

Refinitiv Carbon Market Survey 2021

Higher carbon price triggers companies to slash emissions

To the point:

- EU ETS seen as an ever more important driver of emission reductions in Europe: 68% of emitter respondents say it makes them reduce or plan reductions. This compares to 46% in 2020 and 58% in 2019.
- A record-high 63% consider the EU ETS as being a decisive factor for investment decisions, compared to only 27% in 2020, and 52% in 2019.
- More ambitious climate policy is seen as the prime price driver for European carbon. Some 68% of respondents say this is important, 61% say trading for financial investment (not for compliance purposes) is important. Adjacent energy markets and weather – the traditional fundamental price drivers – are seen as less important.
- 60% expect UK carbon prices to align with European levels once the UK ETS launches trading on 19 May. Half of the survey respondents expect linking between the two systems to be in place by 2025.
- In the newly launched Chinese national ETS, only 24% of the respondents expect trading to occur within the first half of 2021, despite pressure from the government for a quick start.
- Currently, the Chinese ETS covers only emissions from fossil power generators. Respondents see iron/steel as the top candidate for the first scope expansion, even though that sector faces particularly challenging benchmark calculations. Expectations of steel's early inclusion might reflect a concern about EU preparations for a Carbon Border Adjustment Mechanism (CBAM) that threatens to put a levy on emission intensive imports such as steel, unless these are subject to some form of carbon pricing equivalent to Europe's.
- Positive view on carbon offsetting as part of ESG strategy: 57% of the respondent pool somewhat or strongly disagrees with the notion that offsetting is "pure greenwashing" as some advocacy groups espouse. 33% agree, and 10% have no opinion.

7 May 2021

Analysis by Refinitiv Carbon Research team

REFINITIV CARBON RESEARCH

PROVIDING CRITICAL INSIGHT INTO ENERGY AND ENVIRONMENTAL MARKETS

Refinitiv is one of the world's largest providers of financial markets data and infrastructure, serving over 40,000 institutions in over 190 countries. We provide leading data and insights, trading platforms, and open data and technology platforms that connect a thriving global financial markets community - driving performance in trading, investment, wealth management, regulatory compliance, market data management, enterprise risk and fighting financial crime. Since 2019, Refinitiv is part of the London Stock Exchange Group (LSEG).

Refinitiv Carbon Research provides independent news and analysis for international energy markets. We monitor fundamental data, policy developments, and key market players in order to provide professionals with market-moving information. Our carbon team (originally Point Carbon) provides an unrivalled knowledge of emission trading dynamics that positions us as the number one supplier of in-depth market intelligence.

The Carbon Market Survey 2021, including this report, is the result of co-operation among a team of Refinitiv Carbon Research analysts: Aje Singh Rihel, Anders Nordeng (Oslo); Maria Kolos (Kiev); Yuan Lin, Cathy Liao (Beijing); Lisa Zelljadt (New York).

For citations please refer to: "Refinitiv Carbon Market Survey 2021, A. Nordeng et al., May 2021".

CONTENTS

Executive summary	4
1. EU ETS	5
<i>Drivers and prices</i>	5
<i>Fit for 55%</i>	6
<i>Scope expansion</i>	6
<i>The EU ETS spurs abatement</i>	7
<i>... and impacts competitiveness</i>	8
<i>The role of financial investors</i>	9
2. UK	10
3. China	11
<i>Stakeholders still see operational changes</i>	11
<i>Metals top candidate for scope expansion</i>	11
<i>Prices and climate targets</i>	12
4. North America	14
5. South Korea	15
6. Aviation	17
<i>Will CORSIA be effective?</i>	17
7. ESG and voluntary offset markets	19
<i>Offsetting is not the most popular climate action</i>	19
<i>Price and quality of offsets</i>	20
<i>Reasons for abstaining</i>	21
8. Paris Agreement	22
<i>Art. 6 or bilateral framework?</i>	22
<i>Still hope for legacy offsets from CDM?</i>	22
<i>Will voluntary purchasing be the big market for climate offsets?</i>	23
<i>Modest expectations for US “return to Paris”</i>	23
9. New Zealand	24
10. Methodology and population of respondents	25

The 2021 Carbon Market Survey reveals higher price expectations in key markets, and a growing perception that cap-and-trade systems deliver emission abatement and that the cost of CO₂ is becoming crucial for investment decisions. The findings, collected in March-April, reflect an overall more bullish sentiment compared to one year ago, when the survey was conducted against the backdrop of Europe's first corona lockdown, and plummeting prices of energy commodities, including carbon.

Since then, global financial and energy markets have largely recovered, few more strongly than European emission allowances, whose price have leapt from €19 per tonne in May 2020, to its current level around €50/t.

In the meantime, policy makers, most notably in Europe and China, have made decisions that will have huge impacts on the two jurisdictions' emission trading systems. Where Europe represents the highest value and traded volumes, the Chinese system, launched in January, is already biggest in terms of covered emissions.

RECORD HIGH PRICES LIFT CONFIDENCE IN EUROPE'S FLAGSHIP ABATEMENT INSTRUMENT

Among the key findings this year, we see a remarkable shift in the perception of EU ETS's relevance in driving emission reductions. More than half of the regulated emitters who answered this question agree that the EU ETS "continues to cause emission reductions", and another 14% said it has led them to "plan, but not yet start reductions". At 68% combined this compares to 46% in 2020 and 58% in 2019. (Fig. 1.7)

A record-high 63% consider the EU ETS as being a decisive factor for investment decisions, compared to only 27% in 2020, and 52% in 2019. (Fig. 1.10)

Respondents expect the price of European emission allowances (EUAs) to keep rising in the coming years and up to 2030. In March, EUAs traded at €40/t and a majority of respondents predicted a price of €50/t in 2022 (Fig. 1.3). That level was reached on 4 May.

More ambitious climate policy is seen as an important price driver by 68% of the Europe section respondents. Some 61% say trading for financial investment (not for compliance purposes) is an important driver. The traditional price drivers (adjacent energy markets, weather) are seen as less important. (Fig. 1.2)

The new standalone UK ETS will launch trading on 19 May. A majority of respondents expect early UK prices to align with the level observed in the EU ETS. Half of the survey respondents expect linking between the two systems to be in place by 2025. Some 20% think already next year. Only 5% say they don't believe linking will ever happen. (Fig. 2.2).

CHINESE EXPECT DELAYED START OF TRADING

China launched a nationwide emission trading system in January, building on eight years' experience with regional pilot markets. Although government officials have pushed for

trading of allowances to start by the end of June, only 24% of the respondents on China expect trading to occur within the first half of 2021. (Fig. 3.1)

One-third of the respondents expect the price of Chinese emission allowances to range from 20 to 40 CNY per tonne, and one-fourth expect prices to range from 41 to 60 CNY/t. The weighted average is 37.7 CNY/t (€4.8/t). (Fig. 3.4)

Currently, the Chinese ETS covers only fossil power generators, but more industry sectors are set to be added gradually. Respondents see iron/steel as the top candidate for the first scope expansion, even though that sector faces a particular challenge in terms of benchmark calculations. We think the responses reflect a concern about EU preparation for a Carbon Border Adjustment Mechanism (CBAM), which threatens to put a levy on emission intensive imports such as steel, unless these are subject to some form of carbon pricing equivalent to Europe's. (Fig. 3.3).

POSITIVE VIEWS ON VOLUNTARY CARBON OFFSETTING AS PART OF ESG STRATEGY

Companies worldwide are increasingly committing to emission reduction goals, motivated by evidence that "carbon neutral" products are more attractive to clients, investors, and future employees. Some of them use, or plan to use, carbon offsets to help reach carbon neutrality or net zero goals. Asked their views on carbon offsetting, nearly 60% of the respondent pool somewhat or strongly *disagrees* with the notion that offsetting is "pure greenwashing" as some advocacy groups espouse. Instead, nearly 80% of respondents agree with the idea that offsetting allows companies that do not emit GHGs to contribute to emission reductions elsewhere. (Fig.7.2)

Choosing offset units that have a real and documented positive climate impact is not a straightforward procedure. There is a multitude of suppliers and no common international standard. A potential buyer might decide to focus on project type (e.g. renewable energy, tree planting), or alternatively target a specific country of origin (e.g. least developed country). Almost 60% of respondents who answered the survey question on choosing offsets consider project type a key priority (Fig.7.4). Almost half find the offsets' *certification or standard* very important. Fewer care about credits' vintage year or project location.

ABOUT THE SURVEY

The survey ran from 16 March to 10 April using a ClickTool online questionnaire. Invitations were sent by e-mail and in social media such as WeChat (Chinese platform). In total 303 respondents started the survey. The questionnaire consisted of a general part, plus sections specific to the various major carbon markets. Most respondents were interested in Europe, China, and Environmental and Social Governance (ESG). See Chapter 10 for more details on methodology and respondent profiles.

1. EU ETS

The European carbon market is experiencing a boom period unlike any other since its inception in 2005. The price of one emission allowance (EUA) – corresponding to one tonne of CO₂ emissions – reached €40 during the survey period in March and has since reached €50. Even though it has long been a cornerstone of European climate and energy policy, it is only in the last few years that the EU ETS has really started to draw attention beyond the circle of its direct stakeholders, i.e. regulated emitters, traders, lobbyists and lawmakers. Now, it is set to play a key role in delivering the 2030 target of at least 55% emission reduction (compared to 1990-levels), and, beyond that, in reaching net-zero in 2050.

Against this backdrop, and with expectations of an ever more stringent emission cap, prices have risen steadily since 2017 amidst the increasing presence of investors that are in it for the profit (long or short term) or to hedge climate risk, not because they have emissions to account for. This year's survey respondents see non-compliance trading as the second most important price driver.

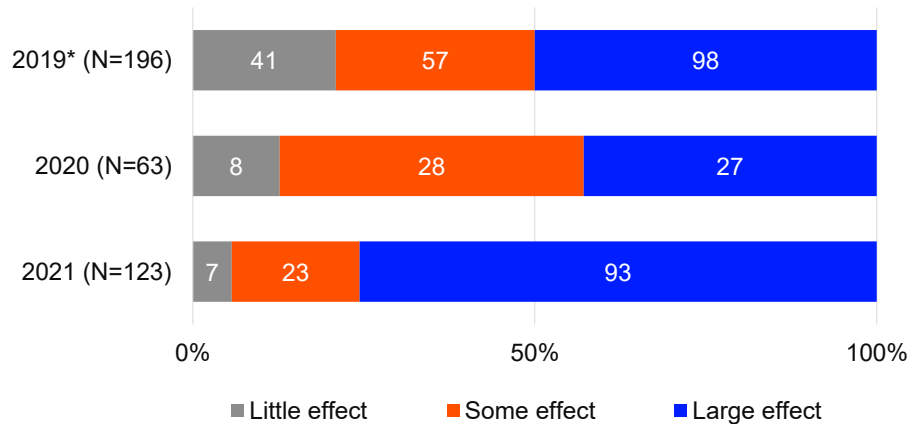
Also, as the cost of emissions has leapt from €20 to €50 per tonne in twelve months, utilities and industries are becoming much more aware of how the EU ETS affects their operations. A much higher share of emitter respondents now say it drives abatement, that it is detrimental to their competitiveness, and that it is a decisive factor for investment decisions.

DRIVERS AND PRICES

Respondents were first asked to rate the importance of the three abatement drivers: the EU ETS, other EU policies, and national climate policies, on a scale from 1 to 5. We have subsumed 1 and 2 into little effect, 4 and 5 into large effect. Some 76% of respondents think the EU ETS has a large effect, well ahead of 64% for other EU-wide measures and 53% for national ones. Compared to other recent years (Fig. 1.1), the share who thought the ETS has a 'large effect' increased markedly. The most obvious explanation for this change in perceived importance of the ETS is the stark rise in allowance prices. The survey period last year was marked by the spread

Figure 1.1. Abatement drivers

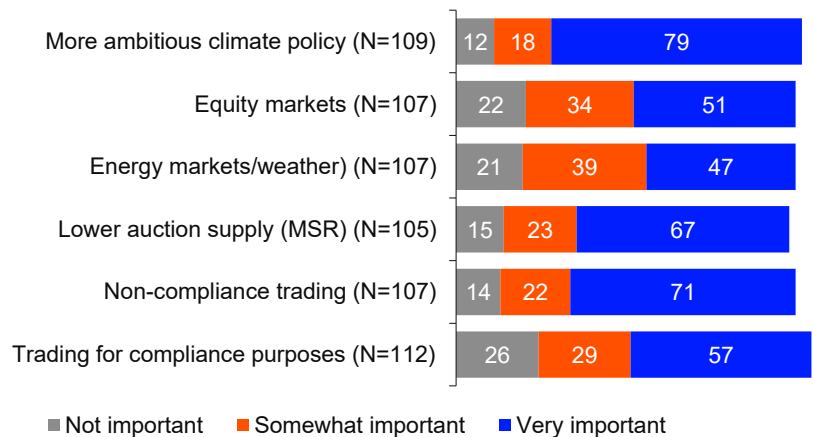
The figure shows responses for ETS only, alongside corresponding findings in 2020 and 2019.



Source: Refinitiv

Figure 1.2. Price drivers

Respondents were asked to rate the following price determinants.



Source: Refinitiv

of the Covid-19 virus in Europe, and EUA prices plummeted from €24 to €15/t. This year has seen record high prices, with March featuring fluctuations around the €40/t level.

Asked which factors drive EUA prices, respondents rated e.g. energy markets/ weather, climate policy, and compliance and non-compliance trading. Of the 109 responses, 79 consider more ambitious climate policy a very important price driver (Fig. 1.2). Nearly as many, 71, see non-compliance trading (market participation by purely financial investors) as very important. Slightly less than half see the energy complex and weather as a very important driver. A similar pattern was seen when we asked traders specifically how they perceive financial

and fundamental drivers (see Figure 1.12 at the end of this chapter).

