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Evaluation of the UK Emissions Trading Scheme: Phase 1 report – Annex 1

Quantitative survey report

A report to the UK ETS Authority prepared by Winning Moves

December 2023



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Introduction

This paper presents the findings of the quantitative survey that was conducted as part of phase 1 of the UK ETS evaluation. The evaluation was commissioned by the Department for Energy Security and Net Zero (DESNZ) and is led by CAG Consultants. Winning Moves is a member of the consortium led by CAG Consultants and is responsible for conducting the quantitative survey in both stages of the evaluation.

The phase 1 survey covered the following broad topics:

- UK ETS participant views on how the transition from the EU ETS to the UK ETS was managed.
- UK ETS participant views on the various processes that form part of the scheme's annual compliance lifecycle (process evaluation).
- How participants use the free allocation of allowances and they source UK allowances more generally (trading behaviour).
- Actions participants are taking to reduce their carbon emissions and early evidence of any UK ETS influence on their increasing decarbonisation investment (carbon abatement).

The survey was decided to be conducted via telephone. Preparations for the quantitative survey started in April 2023, when the survey was drafted and signed off. Upon sign-off, it was launched in early June and was live for six weeks up to mid-July. Overall, there were 17 full responses to the pilot stage and 166 responses to the full survey from main scheme participants, i.e. 183 responses in total.

Winning Moves also ran a separate survey of installations that qualified as Hospital or Small Emitters (HSE) and Ultra Small Emitters (USE) installations. There were 24 responses to this survey, all of which were from HSE installations. Due to the lack of telephone numbers for USE installations, and despite Winning Moves' efforts to reach them over e-mail, there were no responses from USE installations. In addition to a survey section which is specific to views of HSE installations, data from the HSE survey is reported and appropriately flagged throughout the report where applicable.

Throughout this report, all references to the 'main scheme' comprise those operators and aircraft operators that have to surrender allowances and that take part in trading UKAs (i.e. participants in the UK ETS excluding HSE and USE operators).

Analysis of survey data started upon the completion of fieldwork. A first draft of findings, in the form of data tables, was shared with DESNZ in early August. This report presents the final set of findings.

Where figures relating to sub-categories of participants are cited, either through a graph or in the narrative, there is a statistically significant difference between that sub-category and the

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rest of the sample, unless otherwise stated. The threshold for significance was set at 90% confidence, because of the relatively small sample sizes in this survey.

This report is purely intended to present the survey findings, and, for that reason, does not contain any recommendations or summary of conclusions, which are presented in the phase 1 synthesis report.

This report has the following chapters:

- **Methodology:** This section outlines the sampling and weighting methodology.
- **Process:** This section outlines participant views on the transition from EU ETS to the UK ETS as well as on the various UK ETS processes.
- **Trading:** This section outlines how participants use their free allocation and how they source emissions allowances from the market.
- **Carbon abatement:** This section outlines the actions participants are taking to reduce their carbon emissions as well as the extent to which participants think these have been influenced by UK ETS.

Methodology

Sample selection

The sample frame for the main quantitative survey was based on an installation database provided by DESNZ which contained the following pieces of information:

- Volume of emissions in 2022
- Volume of free allocation in 2022
- The existence of a linked trading account
- Sector
- Regulator
- Region

DESNZ aggregated the installation data to 'unique' operator level, so that multiple installations owned by a common operator were grouped together and so that multiple operators known to be owned by the same parent company were also grouped together. 'Unique' operator level was deemed to be the appropriate sampling unit for phase 1 of the evaluation.

Overall, the database contained 906 operators/AO records. From this database, 759 'unique' operator and aircraft operator records were identified, of which 558 were deemed appropriate to be included in the sample frame. The remaining 201 'unique' operator and aircraft operator (AO) records were excluded from the sample frame for the following reasons – please note that one operator might fall into more than one of the below categories:

- They were no longer operating.
- The account was unclaimed, i.e. there was no email address for them.
- They were excluded from the scheme in 2022.
- Compliance with UK ETS was managed by a consultancy (it was decided that these would be covered by the qualitative interviews).
- There was no primary contact.
- The account opened during 2023.

The final sample frame for the main stage of the quantitative survey consisted of 463 records. On top of those, there were:

- 71 records reserved for the qualitative interviews.
- 24 records for which there was a definite outcome from the pilot, either a complete interview or a refusal.

For the HSE/USE survey, sampling was also undertaken at 'unique' operator level rather than installation level. There were 148 unique HSE operators operating 249 HSE installations. No

contact details were available for 3 HSE operators so the sampling frame was 145 HSE operators. Telephone numbers were available for 86 HSE operators, whereas only email addresses were available for the remaining 59 HSE operators. Similarly, there were 55 unique USE operators operating 99 USE installations. No contact details were available for 4 USE operators so the sampling frame was 51 USE operators. Only email addresses were available for USE operators.

Sampling

Random sampling was used for the main quantitative survey. To achieve this, each of the 463 records in the sample frame was given an equal chance to participate in the survey. Records were contacted a maximum of seven times.

There were no strata or other quotas. However, operators and AOs with high emissions, defined as those with more than 100,000 tCO₂e in the UK in 2022, were closely monitored throughout fieldwork.

All records in the HSE/USE sample frame were invited to participate in the HSE/USE survey. Records in the HSE sample frame with telephone numbers (n=86) were contacted a maximum of seven times, as for the main survey. All contact with HSE operators without a telephone number (n=59) and USE operators (n=51) was by email.

Population

Prior to analysis, the main survey population (for weighting purposes) was agreed to contain the following records:

- All records in the sample frame (463).
- The records for which there was a definite outcome in the pilot (24).
- The records initially reserved for the qualitative interviews (71).
- The records without a primary contact (13).
- Unclaimed accounts (19).

Overall, the main survey population contained 590 records.

The HSE/USE survey population consisted of 148 HSE operators and 55 USE operators, but HSE/USE survey responses were not weighted.

Survey data

Data in the survey come from the following sources:

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- The main quantitative survey (n=166). Interviews were conducted by telephone or online calls, lasting around 25 minutes. This represented a response rate of 36%.
- The pilot (n=17). Prior to the main stage, the survey underwent a comprehensive piloting and cognitive testing stage, upon which it was amended to reflect pilot findings. As changes were made, as well as various routing and other technical issues were fixed, data from the pilot was retained only for questions that remained unchanged.
- Qualitative interviews conducted by CAG Consultants (n=21): On top of the 183 responses from the quantitative survey, and for certain questions in the trading and carbon abatement sections of the survey, data was also collected by CAG Consultants through the qualitative workstream that they led, which was run concurrently to the quantitative survey. This data was integrated with the survey data upon fieldwork completion.

The qualitative research workstream was focused mainly on operators and AOs with high levels of emissions, to ensure that the research captured reasoning and in-depth insights from major players in the UK ETS scheme. This posed a challenge for the quantitative survey, because it led to a considerable number of high emitters being excluded from the quantitative survey sample. There was a risk of high emitters being under-represented in the quantitative survey findings. Representation of high emitters in the quantitative survey was therefore boosted by asking selected survey questions of operators and AOs that undertook in-depth interviews within the qualitative research workstream. This was done for qualitative interviewees who, across all their UK ETS sites or operations, reported emissions exceeding 100,000 tCO₂e in 2022. Owing to the time constraints of a 45 to 60 minute qualitative interview, Winning Moves and CAG Consultants agreed with DESNZ that a subset of questions from the full survey would be used for this. The selected questions, set out in the 'quant grid' in Appendix 1, focused solely on high priority topics that were regarded as likely to vary with scale of emissions (i.e. trading behaviour and abatement behaviour). Process questions were not included because these were thought less likely to vary by scale of emissions. The selected survey questions were integrated into a 'high emitter' version of the qualitative topic guide, so that the interviewer could readily probe and assess quantitative responses in parallel with qualitative questions on a given topic. Some questions required interviewers to ask specific closed questions within the qualitative interviews (e.g. 'on a scale of 1 to 5, how would you rate...') but, for other questions, interviewers were able to infer answers to the survey questions from the responses provided to more open, qualitative questions. To minimise any error arising from the inference of survey answers from responses to open questions, the interviewers shared the draft survey responses with the interviewee after the call, so that interviewees had the opportunity to review and adjust survey responses if necessary. Where adjustments were requested, these were incorporated into the survey responses shared with Winning Moves. Where no response was received from the interviewee, despite repeated chasing, the draft survey responses were assumed to be correct and were shared with Winning Moves without adjustment.

Overall, there were 21 records originating from CAG’s qualitative interviews. Throughout this report figures based on both quantitative and qualitative interviews have been flagged. Please note that organisations participating in the qualitative interviews were of a much larger scale than those which participated in the quantitative interviews:

- Their median emissions in the UK in 2022 were about 1m tCO₂e. By contrast, the median emissions of quantitative survey respondents referred to as big emitters throughout this report were approximately 100,000 tCO₂e.
- Likewise, their median free allocation in 2022 was about 360,000 free allowances. By contrast, the median free allocation of quantitative survey respondents referred to as big emitters throughout this report were approximately 30,000 free allowances.
- Their trading behaviour was probably linked to the size of their operations. Respondents from the qualitative research were more likely to report buying/selling derivatives on the ICE trading platform and buying allowances spot on a daily basis.
- Despite differences owed to their much larger size, their responses did not significantly diverge from those of quantitative survey respondents referred to as big emitters throughout this report.
- The separate survey of HSE/USE operators was undertaken by telephone with a self-administered online response option. From the sample frame of 145 HSE operators, 24 responses were received (a response rate of 17%). No responses were received from the sample frame of 51 USE operators, possibly because no telephone contact data was available and some email addresses were out of date.

Weighting

All percentages of participants cited in this report are weighted. The only exception are percentages of HSE installations, which are unweighted.

There were two sets of weights in the analysis:

- One for questions where data from the qualitative interviews was included.
- One for all the remaining questions, which came solely from the quantitative survey.

Both sets of weights were calculated based on the volume of emissions in the UK in 2022. The following categories were used:

- Zero 2022 emissions
- Less than 2,500 tCO₂e
- 2,500 tCO₂e – 25,000 tCO₂e
- 25,000 tCO₂e – 50,000 tCO₂e
- 50,000 tCO₂e – 250,000 tCO₂e

- 250,000 tCO₂e – 500,000 tCO₂e
- More than 500,000 tCO₂e

Percentages of emissions cited in the trading and carbon abatement sections are not weighted, as the existing sets of weights are already based on emissions.

Analysis

Originally, the statistical significance threshold was set at 95%, as is the standard in similar pieces of research. However, due to the small sample size of this survey, the statistical significance threshold for the second draft of the analysis was set at 90%, which is the threshold used in this report. As explained in the methodology section, random sampling was used in this survey and, therefore, statistical testing is appropriate.

At 90% confidence, the maximum margin of error for findings from the whole sample of 204 operators/AOs is 5.8% (assuming a 50:50 split in responses). Margins of error are wider for sub-samples: for example for the sub-samples of 108 installation operators, 41 aircraft operators and 55 micro-emitters, the maximum margins of error are 7.9%, 12.8% and 11.1% respectively.

Participants with less than 1,000 tCO₂e in the UK in 2022 have been analysed as a separate category in all cross-tabulations, referred to throughout this report as ‘micro-emitters’. Throughout this report, all figures on installation operators and aircraft operators do not include micro-emitters, i.e. these figures are on participants with at least 1,000 tCO₂e in the UK in 2022. This was done because the first draft of the analysis showed that these participants, usually from international aviation, were different to the rest of the sample. