding adjustments to the VCM" (28%), and "Scarce supply of correspondingly adjusted carbon credits due to missing processes and infrastructure" (26%).

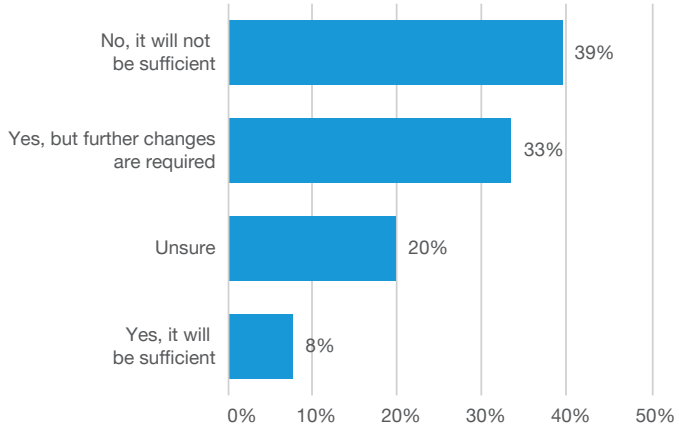
> "The additionality of credits remains an issue in the voluntary carbon market. Programs need to work together in setting more stringent certification mechanisms.

7. International: Article 6 and UNFCCC negotiations

COP26 deal deemed insufficient at present

Back in November 2021, agreement on the final aspects of the Paris Rulebook was finally reached by parties at COP26 in Glasgow, after six years of negotiations. Under Article 6, rules were set to enable countries to pursue voluntary cooperation to achieve their Nationally Determined Contributions (NDCs). These include rules for bilateral trading between countries through Internationally Transferred Mitigation Outcomes (ITMO) under Article 6.2, the creation of a new international carbon crediting mechanism under Article 6.4, and scope for other non-market approaches under Article 6.8.

Figure 23: Do you believe that the deal struck at COP26 on Article 6 will be sufficient to achieve the goals of the Paris Agreement?



However, only 8% of respondents stated that they believe the deal struck at COP26 will be sufficient to achieve the goals of the Paris Agreement, with 39% stating that it will not be sufficient. Some respondents stated that stronger national commitments and more ambitious NDCs will be required to achieve the long-term goals of the Paris Agreement. In addition, respondents were pessimistic about progress made in translating commitments into action since COP26. The majority (52%) stated there has not been significant progress.

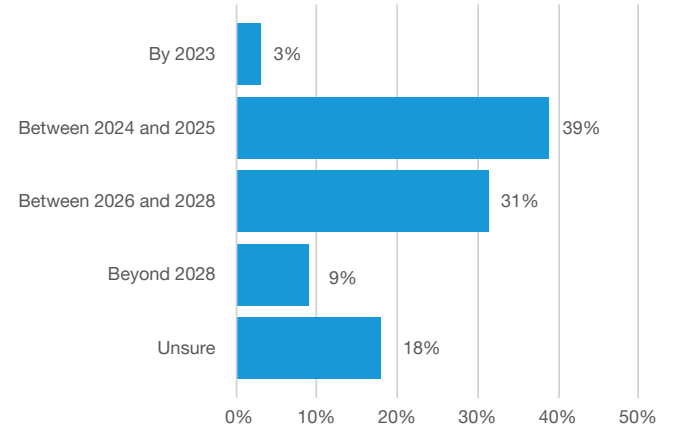
Further work required to operationalise Article 6.2 and 6.4

In 2020, Switzerland and Peru signed the world's first bilateral deal under Article 6.2 to help Switzerland meet its NDC target to reduce emissions by 50% by 2030 against 1990 levels. As part of the agreement, both countries committed to employ robust methods to prevent double counting of the emission reductions achieved. Switzerland has since made further agreements with Dominica, Ghana, Georgia, Senegal, and Vanuatu, and also signed a "joint declaration of intent" to invest into direct air capture (DAC) in Iceland in August 2020.

Respondents identified the "insufficient understanding around linkages between the mechanism and NDCs" (51%) as the main challenge in increasing the number and ambition of these types of deals over the next five years.

Under Article 6.4, negotiators agreed a 5% "share of proceeds" levy to help fund climate adaptation in developing countries, as well as a mandatory cancellation rate of 2% to help deliver an overall mitigation in global emissions (OMGE). Respondents were mixed on whether these agreements should be extended to apply under the bilateral system in Article 6.2, with 42% unsure. In addition, the Article 6.4 guidance allows the use of Certified Emission Reductions (CERs) issued under the Clean Development Mechanism (CDM) towards countries' first NDCs. However, 43% of respondents agreed that Article 6 market participants should avoid the purchase of credits from projects certified under the CDM.

Figure 23: When do you expect the Article 6.4 crediting mechanism to be fully operational?



Following the agreement at COP26, further decisions are needed to fully operationalise Article 6. However, only 3% of respondents expect the Article 6.4 crediting mechanism to be fully operational by 2023. 39% of respondents believe Article 6.4 will be operational between 2024 and 2025 and 31% between 2026 and 2028. Once operational, Article 6.4 approved credits (A6.4ERs) will be eligible to be purchased by any party. However, the majority of respondents anticipate that corporations (52%) will be the primary purchaser of A6.4ERs, ahead of countries (39%) and financial institutions (6%).

> "Article 6 is just a means to reach the targets set in the Paris Agreement. What is needed above all is more ambitious NDCs.

Bibliography

Ecosystem Marketplace (2021). Voluntary Carbon Markets Top $1 Billion in 2021 with Newly Reported Trades. Available at: https://www.ecosystemmarketplace.com/articles/voluntary-carbon-markets-top-1-billion-in-2021-with-newly-reported-trades-special-ecosystem-marketplace-cop26-bulletin/ (Accessed: 06 June 2022)

European Commission (2022). Opening remarks by Executive Vice-President Timmermans and Commissioner Simson at the press conference on the REPowerEU Communication. Available at: https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_22_1632 (Accessed: 13 June 2022)

Ember (2022). EUA Futures Prices. Available at: https://ember-climate.org/data/data-tools/carbon-price-viewer/ (Accessed: 06 June 2022).

International Carbon Action Partnership (2022). Emissions Trading Worldwide: Status Report 2022. Available at: https://icapcarbonaction.com/en/publications/emissions-trading-worldwide-2022-icap-status-report (Accessed: 07 June 2022)

International Energy Agency (2022). Gas Market Report, Q2-2022. Available at: https://iea.blob.core.windows.net/assets/cfd2441e-cd24-413f-bc9f-eb5ab7d82076/GasMarketReport%2CQ2-2022.pdf (Accessed: 13 June 2022)

Endnotes

1 Ember (2022). EUA Futures Prices. Available at: https://ember-climate.org/data/data-tools/carbon-price-viewer/ (Accessed: 06 June 2022).

2 Please note that the survey was conducted prior to the European Parliament's plenary vote on the EU ETS Revision on 8 June 2022 that resulted in referring the file back to the Committee on Environment, Public Health and Food Safety.

3 Dutch Title Transfer Facility (TTF) Natural Gas (USD/MMBtu)

4 International Energy Agency (2022). Gas Market Report, Q2-2022. Available at: https://iea.blob.core.windows.net/assets/cfd2441e-cd24-413f-bc9f-eb5ab7d82076/GasMarketReport%2CQ2-2022.pdf (Accessed: 13 June 2022)

5 European Commission (2022). Opening remarks by Executive Vice-President Timmermans and Commissioner Simson at the press conference on the REPowerEU Communication. Available at: https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_22_1632 (Accessed: 13 June 2022)

6 International Carbon Action Partnership (2022). Emissions Trading Worldwide: Status Report 2022. Available at: https://icapcarbonaction.com/en/publications/emissions-trading-worldwide-2022-icap-status-report (Accessed: 07 June 2022)

7 International Carbon Action Partnership (2022). Emissions Trading Worldwide: Status Report 2022. Available at: https://icapcarbonaction.com/en/publications/emissions-trading-worldwide-2022-icap-status-report (Accessed: 07 June 2022)

8 The CBL Global Emissions Offset (GEO) futures is a marketplace for buying and selling offsets from registries and emission reduction projects.

9 Ecosystem Marketplace (2021). Voluntary Carbon Markets Top $1 Billion in 2021 with Newly Reported Trades. Available at: https://www.ecosystemmarketplace.com/articles/voluntary-carbon-markets-top-1-billion-in-2021-with-newly-reported-trades-special-ecosystem-marketplace-cop26-bulletin/ (Accessed: 06 June 2022)

Survey methodology

The survey was conducted by PwC UK using an online survey tool. The questionnaire was developed jointly by PwC and IETA. An email was sent out to all IETA members to invite them to participate. The survey consisted of 60 questions, but participants were given some freedom to choose sections and subject matter that they felt most confident answering. The questions were predominantly multiple choice with the option of providing comments and alternative answers. The survey opened on 1 May 2022 and closed on 23 May 2022. Reminders were sent out by email between these dates to increase the response rate. As in last year's edition, unattributed quotes given by survey respondents were presented alongside the survey results, thereby giving all IETA members the opportunity to contribute in greater detail.

It is important to make a few observations regarding the interpretation of data and the comparability of results between IETA GHG Market Sentiment Surveys conducted in different years. Firstly, the sample size may differ between results. Secondly, since the first edition of the survey in 2005, different groups have been asked to participate. In the first four editions, only IETA members were asked to reply, by sending in one response per organisation. The mailing list was enlarged for the fifth and sixth editions of the survey, to include a wider range of GHG market participants and observers. The seventh survey, in 2012, was based on semi-structured interviews with key IETA members. In 2013, the original approach of surveying IETA members only was readopted. Since 2014, the survey has allowed multiple responses per IETA member company to gain a broader survey of sentiment among market participants.

It should also be noted that several questions in the survey gave participants the option of selecting multiple answers. Hence, not all percentages displayed throughout the report add up to 100%. Moreover, where participants were asked to rank choices, weightings were applied accordingly. Finally, due to rounding, the percentages displayed in graphs may sometimes show slight discrepancies with the text descriptions or appear to not add up 100%.

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The International Emissions Trading Association (IETA) is a non-profit business organisation created in June 1999 to serve businesses engaged in the new field of carbon markets. Our objective is to build international policy and market frameworks for reducing greenhouse gases at low cost. Our vision is a single global carbon price produced by markets of high environmental integrity. We pursue this vision with an eye to pragmatism, political reality and sound economics. With deep relationships in key policy centres and commercial arenas, IETA is the collective voice for the full range of businesses involved in carbon markets – all around the world.
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