PRICE EXPECTATIONS

Overall, respondents expected EUA prices to continue to rise in the coming years. The degree to which they did so, however, shows how unexpected the current steep EUA price rise is: in March, when the responses were collected, price expectations for the entire year 2021 averaged around €40/t to €45/t (Fig. 1.3). Current prices are hovering around €50/t, which is actually the range respondents predicted for 2022. Respondents have more mixed views on 2030 prices, with €80 seen as the most likely, followed by €100 or more, then €50. Our current long-

term forecast (from October 2020) sees prices at €89/t in 2030, while some analysts predict a level far beyond that.

FIT FOR 55%

In February 2020, the European Commission presented a draft Climate Law aiming for net zero emissions in 2050. In April 2021 the European Parliament and Council agreed on an interim target of “at least 55%” below 1990 emissions levels by 2030. Since this represents a major tightening of ambition from the previous 2030 goal of 40% below 1990 levels, nearly all the EU’s climate and energy related legislation must be adjusted. The European Commission is preparing a raft of new legislative proposals that is set to be presented in mid-July, followed by complex negotiations among the lawmakers.

We asked respondents when they expect the resulting “fit for 55%” framework to enter into force. The question garnered 113 responses, 29% of which expect entry into force in 2023. Some 21% believe the new legislation will be in force in 2025, and 16% already in 2022 (Fig. 1.4). The entry into force is of huge importance to the EU ETS because the later it happens, the more aggressively the cap needs to be reduced year-on-year. The base case scenario in our price forecast assumes that the legislative process following the proposal could be implemented in 2023 or 2024.

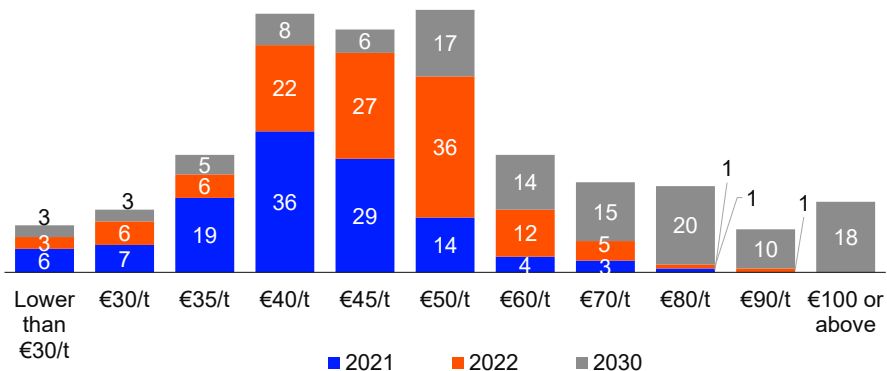
For the EU ETS, the new 2030 target will mean the emission cap will be much tighter - there will also be changes to the scope of the programme (new sectors may be covered), and the calibration of the Market Stability Reserve. We asked respondents to rank four different ways of tightening the ETS cap, with an increase in the linear reduction factor perceived as most likely. “Rebasing” the cap (a one-off reduction to align the cap with actual emissions) is seen as second most likely. Early application of a strengthened cap and a combination of the above are seen as less probable.

SCOPE EXPANSION

Another important element up for review is the scope of the EU ETS that currently covers power generation, emission intensive industry and intra-European aviation. The European Commission is

Figure 1.3. Price expectations 2021, 2022, 2030

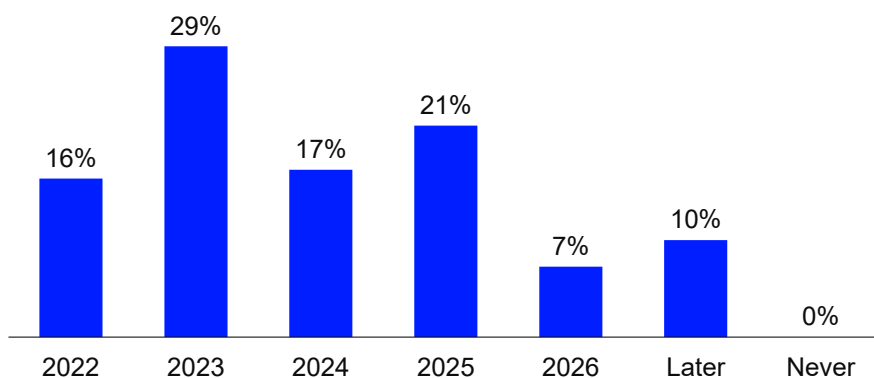
“What do you think will be the annual average price of EUAs in the coming years and in 2030?” N=119



Source: Refinitiv

Figure 1.4. Fit for 55% in 2023?

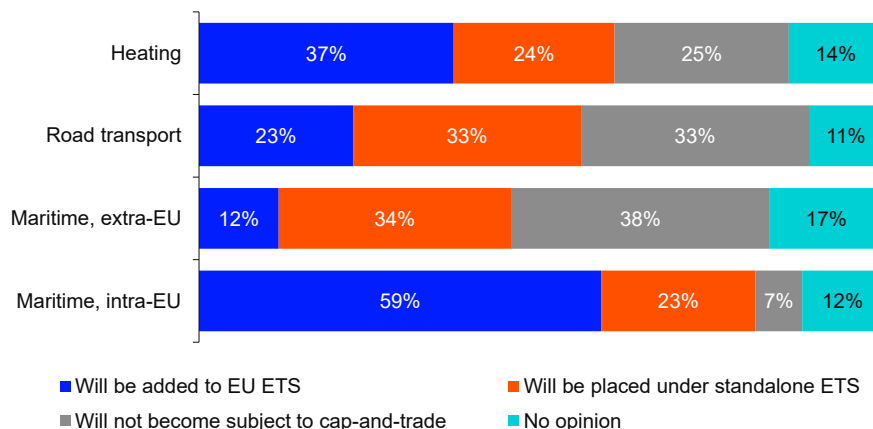
“When do you expect the “Fit for 55” framework to enter into force?” N=113



Source: Refinitiv

Figure 1.5. Scope expansion

“How do you perceive the inclusion of the following sectors under a cap-and-trade system?” N=103



Source: Refinitiv

considering which other sectors might be added. The largest faction in the European Parliament, EPP (centre-right) is pushing for heating of buildings and road transport to be added, but other factions as well as several member states warn that this will likely entail extra costs for modest-income households. At the recent climate summit in Washington, Commission President Ursula von der Leyen hinted that the proposal will probably be to for a gradual expansion, creating adjacent or parallel emission trading systems. If so, that would be along the lines of what Germany has already done at a national level for transport and heating.

Many survey respondents expect intra-EU maritime transport and heating to be added, while relatively few believe road transport or extra-EU maritime transport will be included (**Fig.1.5**).

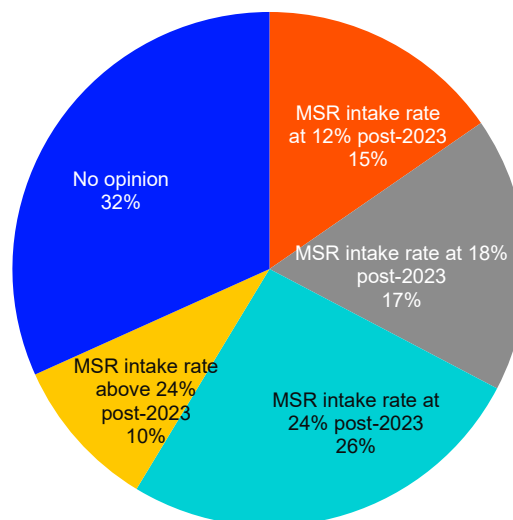
A key element of the forthcoming ETS reform will be the recalibration of the Market Stability Reserve (MSR), the supply-balancing instrument that came into effect in 2019. Offered four different options for recalibration, **Figure 1.6**, some 26% expect the intake rate to remain at 24% post 2023 - by the current default legislation it would switch to 12%. Another 17% think the intake rate will be set at 18%. Nearly one third of the respondents to this question had no opinion, suggesting they do not follow the EU ETS at this level of detail.

THE EU ETS SPURS ABATEMENT...

Although participants in the EU ETS are becoming an increasingly heterogenous group, the key stakeholders in the EU ETS are emitters: those obliged to report emissions and surrender allowances to cover those emissions or face penalties. Since 2012, our survey has asked this subgroup of respondents four questions on how it assesses the impact of the EU ETS: whether the ETS has led to emissions reductions, whether it impairs competitiveness, whether it incentivises moving production to countries not subject to an ETS, and whether it affects investment decisions. Around 25 respondents characterised themselves as compliance entities and answered these questions in the 2021 survey.

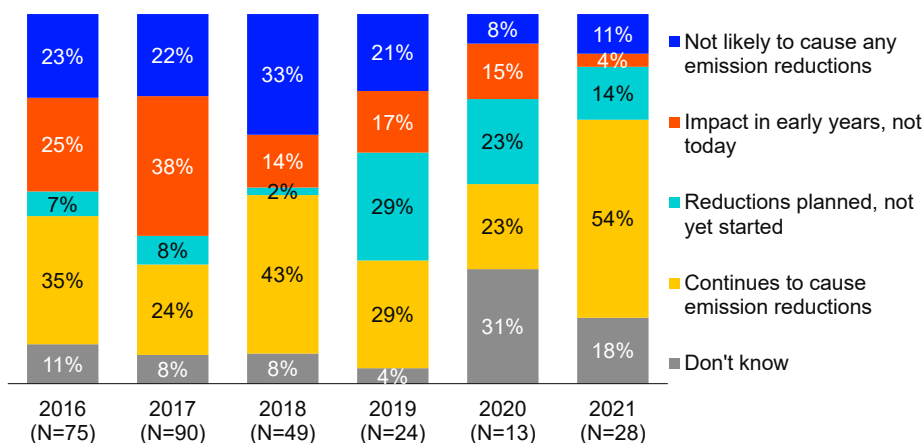
The most important element for assessing the merits of an emissions trading system is whether it leads compliance entities to reduce their emissions. In aggregate,

Figure 1.6. MSR Review
 "What do you expect will be the result of the MSR review process?" N=104



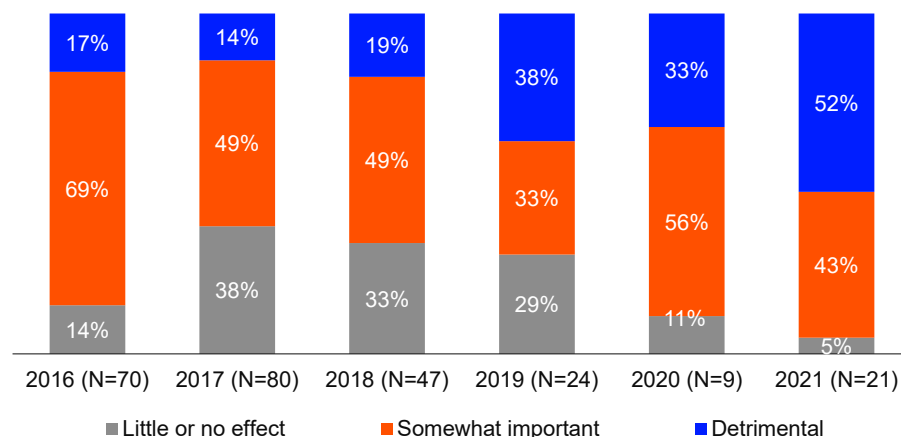
Source: Refinitiv

Figure 1.7. Reduction effect
 "To what extent has the EU ETS caused your company to reduce emissions?"



Source: Refinitiv

Figure 1.8. Competitiveness effect
 "How do you perceive the impact of the EU ETS on your competitiveness, compared to other factors?"



Source: Refinitiv

emissions from the companies subject to the EU ETS have been falling steadily since the programme began. This is particularly the case within the power sector, mainly due to coal to gas switching and a rapid deployment of renewable energy sources. Emission reductions within the industry sectors have been less prevalent, as industrial processes have historically been harder to replace with alternative, less emitting solutions.

There is, however, a continued debate around the extent to which abatement can be attributed to the EU ETS vs. other factors. Our survey asks emitters directly whether the EU ETS has triggered and/or continues to trigger emission reductions.

Comparing the results from this year's survey to previous years' results, there has been a remarkable shift in the perception of EU ETS's relevance in driving emission reductions. More than half of the 28 compliance entity respondents who answered this question agree that the EU ETS "continues to cause emission reductions," and another 4 respondents said it has led them to "plan, but not yet start reductions." This is the highest result for these two alternatives combined in the last six years (**Fig. 1.7**).

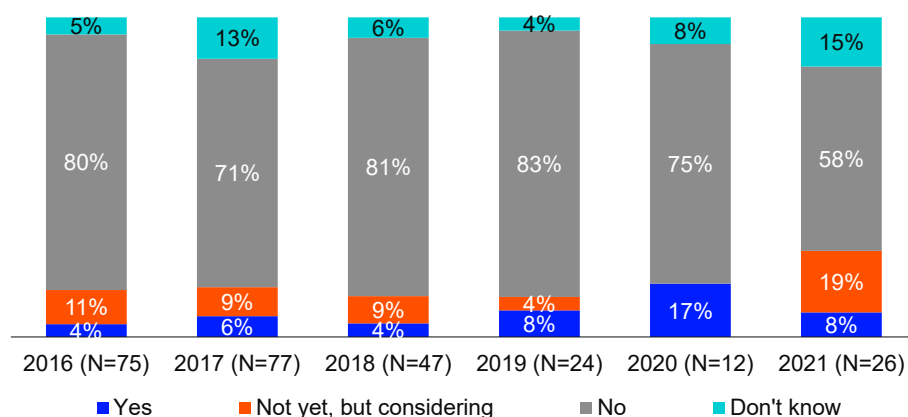
Another striking difference this year is the much lower combined share of "Not likely to cause any emission reductions" and "Impact in early years, not now." During 2014-2018, nearly half the respondents chose one of those two answers, but the share has since dropped steadily to only 14% in 2021. This indicates that the tightening of the EU ETS that has taken place since 2019 is having a direct impact on emission reductions, and that emitters expect it to do so in the future.

... AND IMPACTS COMPETITIVENESS

Similar to the EU ETS' perceived impact on emissions, compliance companies have also changed their view on how it impacts competitiveness. While 63 percent of the compliance respondents saw the EU ETS as "detrimental" or "somewhat important" to their competitiveness in 2017, a staggering 95% of the respondents hold that view in 2021 (**Fig. 1.8**). Of the 21 respondents to this question in the 2021 survey, 11 considered the EU ETS detrimental to their competitiveness.

Figure 1.9. Location effect

"Has your company moved operations/investments outside the EU ETS because of carbon costs?""

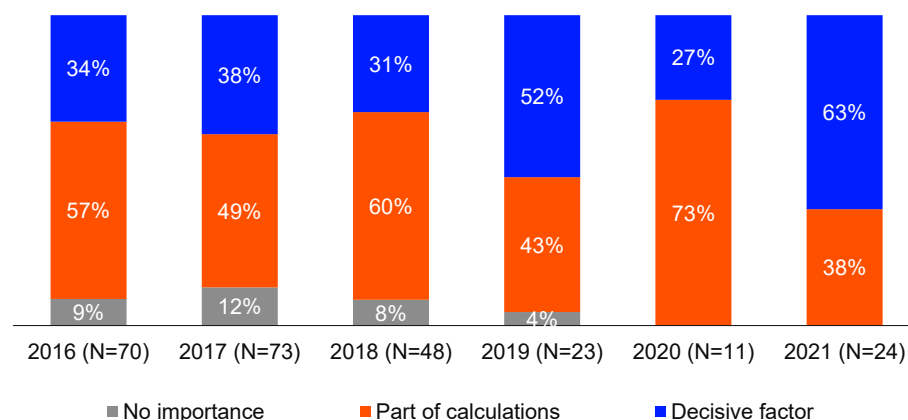


* Until 2019 this question read: "Has your company moved production/activity outside the EU ETS because of carbon costs?"

Source: Refinitiv

Figure 1.10. Investment effect

"How important is long-term carbon price for your company's investments?""



Source: Refinitiv

Only two of 26 respondents answered in the affirmative when asked whether their company has moved production outside the EU to avoid carbon costs. That equates to a share of 8%, which is lower than the 17% share in 2020 but in line with the results in 2019. However, nearly one-fifth of the respondents are considering moving production outside the EU ETS due to carbon costs, which is the highest figure we have registered in any of our annual surveys (**Fig. 1.9**).

These results are particularly interesting given the ongoing discussion around the introduction of a Carbon Border Adjustment Mechanism (CBAM), an instrument that aims to protect European industry from unfair competition from rivals that are not subject to the same

carbon costs. Past survey findings (before 2020) indicated that the EU ETS has not led to much 'carbon leakage', but the findings from the last two years suggest an increasing number of compliance companies are considering migrating production.

Another recurring topic in our questionnaire is whether exposure to cap and trade affects investment decisions. This year, a record-high 63% consider the EU ETS effect on investment decisions as decisive and 38% see it as "part of calculations". The 2021 figures are much higher than in 2020, and somewhat higher than in 2019 (**Fig. 1.10**), when the European carbon market had only recently risen from the mid-10s €/t to mid-20s €/t.

THE ROLE OF FINANCIAL INVESTORS

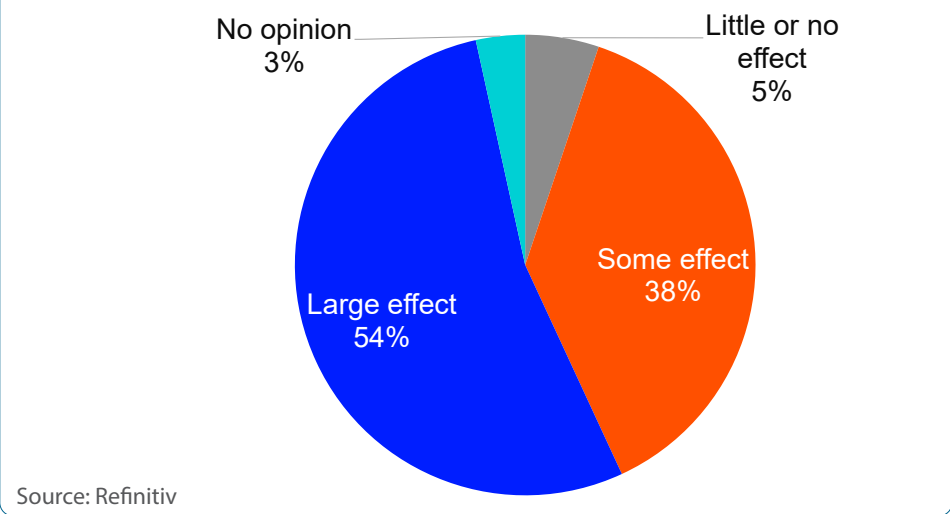
The European Green Deal has drawn the attention of financial players who see the tightening of the EU ETS as an investment opportunity. Indeed, investment funds have more than doubled the size of their positions in the EUA market from October 2020 to April 2021. When asked how non-compliance traders' increasing positions in the European carbon market is impacting EUA prices, 62 of 116 respondents agreed that it has a large impact, while another 44 respondents believe it has some price effect. Only 5% say that it has little or no effect (Fig. 1.11).

Digging deeper into this subject, 39% of the 116 respondents would like to see a limit to the non-compliance traders' positions in the EU ETS. A narrow majority is opposed to the idea, the remaining 10% were undecided.

It is, indeed, becoming clear that investment funds have strongly contributed to the past months' EUA price rally and that they are taking up more space in the market. Analysing the Commitments of Traders data from ICE (30 April), investment funds' positions in the EUA market are at record-time high levels and non-compliance companies now hold 27 percent of the long positions in the EU ETS.

To gain insights into the intentions of non-compliance companies' EU ETS involvement, we asked traders to provide their view on several statements. Among the 93 trader respondents (carbon and

Figure 1.11. Are financial investors taking over the EU ETS? "Non-compliance traders are increasing their positions in the European carbon market. How does this impact prices?" N=116



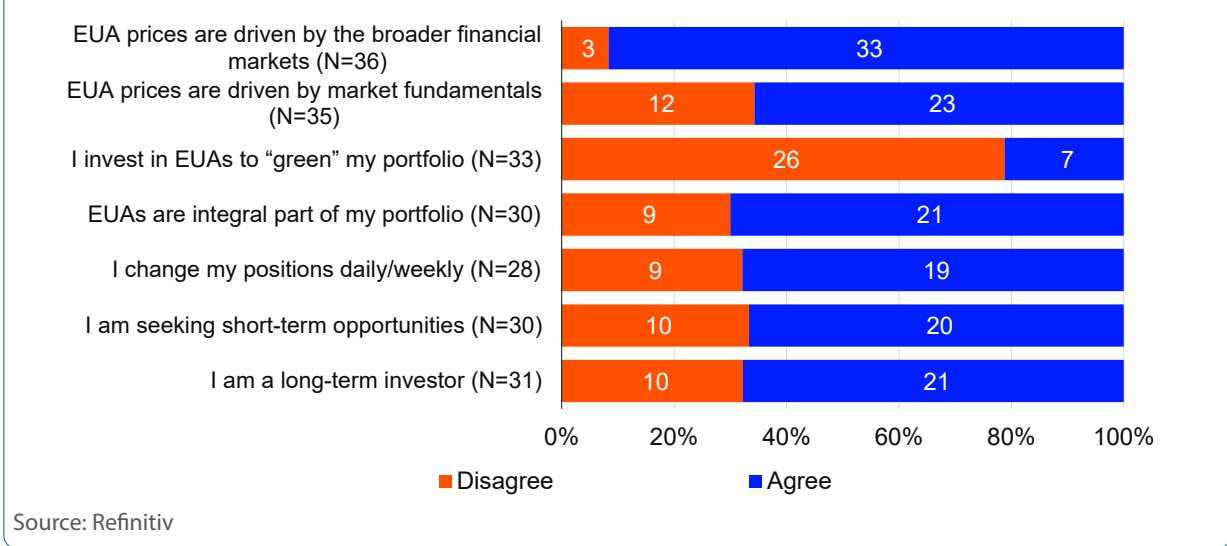
other commodities), 40 identified as trading house/investment bank, 23 as portfolio manager and 5 as hedge fund. Some 37 traders responded to the statements, shown in Figure 1.12 (no opinion is not included).

Based on their feedback, non-compliance players are in the EU ETS both for the short- and long term, as almost 60% of the respondents considers themselves long-term investors but also agree that they are in the market for short-term opportunities. In terms of short-term market impacts, they are relatively active traders: more than half of them change their EUA positions on a daily/weekly basis. We expect investment funds to remain a force in the EUA market, as

60% agree that EUAs have become an integral part of their asset portfolio. Confirming this commitment, only 19% of the respondents agree that they invest in EUAs to "green" their portfolio.

Another interesting finding from the traders' feedback is their view on EUA price drivers. While 62% of the 37 respondents agree that EUA prices are driven by market fundamentals, nearly 90% agree that EUA prices are driven by the broader financial markets. That sentiment corresponds well with how European carbon and stocks have moved over the last year, often showing relatively close correlation.

Figure 1.12. Traders' self-assessment "As a trader in the European carbon market, what are your opinions on the statements below?"



2. UK

Since the Brexit referendum in 2016 we have asked respondents following the European carbon market how they perceive the impact of the UK departure on the EU ETS. Our focus was initially on how prices would react absent the UK share of supply and demand for EUAs. As the contours of a UK ETS were outlined from the second half of 2020, we have introduced questions specific to that separate programme in this year's survey.

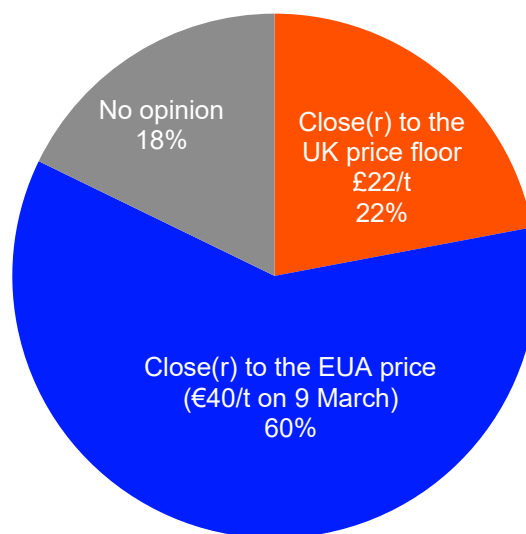
The first UK ETS auction will take place on 19 May, and secondary trading of futures contracts will commence the same day. Market players have been trying to predict UK ETS price ranges - will they align with the UK carbon price support that has served as a top-up tax for power generators in addition to paying for (EU) allowances? By default, that price support (set at £22/t for 2021) will serve as a price floor. Will UK allowance prices instead be aligned with EUA prices?

Figure 2.1 shows that 60% of respondents think the price of UK allowances will be "close to the EUA price (€40/t on 9 March)" whereas only 22% think they will be "closer to the UK price floor £22/t." The remaining 18% had no opinion. The expectation of EU alignment reflects the fact that market participants have been active in the EU ETS for years, and that many (but not all) the fundamental drivers - including energy commodity prices and weather - will remain the same in both systems.

Furthermore, the UK government is keen to link its system with the EU ETS (see next question), and there is an incentive to keep prices equivalent because the EU's planned carbon border adjustment mechanism could make UK exports of carbon intensive products to the EU subject to a levy.

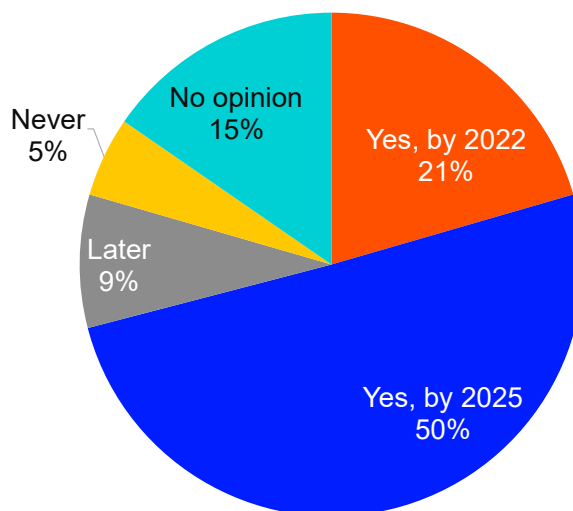
Last year, the UK government stated interest in linking up with the EU ETS. Eventually the message was watered down, more along the line of potential interest in linking with one or more other emission trading systems. A link between the UK ETS and the EU ETS would make sense, not least to boost liquidity, and in theory it should be relatively easy given that the UK has based its scheme on the EU model. Still, such linking will need to be part of a political agreement between

Figure 2.1. UK price expectations
 "What prices do you expect for UK allowances?" N=118



Source: Refinitiv

Figure 2.2. UK-EU linking
 "Do you expect a future linkage between the EU ETS and UK ETS?" N=117



Source: Refinitiv

the UK and the EU - as such it risks involving more than low-level hashing out of technical/legal details. As per the EU ETS Directive, linking must occur through a formal treaty between the EU and the UK - in the case of Switzerland, formally linking of the Swiss ETS with the EU ETS took almost a decade.

Nevertheless, most respondents think a link will take only a few years at most: **Figure 2.2** shows that half of the respondents expect linking to be done by 2025. Some 20% think already next year, 9% after 2025. Only 5% say they don't believe linking will ever take place.

3. CHINA

The first compliance cycle of China’s national ETS runs from 1 January to 31 December 2021 - it covers the 2019 and 2020 emissions of over 2000 entities in the power sector. That is over 4 billion MtCO₂, according to our estimates, roughly 40% of the country’s annual greenhouse gas emissions. Meanwhile, longstanding regional ETS in several provinces and regions continue to operate. We asked respondents about the national and the pilot programmes.

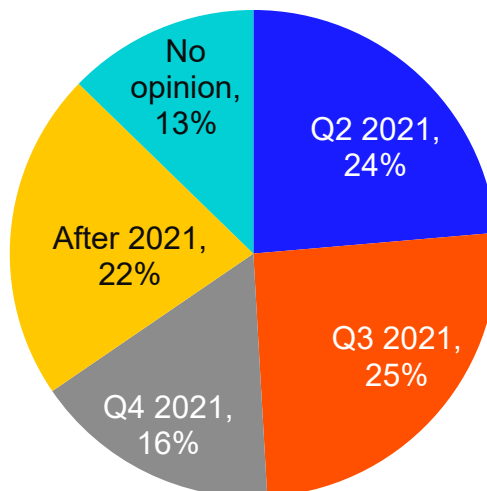
Even though the national ETS has officially been launched, fewer respondents than last year expect actual trading within it to start soon. In last year’s survey, 70% of respondents said they expected trading to begin that year (in 2020) whereas this year only 65% of the 55 respondents to this question expect trading to begin in 2021 (**Fig. 3.1**). Although China’s environment minister Huang Runqiu pushed for online trading of allowances to start by the end of June, only 24% of this year’s respondents expect trading to occur during H1.

The relative pessimism around the start of real trading reflects China’s slowed ETS progress due to the pandemic. According to the government’s original plan, rules for monitoring, reporting, and verification (MRV) as well as allocation were to be completed by Q2/early Q3 of 2020, with trading starting by the end of that year. However, the allocation plan was not published until January 2021, and the MRV rules did not come out until March 2021. Registry rules are expected to be published in June 2021.

STAKEHOLDERS STILL SEE OPERATIONAL CHALLENGES

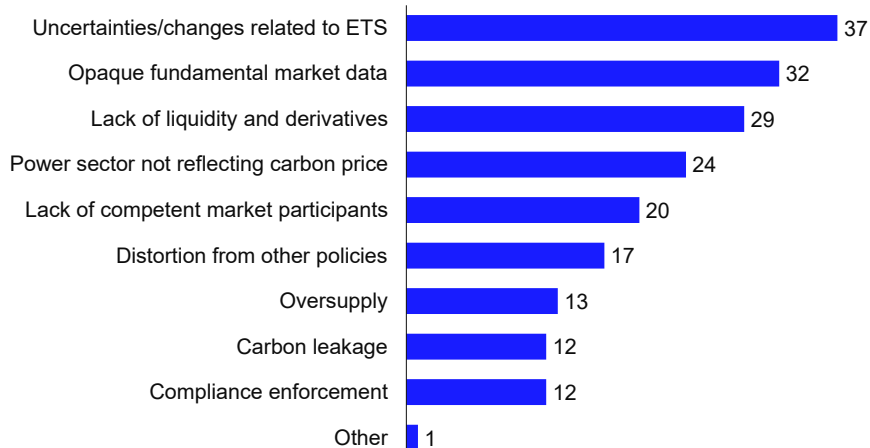
As in 2020, respondents were asked to rank potential challenges related to the national ETS. Although most of the elements has been issued, uncertainties about design elements again ranked highest, see **Figure 3.2**. Issued policies are mostly marked as “draft”, “trial” or “for consultation” showing possibilities for future change, e.g., the benchmark is disclosed to be tightened every year without reduction ratios for each year; principles and procedure for MRV are

Figure 3.1. Timing of first national transaction
 “When do you think the first transaction of national emission allowances on an exchange will take place?” N=55



Source: Refinitiv

Figure 3.2. ETS operational challenges
 “What do you see as the most important challenges for your operations in the Chinese emission trading system?” N=53 for a total of 197 entries



Source: Refinitiv

only for trial and in the future there might be tighter rules; no exact date for when the other seven sectors to be covered, etc. shows that remaining uncertainties about design elements again ranked highest. Next on the list of concerns is opaque fundamental market data (60%) and limited liquidity due to only spot transactions being allowed (55%). Although several thinktanks have warned the national ETS will be over-allocated, only 25% of the respondents listed this as a major challenge - less than other potential concerns including power prices not reflecting carbon price (45%), lack of experts (38%) and distortion from other policies (32%).

METALS SEEN AS FAVOURITE CANDIDATE FOR SCOPE EXPANSION

Though the first compliance cycle of the national ETS covers the power sector only, the government has been clear about adding more sectors in the near future - specifically in the next five years. The seven other sectors slated to be covered include various metals and chemicals - but the government has not stated which of these might be added first. Of the 55 responses to the question which sectors will be covered next, 76% (42 responses) expect iron and steel to be covered by the ETS in addition to the power sector - higher than last year’s 31% (**Fig. 3.3**).

This increased expectation probably reflect Chinese concerns about the EU's proposed carbon border adjustment measure, which is set to impose a levy on imports of carbon intensive products to the extent that the cost of emissions associated with their manufacture is not reflected in their price. China was the world's largest exporter of iron and steel in 2020. Europe could potentially start applying the CBAM as of 2023. If iron and steel are covered by a carbon price in China by then, the levy to import them into the EU should be correspondingly lower.

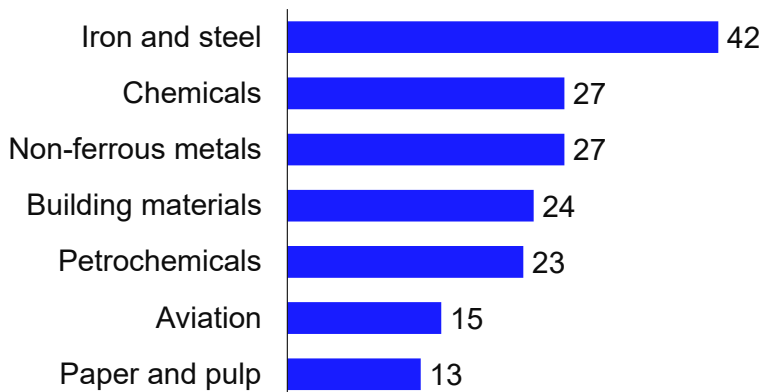
The Chinese environment ministry is creating methodologies for emission thresholds and other ETS design elements for the other sectors set for inclusion - but that process is harder for sectors like chemicals that manufacture a wider range of products. Metals production is relatively "simpler" in this regard. Ministry officials disclosed that cement (under the building materials sector) and electrolytic aluminum (under non-ferrous metals) will be the second "batch" to be covered by the national ETS, with the other sectors being included in a third batch later in time. The exact timeline has not been specified, but iron and steel's inclusion may be fast-tracked given the timeline of the EU's CBAM.

PRICES AND CLIMATE TARGETS

Expectations for the average price of emission allowances during the first year of the Chinese national ETS showed some variation (Fig. 3.4): one-third of the 54 respondents to this question expect prices to range from 20 to 40 CNY per tonne, and one-fourth expect prices to range from 41 to 60 CNY per tonne - the weighted average is thus 37.7 CNY (€4.8), higher than the €4.2 respondents expected in 2020 and much higher than the €1.9 they expected in 2019. However, Chinese environment ministry officials have said the price range necessary for companies to feel real pressure to cut emissions is 200-300 CNY (€26-€39).

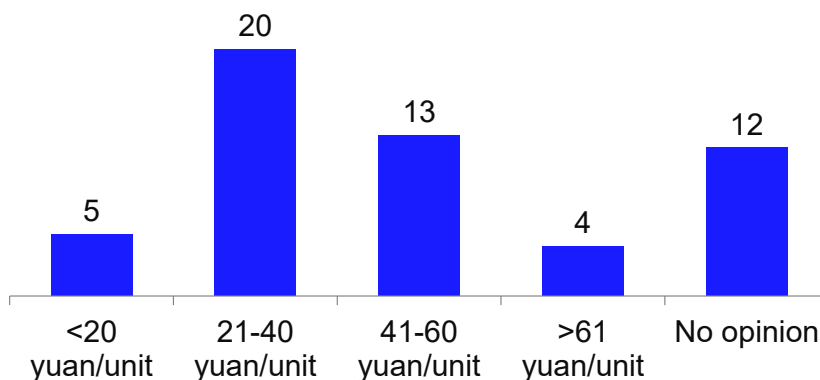
During the United Nations General Assembly on 22 September 2020, President Xi Jinping unexpectedly announced that China will commit to peak emissions before 2030 and reach carbon neutrality before 2060. Asked

Figure 3.3. Sectors to be covered next
 "Currently, the national ETS covers only the power sector. Other sectors are set to be phased in gradually. Which of the following sectors do you think will first be added first?" N=55 for a total of 171 entries



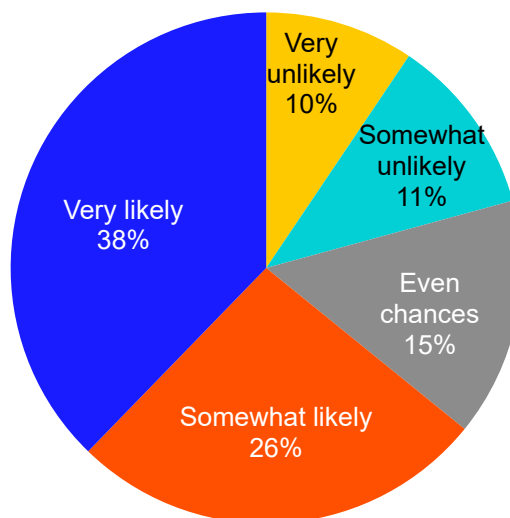
Source: Refinitiv

Figure 3.4. Price expectations
 "What do you expect will be the average price of the national emission unit during the first year of operation of the Chinese national ETS?" N=54



Source: Refinitiv

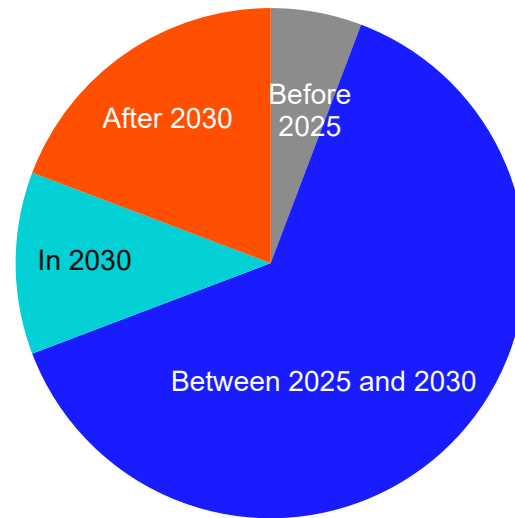
Figure 3.5. Net zero by 2060?
 "Do you think China's target to peak its emissions before 2030 and reach net zero emissions before 2060 is achievable?" N=53



Source: Refinitiv

whether they consider the carbon neutrality target achievable, with 1 being least confident and 5 being most confident, almost 80% of the 53 respondents (42) chose 3 or higher, and the average is 3.72 (**Fig.3.5**). Asked when China's CO2 emissions will peak, some 63% of respondents said during the period 2025-2030 (**Fig.3.6**). The Chinese government recently announced climate friendly measures to be taken during its 14th Five-Year Plan (2021-2025), including strictly controlling coal and further developing non-fossil energy - respondents apparently think these measures will end up flattening emissions growth in the period of the following Five-Year Plan.

Figure 3.6. Emission peak between 2025 and 2030
"When do you think China's CO2 emissions will peak?" N=52



Source: Refinitiv

4. NORTH AMERICA

Even though 39 survey respondents said they follow at least one of the North American carbon markets closely, questions specific to these two ETS - the Western Climate Initiative (WCI) and the Regional Greenhouse Gas Initiative (RGGI) - received very few responses. We present the results for only those questions that had enough feedback to be considered at least somewhat representative.

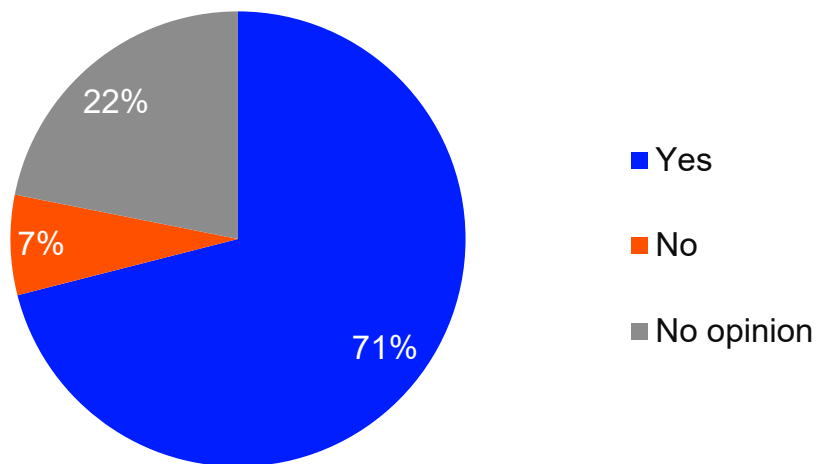
The survey question that garnered the most responses about North American markets was the one about expected allowance prices in the WCI (**Fig. 4.1**) - these units, called CCAs, have ranged between \$14-18 (~€12-15) for the past three years. The vast majority of respondents (10 out of 14) expect this year's average CCA price to be higher than that of 2020 - likely because the pandemic depressed carbon allowance prices (as it did most other commodities) during much of 2020, such that they are likely to rise as the economies of participating jurisdictions California and Quebec open up.

Asked whether any further jurisdictions will join the WCI (**Fig. 4.2**), a slim majority said no - the six respondents who do think more will join listed the state of Washington most frequently as a potential candidate, followed by Oregon. The legislatures of those two states are indeed considering bills to introduce carbon pricing, specifically an ETS.

Questions specific to RGGI did not receive enough answers to be representative, but of the eight answers to the same question about potential additional jurisdictions, again a majority (five out of eight) think no more states will join. The state of Virginia became part of RGGI as of 1 January 2021.

Figure 4.1. WCI price 2021 compared to 2020

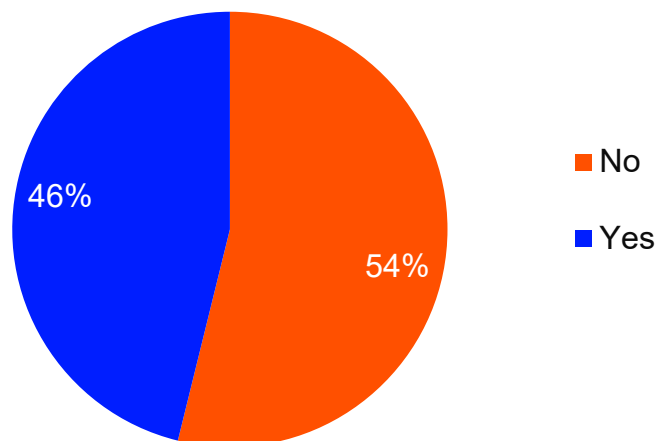
"Do you expect CCA prices to be higher on average over 2021 than they were in 2020?" N=14



Source: Refinitiv

Figure 4.2. Even view on expansion

"Do you expect any additional jurisdictions to join the WCI by 2030?" N=13



Source: Refinitiv

5. SOUTH KOREA

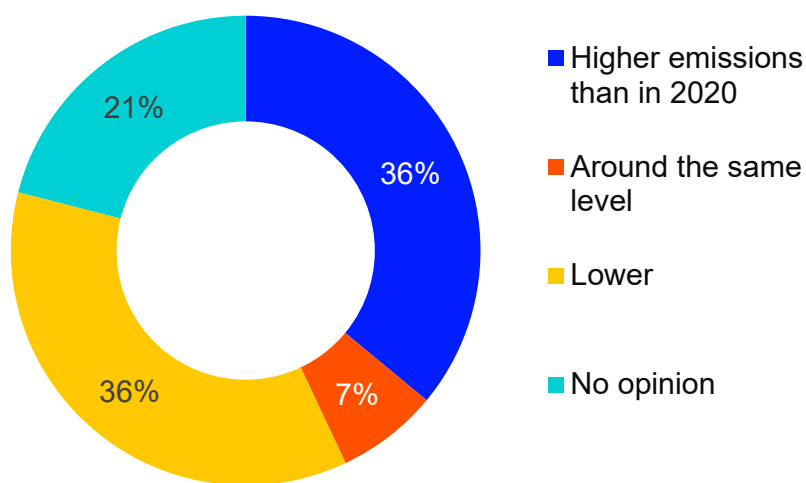
According to the South Korean environment ministry, 2020 emissions from KETS covered entities decreased 6% year-on-year – mostly due to the Covid-19 pandemic. We asked respondents what GHG emissions levels they expect for 2021 (**Fig. 5.1**). Those who have an opinion (three don't) are evenly split: five respondents expect emissions to be higher in 2021, five expect them to be lower.

Over the first half of 2020, KAU prices plunged almost 50 percent as emissions data released by the government in early May revealed emissions in covered sectors had decreased in 2019 by 2 percent, thereby creating an oversupply. At year-end, KAUs traded at 23,000 won/t. Asked about KAU prices this year, half of the 14 respondents assumed prices will be around 20,000 won/tonne (~€15/t). Only two respondents thought prices would be above that level.

Last year, the Korean government introduced changes to the KETS that are effective from January 2021. These are intended to tighten the overallocated market but seem to have left market participants rather unimpressed. Asked about their overall outlook for the KETS this year (**Fig.5.2**), respondents' answers line up with the previous question on prices: five of the fourteen respondents (35%) believe the market will be mostly bearish, while only one (7%) expect a bullish tendency. The rest were neutral on the question or had no opinion.

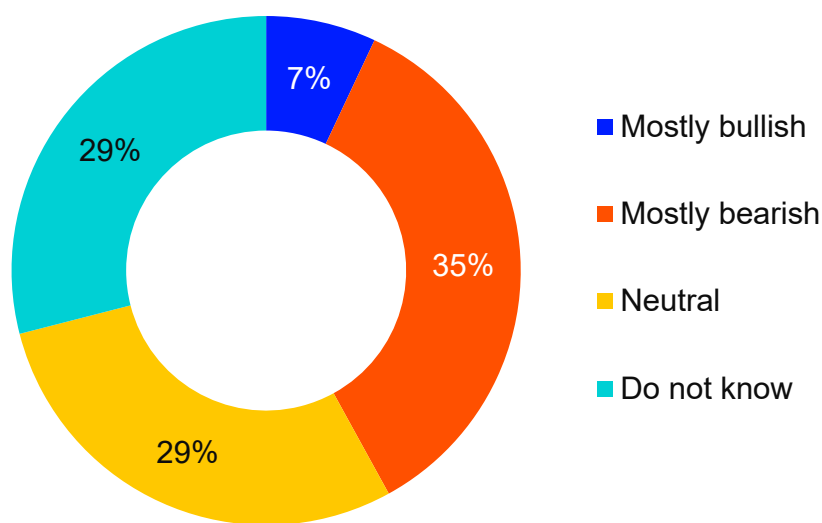
Korea's government is currently taking additional measures to reduce supply and boost prices, most notably by postponing auctions, setting a temporary ETS price floor, and attempting to increase liquidity by allowing non-covered private entities to enter the market. As of early May 2021, KAU prices remained at a moderate level of 18,000 won/t (~€13/t), which is still a recovery from mid-April 14,550 won/t low. Our survey ended on 10 April, i.e. just before the latest supply-tightening measures became effective – hence it is not clear to what extent anticipation of this tightening played into sentiment.

Figure 5.1. KETS emissions – expectations
 "How do you expect KETS emissions to evolve in 2021?" N=14



Source: Refinitiv

Figure 5.2. Price – expectations
 "What is your price outlook for the rest of 2021?" N=14

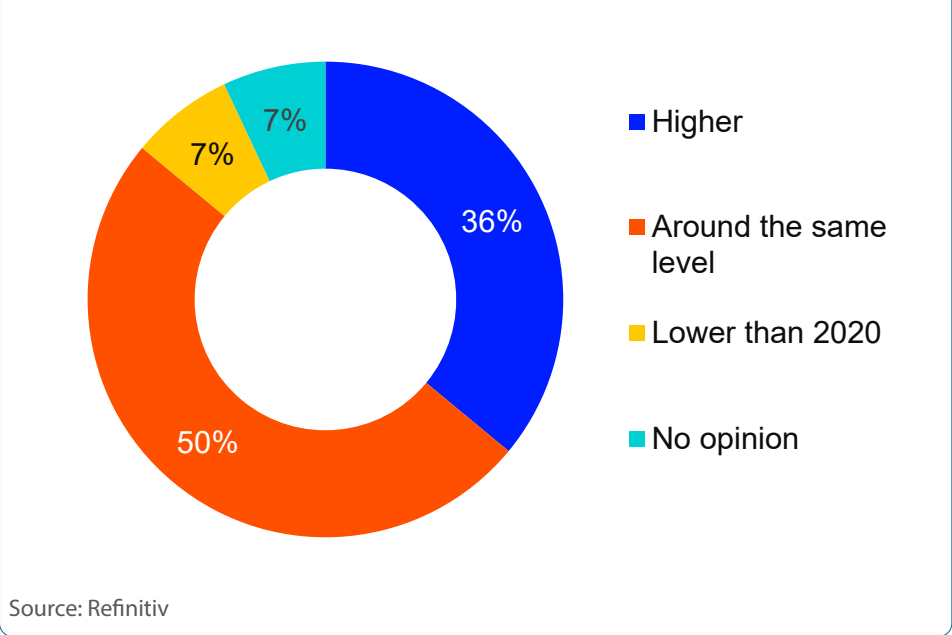


Source: Refinitiv

TRADED VOLUMES TO REMAIN AT 2020 LEVELS

Despite the pandemic and the oversupplied market, more allowances (KAUs) and offsets (KOCs) changed hands in 2020 than during the previous year. The total traded volume of KAUs and KOCs in 2020 equalled 44 million, 16% more than in 2019. Given the oversupply, it is likely that companies were offloading their surplus allowances by selling them, rather carrying them into the next compliance year as they had in previous years. Half of the 14 respondents to our question about expectations for traded volume this year (**Fig. 5.3**), think they will remain close to 2020 levels, while five (36%) expect them to be higher.

Figure 5.3. Traded volumes – expectations
 “What are your expectations for traded volumes in the KETS in 2021?” N=14



6. AVIATION

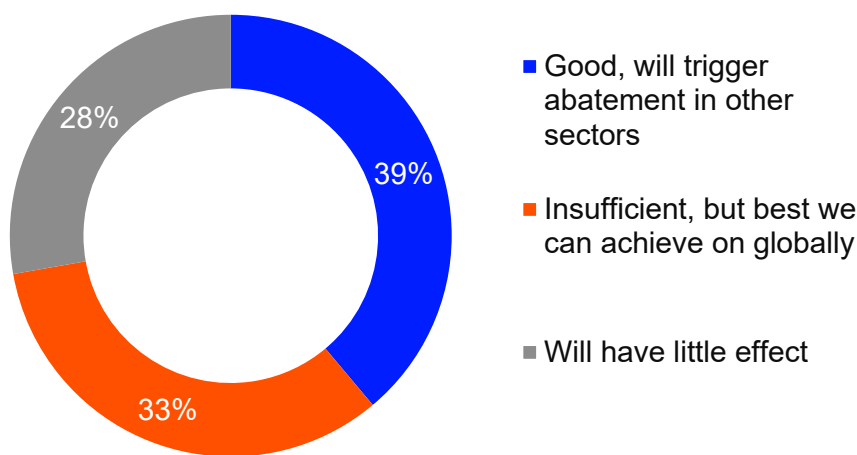
Given that emissions from international air traffic are not covered by the Paris Agreement or its predecessor the Kyoto Protocol, the International Civil Aviation Organization (ICAO) adopted a programme in 2016 aimed at curbing the rapid growth in this sector’s greenhouse gas output. The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) aims to keep emissions from this sector no higher than their 2020 levels through a mixture of efficiency improvements, alternative fuels, and offsetting. It is in force for the airlines of countries who have adopted it on a voluntary basis, including the EU member states and the US: all countries have had to report to ICAO the emissions their air carriers’ international flights have caused from 2019, and the participating countries will have to account for those emissions from this year onward.

Due to the dramatic decrease in international air travel during the pandemic, however, the sector’s greenhouse gas emissions have not increased beyond the baseline year. This renders CORSIA an *insignificant* source of demand for carbon offsets, even though the opposite was expected prior to the pandemic: with the exponential growth in international air travel as developing countries expanded their fleets and routes, complying with CORSIA would have required air carriers to need large volumes of credits to offset their emissions growth beyond the 2020 baseline. Offset project developers and verifiers have thus been following developments in ICAO closely.

In response to heavy lobbying from the airline industry, ICAO last fall retroactively adjusted the CORSIA baseline to 2019 emissions levels instead of the previously agreed average of 2019 and 2020. This makes the expected demand for offsets from air carriers in the 2021-2023 period (the first voluntary phase of CORSIA) even lower: emissions from international air travel are not expected to exceed 2019 levels for years, meaning air carriers will not be in need of offset credits anytime soon.

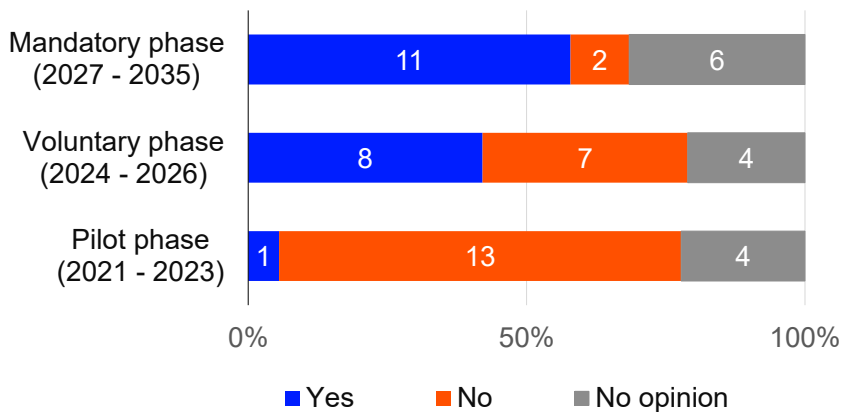
Meanwhile, the EU is considering taking matters into its own hands regarding greenhouse gases from aviation: the EU ETS already covers emissions from *intra-EU* flights, but the block’s parliament has seen calls to include emissions from all flights to and from EU airports as well. That was actually the way the block had originally

Figure 6.1. Mixed perception of CORSIA effectiveness
 “What is your view on CORSIA’s potential to mitigate aviation emissions?” N= 18



Source: Refinitiv

Figure 6.2. Expectations of growing tightness
 “Do you expect a tight market for CORSIA eligible units in ...” N=19



Source: Refinitiv

intended to include the aviation sector in its ETS, but it met with such strong opposition from countries like China, Russia, and the US that in 2013 it reduced aviation sector coverage to its current scope. The issue is back on the table with CORSIA’s new baseline rendering it toothless as an emission reduction incentive in the near term.

The survey separated intra-EU air traffic (covered by the EU ETS) from other air traffic. This section presents the findings from the roughly 20 respondents (the exact number varies by question) that identified as interested in/following aviation emissions outside the EU ETS - they include representatives from air carriers and other types of stakeholders following the EU ETS.

WILL CORSIA BE EFFECTIVE?

Respondents were split on how efficient CORSIA will be at curbing emissions. **Figure 6.1** shows a relatively equal distribution between those who see it as a good instrument (39%), those who see it as insufficient but the best available (33%) and those who think it will have little effect (28%).

Respondents were asked how they expect CORSIA’s supply-demand balance to evolve over its various phases, from now to 2035. Reflecting the sector’s current low emissions, **Figure 6.2** shows that only one respondent expects the market to be tight in the first (pilot) phase. Views are mixed on the mid-term perspective (2024-2026), while a clear majority (11 of

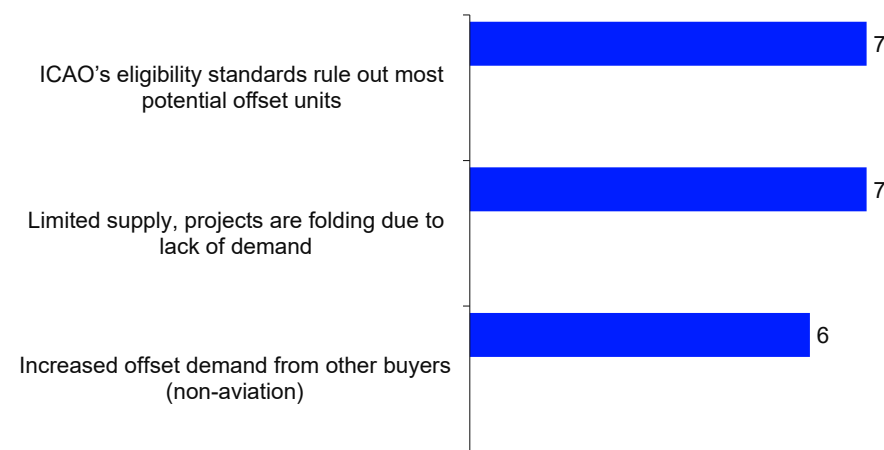
19) expect the market to be tight in CORSIA's mandatory phase that will start in 2027.

Digging deeper into why respondents expect the offset market to be tight (eventually), **Figure 6.3** shows an even split among the three reasons offered (the question allowed for more than one response). The 13 respondents expect increased demand from non-aviation operators, believe ICAO's eligibility standards will rule out most potential offset units, and think future supply will be reduced, as many existing offset projects will fold because of current lack of demand.

When asked about offset price expectations for 2023, responses coalesced around the middle-range option between \$3/t and \$5/t. (**Fig. 6.4**). This is in line with current prices seen in the voluntary market for units issued over recent years and traded in medium volume sizes.

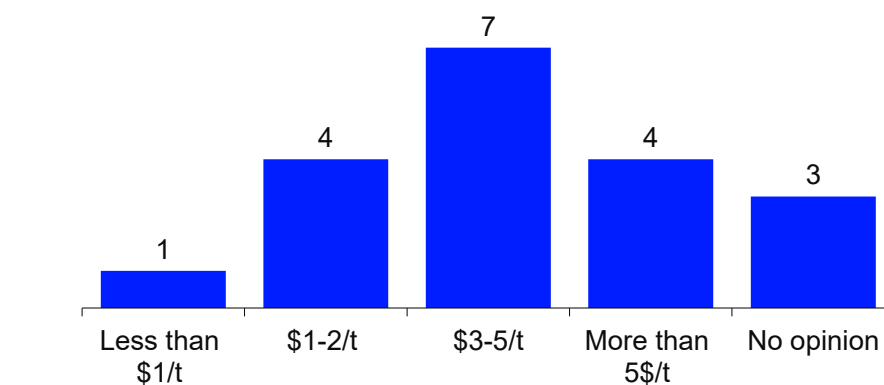
The scope of the EU ETS is still up for debate. The EU has not given up on its ambition to include flights to and from Europe in the EU ETS, although a new attempt at scope expansion is not on the agenda. On the other hand, it does not look likely that the EU will allow emissions from intra-EU flights to be covered solely under CORSIA. We asked aviation respondents, as representatives of their respective companies/organisations, what would be their preferred outcome - see **Figure 6.5**. Nine of the 19 respondents would like to keep the current situation: CORSIA for flights to/from Europe, EU ETS for flights within. Four prefer everything to go under CORSIA, one preferred to have all flights under the EU ETS.

Figure 6.3. Reasons for tightness
 "Why do you expect the CORSIA market to be tight?" N=13 for a total of 20 responses



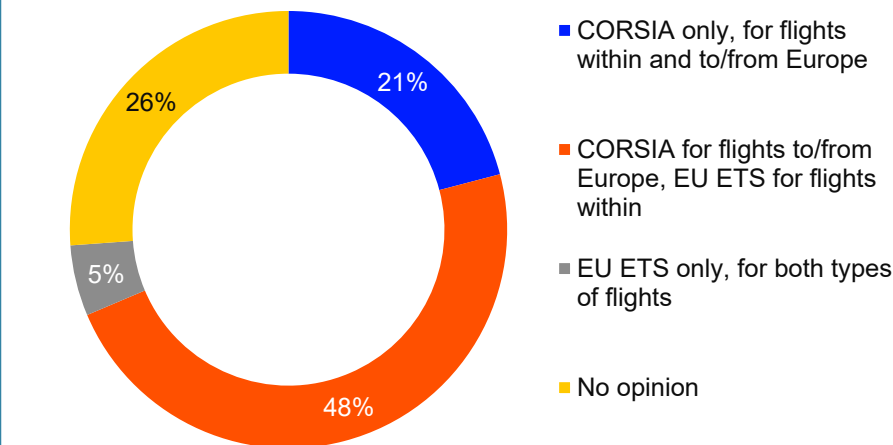
Source: Refinitiv

Figure 6.4. Price expectations
 "What price do you expect CORSIA-eligible offsets to sell for in 2023?" N=19



Source: Refinitiv

Figure 6.5. EU ETS vs. CORSIA
 Preferred outcome for coverage of aviation emissions under CORSIA/EU ETS, N=19



Source: Refinitiv

7. ESG AND VOLUNTARY OFFSET MARKETS

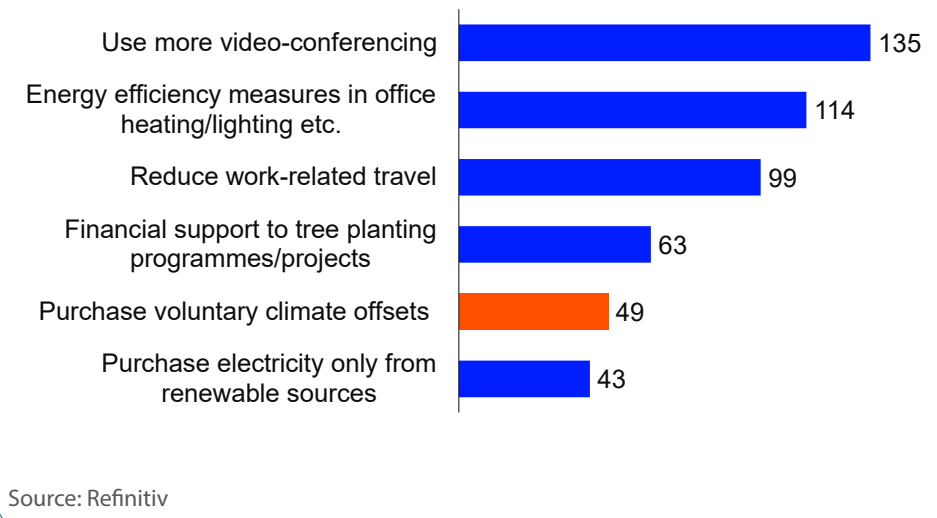
ESG stands for companies' environmental, social, and governance criteria, a theme increasingly important in corporate culture. Companies worldwide are increasingly committing to emission reduction goals or targets, motivated by evidence that "carbon neutral" products are more attractive to clients. Many large firms are motivated by reputation risk, as climate-consciousness is becoming one of the prerequisites for successful business. Some of them use, or plan to use, offsets to reach their emission reduction targets or carbon neutrality goals.

This is the second time we include questions on ESG and voluntary carbon markets in our annual survey - like last year, these focus on the environmental part of ESG, specifically reducing firms' carbon footprints. Some of the ESG questions appeared in the general section of the questionnaire (for all respondents), most were asked in a separate in-depth section open to the 80 survey respondents that indicated special interest in ESG/voluntary carbon markets. Note that some dropped out before reaching that part of the questionnaire.

OFFSETTING IS NOT THE MOST POPULAR CLIMATE ACTION

The priorities of our respondents in tackling emissions remain unchanged from 2020: our survey question about

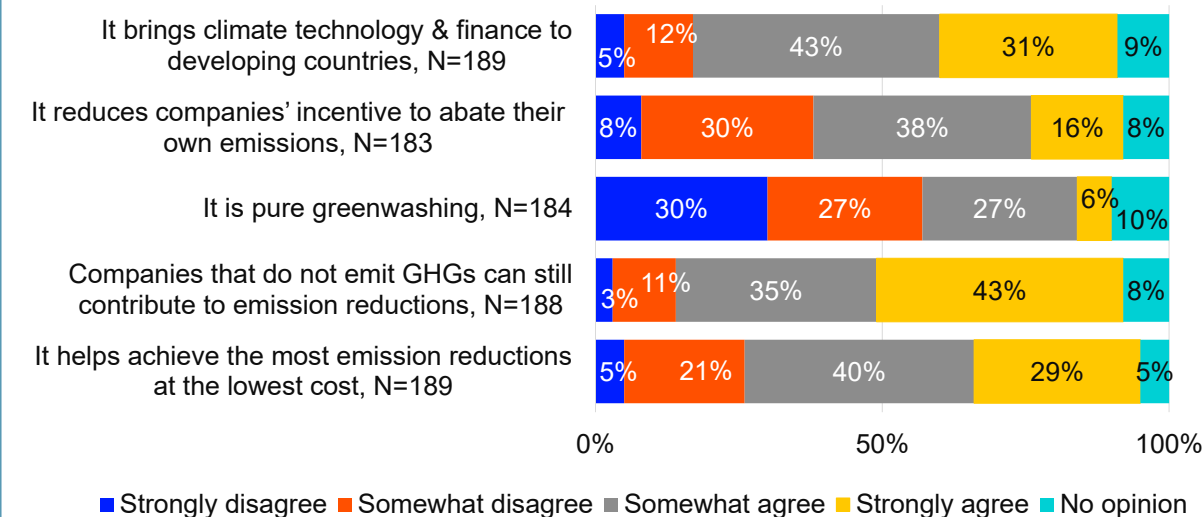
Figure 7.1. Reduction measures
 "Is your company doing any of the following measures on a voluntary basis?" N=204 for a total of 503 entries



voluntary activities to reduce companies' climate impact saw (Fig.7.1) video-conferencing and energy efficiency measures in the office rank highest again. The share of those using offsetting remains smaller, with only a quarter of the 204 respondents to this question (which allowed multiple reply options) saying their organization purchases carbon credits for voluntary purposes. Those who do purchase offsets are not new to the practice: out of those who said they buy such credits, almost 60% started doing so in 2019 or earlier. Almost 20% indicated their first emission reduction purchase agreement was concluded in 2020, while 6% will start offsetting this year.

Asked their views on carbon offsetting, most respondents had rather positive opinions. Nearly 60% of the respondent pool somewhat or strongly disagrees with the notion that offsetting is "pure greenwashing" as some advocacy groups espouse. Instead, nearly 80% of respondents agree with the idea that offsetting allows companies that do not emit GHGs to contribute to emission reductions (Fig.7.2). Furthermore, a majority of respondents agree that offsetting assists developing nations in getting access to climate technology and finance. However, more than half of respondents agree at least somewhat with the statement that having the option to offset emissions reduces firms' incentive to cut their own GHG output.

Figure 7.2. Pros and cons of carbon offsetting
 "To what extent do you agree with the following statements on carbon offsetting?" N=193



Source: Refinitiv

PRICE AND QUALITY OF OFFSETS

We asked survey participants who identified as having either bought or sold offsets in 2019-2020 about the prices for those units. Nearly one third of the 49 respondents to this question did not know, one quarter said the per-tonne price they paid or received for their credits ranged between €1-3 (Fig. 7.3). This is less than half the price offset units typically sold for under the Kyoto Protocol's Clean Development Mechanism when that market was in its heyday in the mid-2000s, but considerably higher than the 20 cents/tonne that units from current CDM projects fetch on the market. Some 14% said their price range was even lower than €1/t, and only 10% of respondents said they participated in transactions with units priced at €10/t or higher.

Unlike during the aforementioned "Kyoto era," when offsets from CDM projects were the main available unit being traded, the voluntary market now offers many compliance commodities touting qualities beyond emission reduction. Those include sustainable development benefits to local populations, or biodiversity protection in the areas the projects are carried out. Some focus on the vintage year, i.e. when the credits from the project were generated: it is often assumed that only more recent projects are truly *additional*, i.e. would not have happened in the absence of carbon finance. Various offset standards evaluate this aspect of additionality - as well as other factors - differently, making the standard under which a credit is offered another major factor in offset purchase decisions.

The majority (almost 60%) of the 130 market players who answered the survey question on choosing offsets consider project type a key priority (Fig.7.4). Industrial gas or large hydro projects with few co-benefits to the local population are typically less popular than ones with a green image like those involving reforestation or efficient cookstove distribution in rural villages. Almost half of the respondents to this question find the offsets' *certification or standard* very important. Fewer care about credits' vintage year or project location. This contrasts with evidence from surveys of *individuals'* credit purchasing preferences (e.g. offsetting a flight or the carbon footprint of a family's travel, often through

Figure 7.3. Cost to offset
"What is the average price per tonne of CO2 your company paid/received for offsets in 2019-2020?" N=49

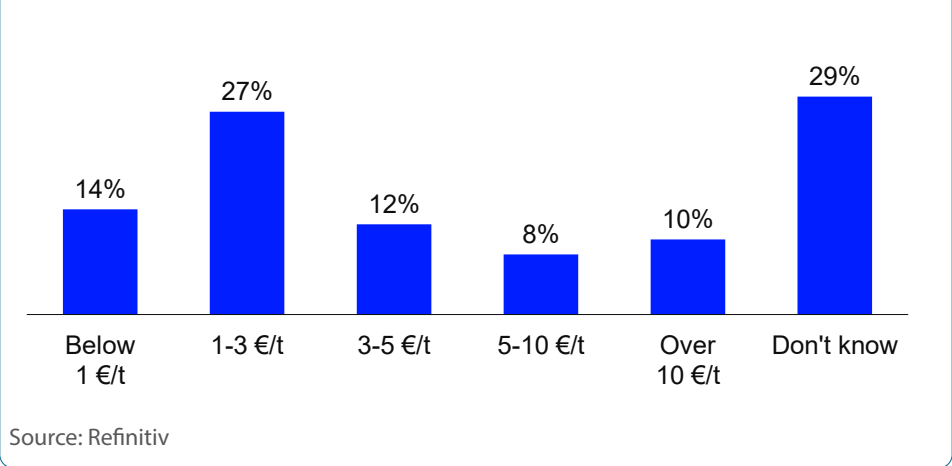


Figure 7.4. Choosing the right offsets
"How important are the following factors in your company's offset purchase decisions?" N=130

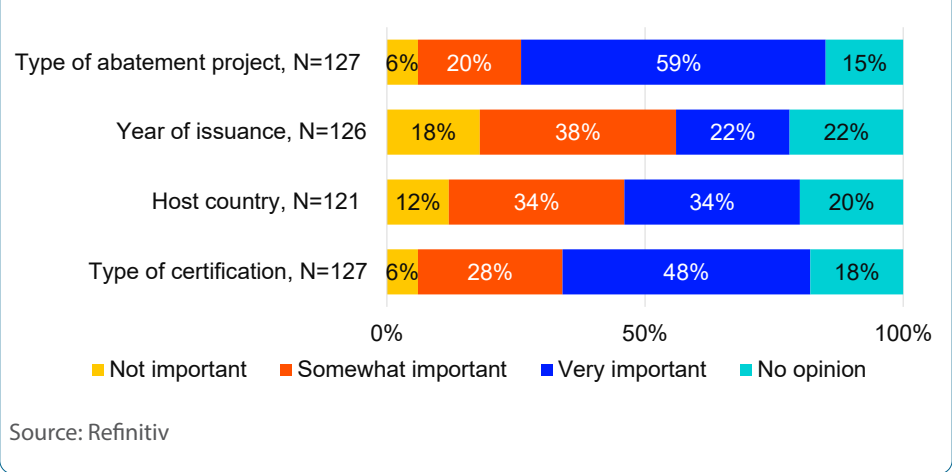
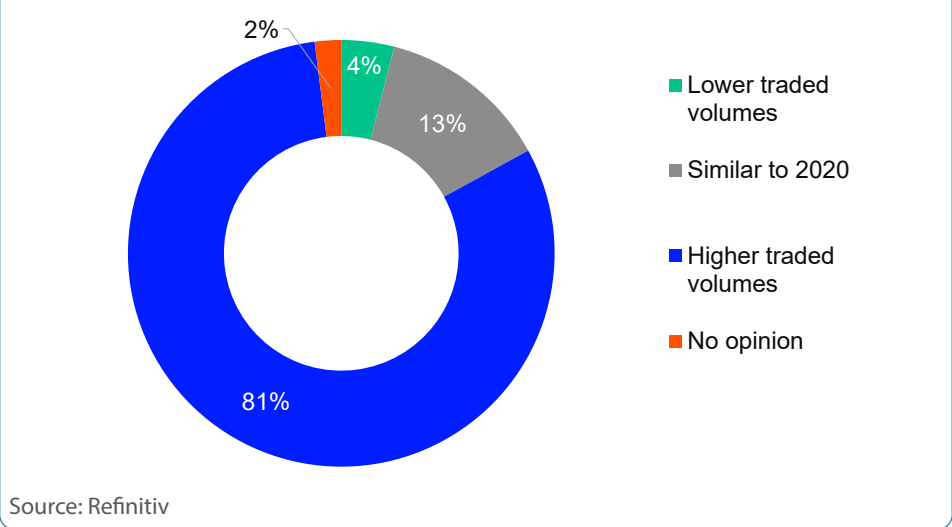


Figure 7.5. Volumes expected to grow
"How do you expect voluntary market activity to evolve in 2021 - 2022 vs. 2020?" N=52



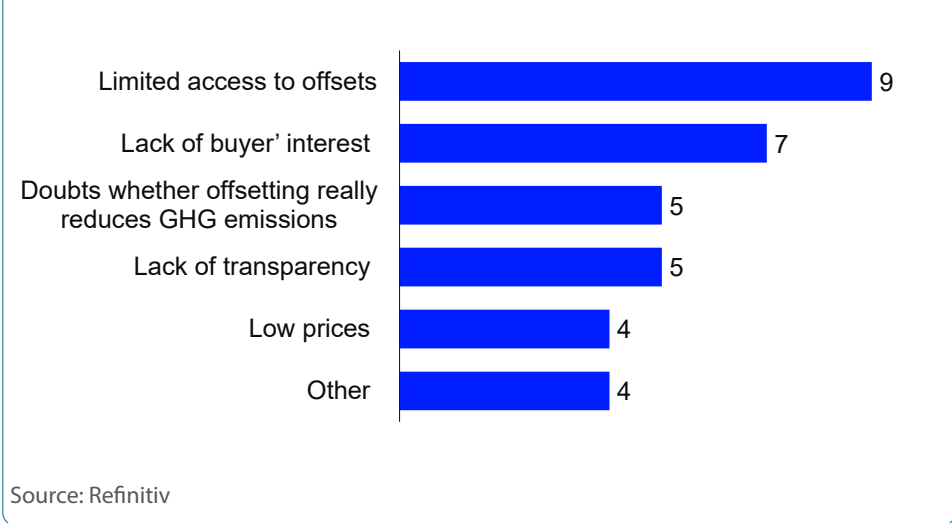
websites that offer “personal offsetting”) where people prefer recent projects in their home country or region, or in poor countries.

With the Covid-19 pandemic forcing many companies to prioritize survival over emission reduction, 2020 was a tough year for voluntary carbon market activity. However, survey comments pointed out that voluntary transactions continued despite adverse economic circumstances. Asked how they expect voluntary market activity to evolve in 2021 - 2022 vs. 2020, respondents foresee growth: 81% of those who replied to this question (52 people) expect higher traded volumes over the next two years (**Fig. 7.5**). Close to 13% assume the trading activity will remain at the same level as 2020, and only 4% think volumes will drop.

REASONS FOR ABSTAINING

Assuming that not all who are interested in ESG/voluntary markets respondents actually buy or sell offsets, we asked these respondents to indicate reasons for not going into this market (either as a seller or a buyer). **Figure 7.6** shows that nine out of 22 respondents listed lack of access to offsets as a key reason, with lack of buyer interest being the second biggest hurdle. Fewer are concerned about the lack of transparency in offset markets and have doubts about the quality of offsets offered. Only few complained about low prices being a deterrent – mostly likely these are the seller-side representatives.

Figure 7.6. Abstaining from trading
 “What are the main reasons why you do not participate in offsets trading?” N=22 for a total of 34 entries



So far, we have looked at climate offsetting from the buyer side, as a potentially important instrument for companies that voluntarily want to mitigate their climate impact. It is equally, if not more important for the seller side, i.e. the companies that offer climate offsets generated on the back of various types of abatement projects. Having more or less lost their two biggest markets (European emitters purchasing for ETS compliance, and western governments purchasing for Kyoto compliance) the suppliers are searching for new takers, and the voluntary market is seen by many as the most promising segment. See more on this perspective in **Figure 8.3** in the next chapter.

8. PARIS AGREEMENT

This part of the survey covers a variety of issues related to post-2020 international carbon markets, including trading mechanisms and eligible carbon credits, as well as countries' emission reduction commitments (so-called nationally determined contributions or NDCs) under the Paris Agreement.

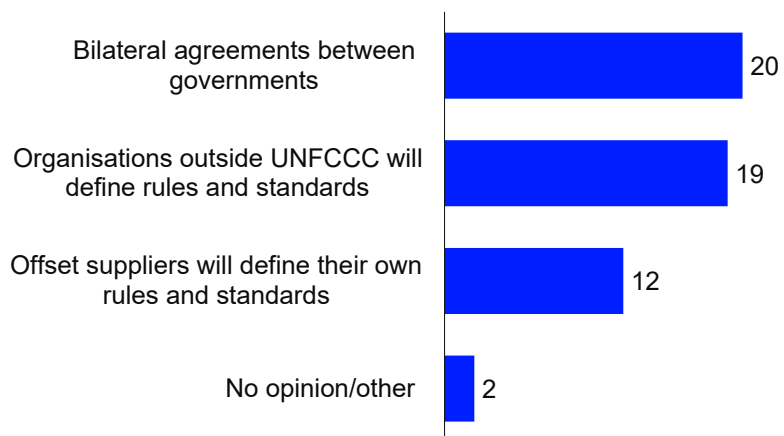
The last global climate summit, held in late 2019 in Madrid, left questions about how global carbon trading can work under the Paris Agreement - negotiators could not agree on the wording of the part of the Agreement that deals with this issue, Article 6. The Covid-19 pandemic added to this uncertainty, as the 2020 annual summit was cancelled - international carbon trading thus operates "in limbo" without any officially adopted rules. The most crucial issues at stake are what constitutes a carbon unit deemed eligible under Art. 6 and how to ensure that the "reduction" that unit represents is only counted/credited to one entity (avoiding double counting).

ART. 6 OR BILATERAL FRAMEWORKS?

The availability of vaccines gave hope that this year's UN climate summit could be held in its usual format, facilitating negotiations about (and adoption of decisions on) Article 6. But a third wave of pandemic and slow dispersal of vaccines are keeping the carbon trading world in suspense, as officials weigh the risks of in-person meeting of thousands in the UK. Asked whether they expect international emission trading rules to be finalized at the upcoming global climate summit in Glasgow (COP26), just over half of the respondents (15 out of 29) said they do, while 13 do not.

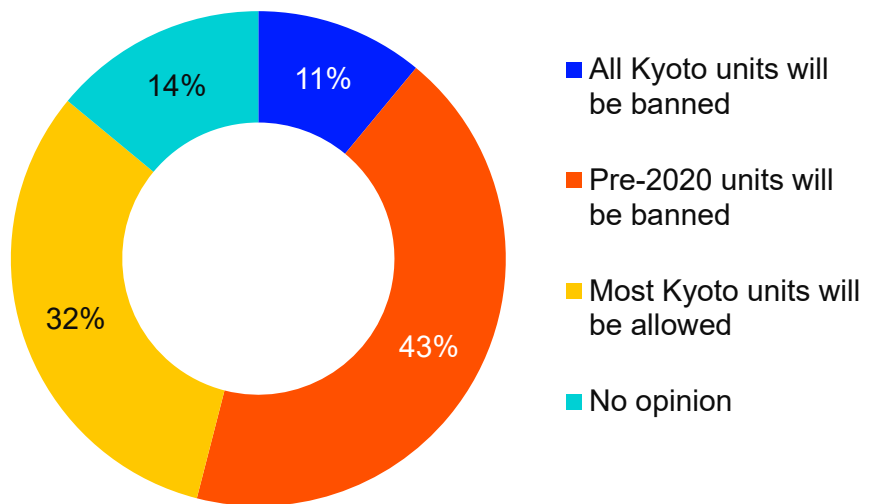
Given the lack of progress on global rules to govern international carbon trading at the UN level, several groups including individual national governments, offset suppliers, verifiers and climate advocacy groups are setting up standardized accounting frameworks and methodologies in an effort to avoid the aforementioned double counting problem in international carbon market transactions. We asked survey participants what they see as the way forward for international carbon trading in the absence of universal rules (i.e. if COP26

Figure 8.1 Post-2020 trading in the absence of global rules
"In the absence of universal rules, what do you see as the way forward for international carbon trading?" N=28 for a total of 53 entries



Source: Refinitiv

Figure 8.2. The fate of the CDM
"What will be the role the Kyoto Protocol offset mechanisms (CDM and JI)?" N=28



Source: Refinitiv

does not take place, or if it again fails to finalise Article 6), with the option to select more than one answer (Fig. 8.1).

Twenty-eight participants responded to this question, with 20 believing bilateral agreements will play an important role. Indeed, while UN negotiators have yet to decide on the design of a global carbon market, bilateral deals such as one between Switzerland and Peru in late 2020 appear to be setting a de facto framework for international transactions of emission reduction units. Respondents also expect non-UN international institutions to set rules and standards, with 19 responses indicating this is likely.

The international aviation organization ICAO is a good example: as of now, the ICAO approved eight carbon standards as eligible to supply emission reduction units for its offsetting scheme CORSIA, whose pilot phase started in January this year. Fewer survey participants think offsets suppliers will be the ones to set international standards or rules for such transactions.

STILL HOPE FOR LEGACY OFFSETS FROM CDM?

Back in the period of the Kyoto Protocol (2008-2020), the Clean Development

Mechanism (CDM) facilitated the transfer of emission reduction credits (CERs) between developing and developed countries. Now that the Kyoto era has come to an end, it is unclear if anyone will buy CERs going forward. Article 6 of the Paris Agreement keeps the door open for potential new market mechanisms, but the signatory countries have not managed to agree on any. Some developing nations want the “old” CDM projects (and the CERs they generate) to be part of any new mechanism.

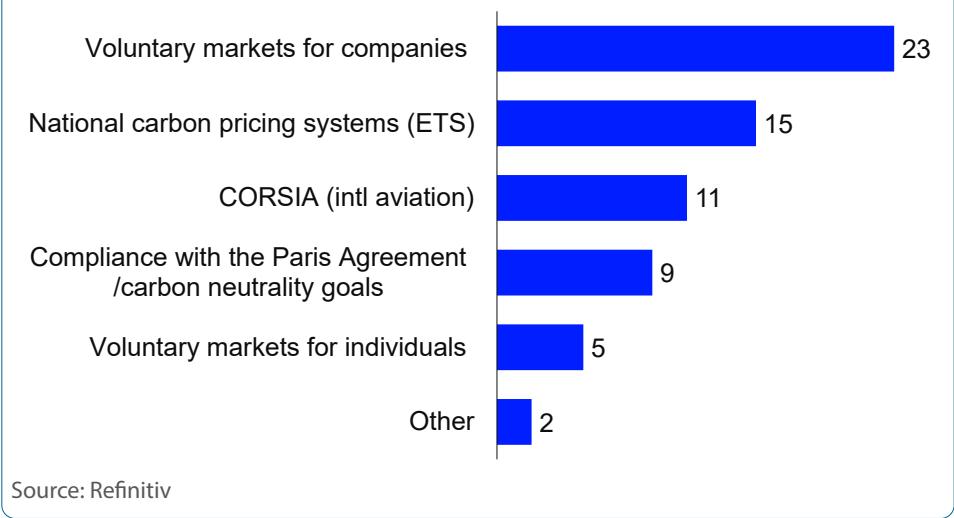
Of the 28 survey respondents who answered the question about the role Kyoto units will play in future (Fig. 8.2), more than half expect a full or partial ban on Kyoto units. Some 43% believe units issued prior to 2020 will be banned, 11% expect all units generated under the Kyoto mechanisms will be banned. About one-third believe most such units will be allowed.

The fate of the CDM was a point of dispute at the global climate summit in 2019, with the countries in which the lion’s share of CERs were generated (China, India and Brazil) pushing for CERs to be eligible under Article 6. The EU and some other countries strongly opposed keeping Kyoto units, arguing that allowing parties to count CERs toward their reduction target would undermine new efforts to gut greenhouse gases.

WILL VOLUNTARY PURCHASING BE THE BIG MARKET FOR CLIMATE OFFSETS?

With the slow progress of climate negotiations at the UN, the private sector is increasingly tackling climate change at the company level - firms are promising to reduce their emissions and setting net zero or carbon neutrality goals. Large firms are motivated by reputation risk, as climate-consciousness is becoming one of the prerequisites for successful business. Many plan to use offsets to reach their emission reduction targets or carbon neutrality goals. It is thus no surprise that nearly all of the 27 survey respondents who answered our question on sources of demand for carbon offsets over the next five years think companies will be buying offsets for compliance to voluntary targets (Fig. 8.3).

Figure 8.3. Demand sources
 “What do you think will be the main source(s) of demand for offsets (old and new units) in the period up to 2025?” N=27 for a total of 65 entries



Fewer respondents (only 15) think offset purchases will take place to fulfil compliance requirements of national emission trading schemes like the EU ETS. The latter programme no longer allows covered entities to offset their emissions with CERs. However, a number of more recent national carbon pricing initiatives - including those of Colombia, Mexico, South Korea, and South Africa - allow offsets as a compliance option.

Respondents do not think the aviation sector’s offsetting scheme (CORSIA) constitutes a major near-term source of demand for CERs or other offsets compared to the other demand sources listed. This is interesting in light of last year’s survey results, where the feedback to this same question showed expectations that CORSIA would be the top source of demand for offsets going forward. The difference in responses makes sense given that the Covid-19 pandemic dramatically decreased aviation activity, which all but eliminates near term (2021-2023) demand for offsets from air carriers - there is no aviation sector emissions growth to offset.

Even fewer respondents think parties to the Paris Agreement will be needing offset units to comply with their *national* emission reduction targets/carbon neutrality pledges - this also makes sense, given that countries were expected to revise their NDCs (making them more ambitious) in 2020 but largely did not in the midst of the pandemic. According

to the UN interim NDC Synthesis Report published in late February this year, signatory countries’ updated/resubmitted pledges (if achieved) will fall far short of meeting the Paris Agreement’s goal of keeping global warming at or below 1.5 degree. Out of almost 200 parties, only 75 countries accounting for about 30 percent of global GHG emissions even submitted updated NDCs, and many do not include offsetting as a means to achieve their proposed reductions.

MODEST EXPECTATIONS FOR US “RETURN TO PARIS”

As President Joe Biden’s rejoinder of the US to the Paris Agreement had officially entered into force a month before our survey, we asked about the US role in global climate change policy - given that the question was in the general part of the survey to all respondents, it garnered nearly 200 responses. Over 60% of respondents agreed with the idea that more countries will be motivated to enhance their reduction targets this year because one of the most critical parties to the UN is “back in the game.” Nearly 45% think the US return renders it more likely that UN rules on carbon trading under Article 6 will be agreed. It was possible to agree to both statements. Some respondents provided their own answers about the significance of the US rejoinder, including pointing out that after Biden’s four-year presidential term the country’s climate policy may change again.

9. NEW ZEALAND

We received just a few responses to the survey section related to New Zealand's ETS, but since the response rate was higher than last year, we include a brief description of outcomes.

Several amendments to the NZ ETS entered into force from January this year, all intended to tighten the programme and thus reduce more emissions. The NZ ETS now features an absolute cap on emissions, rather than operating within the country's emissions budget under the Kyoto Protocol as it used to. Furthermore, the government initiated primary sales: allowances (NZUs) will be auctioned. The option to "pay off" emissions rather than surrendering an allowance for every tonne emitted (the so-called fixed price option or FPO) will be phased out, meaning entities will have to cover all of their 2021 emissions with NZUs. This year's compliance (for 2020 emissions) is the last time entities can use the FPO, which is currently set at NZ\$35/tonne.

Emitters chose the FPO to meet about 20 percent of their compliance obligations in 2020 – meaning they paid a flat fee per tonne for one-fifth of their 2019 emissions and surrendered NZUs for the rest. This is down from 2019, when more than half of the country's collective compliance obligation was satisfied via the payoff option. We asked respondents what portion of 2020 emissions they think will be covered using the FPO. Of the six who had an opinion on this question,

half thought most emitters would use the payoff option and half thought most of the collective compliance obligation would be achieved by surrendering NZUs.

The first allowance auction (held in March) was oversubscribed, as all 4.75 million NZUs offered were purchased at NZ\$36/t (~€21/t). Subsequent sales of the same amount will be held quarterly over 2021. We asked respondents if they expect high demand for NZUs at the remaining primary sales this year, and six out of seven market players who answered this question think demand for NZUs is higher than supply, such that the auctions will be mostly oversubscribed. The next auction is planned for June, i.e. after the compliance deadline for 2020 emissions.

NZU prices had been on a bull run since the market started recovering from the consequences of Covid-19 in mid-2020, supported by growing demand in the face of the upcoming ETS reforms expected to make for a tighter market in the long term. Prices dropped after the first auction but started gradually recovering backed by recommendations from New Zealand's Climate Change Commission to increase the price control levels at the auctions. As of late April, NZUs traded close to NZ\$37.5/t (~€22/t). Asked where they expect to see NZU prices at the end of 2021, six out of nine respondents chose the NZ\$40 – 45/t (~€24-27/t) range, while one considered over NZ\$45/t (~€27/t) realistic and two had no opinion on prices this year.

10. METHODOLOGY AND POPULATION OF RESPONDENTS

This report presents our sixteenth annual survey of the world’s carbon markets. It reflects market sentiment in all major emission trading regimes and includes views on supply and demand trends, prices, policy developments, and the role of international market-based climate policy.

The survey ran from 16 March to 10 April 2021. Using ClickTools, a web-based survey tool, respondents had the opportunity to answer 104 different questions – some general, some limited to specific markets, and some pertaining to specific respondent profiles and/or geographical locations.

Some questions were set up to force respondents to choose one of several listed options, e.g. to select the role that best fits their involvement in carbon markets. In these cases, the population of respondents (N) equals the number of entries, and the distribution is shown as shares adding up to 100% (in some charts the total percentage sometimes deviates might be closer to 99% or 101% as a result of rounding up/down).

Other questions, such as which market respondents are involved in/following, allowed for multiple entries. For these, the number of entries typically surpasses the number of respondents (many choose more than one option), and the distribution cannot be shown as part of a total.

After some years of steadily declining number of respondents, the numbers increased slightly in 2020, mainly because of a surge in in Chinese participants. The positive trend continued this year, with markedly higher numbers in Europe and China, and more modest increases elsewhere. Overall, the survey garnered views from 303 respondents, compared to 253 in 2020 and 165 in 2019.

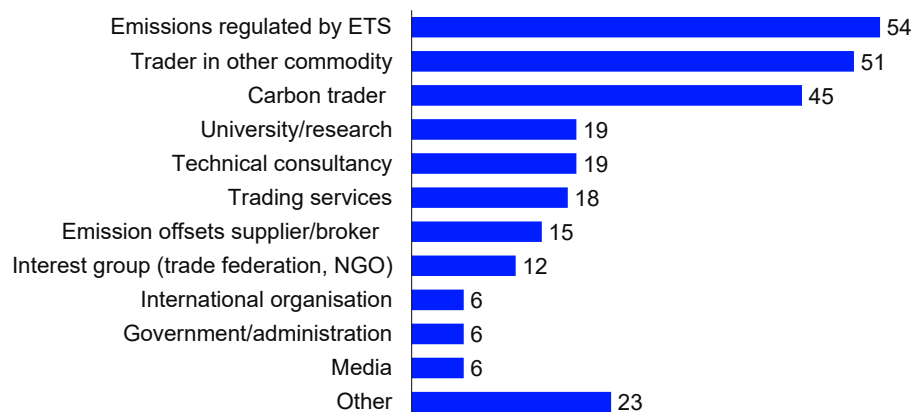
As a consequence of the 2018 EU General Data Protection Regulation (GDPR) we changed fundamentally the way we reach out to potential respondents. Up to and including 2017, we sent e-mails to contacts that had previously replied to the survey (and had not opted out). Most of these contacts were not clients or prospects of Thomson Reuters/Refinitiv. From 2018 onwards we limited the e-mail

Figure 10.1. Markets of interest
 “Which emission market(s) are you involved in or following closely? Check all that apply.” 286 respondents for a total of 542 entries



Source: Refinitiv

Figure 10.2. Roles of respondents
 “What is your organisation’s primary role in emission markets?” N=274



Source: Refinitiv

invitation list to contacts of Refinitiv who have actively and explicitly accepted to receive e-mails. We have also sent individual invites to personal professional contacts.

TOP AREAS OF INTEREST: EUROPE, CHINA AND ESG

The survey was also accessible online from a link posted on Eikon and on Twitter. In China, we promoted the survey on WeChat a social/professional website.

Participants were first invited to indicate the market(s) in which they are involved. In 2020 we forced respondents to choose one, this year we reverted to our previous

set-up that allows respondents to tick more than one. Unsurprisingly, of the 286 survey respondents who indicated involvement/interest in one or more carbon markets, 196 or two-thirds chose the European Union Emission Trading System (EU ETS). That is by far the biggest respondent segment, with China coming in second at 86, and ESG at 80.

Note that respondents’ market involvement does not necessarily coincide with where they are located. Some 159 respondents are based in a European country. In other words, respondents located outside the EU are following the EU ETS, and vice-versa.. See **Figure 10.1**. The questions on the UK ETS appeared as part of the Europe section.

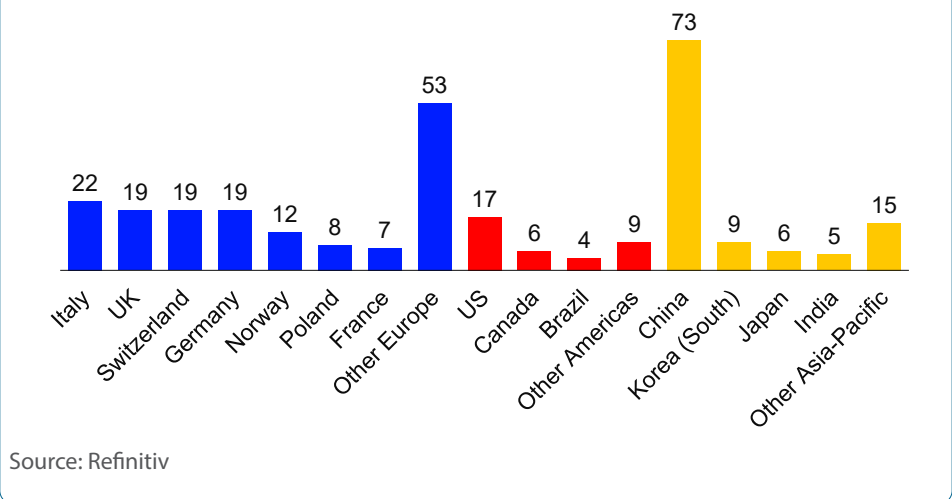
In 2020, less than ten participants ticked interest in any of the other markets. This year, RGGI and New Zealand came last, both with 18 clicks. Note that the numbers in this sorting question do not always correspond with the number of respondents in the respective market sections, as some dropped off during the general section of questions.

MOST RESPONDENTS ARE TRADERS OR REGULATED EMITTERS

Respondents were asked to define their role in the carbon market. Some 54 ticked the category “company with emissions regulated by a cap-and-trade scheme”, see **Figure 10.2**. Next came “trader in other commodity” (carbon not being primary focus), at 51, and “carbon trader” at 45. In other words, all traders combined constitutes the largest group of respondents. Asked to give a more specific role, 40 traders identified as “Non-compliance proprietary trading desk (e.g. commodity trading house, investment bank)”. Some 23 chose “Portfolio manager”, and 15 “Trading desk linked to a company regulated under a cap-and-trade scheme”. Five respondents identified as hedge funds.

All other roles (consultancy, interest group, academic, etc.) garnered fewer responses. To summarise, the population of respondents shows a preponderance of regulated emitters and traders, the two groups of stakeholders that have a real and direct economic interest in carbon markets.

Figure 10.3. Location of respondents
“Where are you located?” N=303



Looking at geographic location of respondents, we see that China is by far the leading country with 73 respondents, a number that has increased strongly over the last two years thanks to successful outreach in Chinese social-professional media platforms such as WeChat. When aggregated to continent level, Europe maintains the highest share with 159 respondents, before 108 in Asia/Pacific and 36 in the Americas (of whom 17 in the US). We had no African respondents this year. (**Fig. 10.3**).

This report does not present all 104 questions posed in the survey. Many garnered too few responses to be statistically valid. Many others *could have been included*, but to offer an accessible format, we have selected only the findings we deem most relevant.

Contacts

EDITORIAL ENQUIRIES

Anders Nordeng

Anders.Nordeng@refinitiv.com

Tel. +47 90 51 20 71

OTHER ENQUIRIES

Refinitiv Carbon Team

Dronning Eufemias gate 16

0191 Oslo, Norway

www.refinitiv.com

THE FINANCIAL AND RISK BUSINESS OF THOMSON REUTERS IS NOW REFINITIV

Refinitiv, an LSEG (London Stock Exchange Group) business, is one of the world's largest providers of financial markets data and infrastructure. With \$6.25 billion in revenue, more than 40,000 customers and 400,000 end users across 190 countries, Refinitiv is powering participants across the global financial marketplace. We provide information, insights, and technology that enable customers to execute critical investing, trading and risk decisions with confidence. By combining a unique open platform with best-in-class data and expertise, we connect people with choice and opportunity – driving performance, innovation and growth for our customers and partners. For more information visit: www.refinitiv.com

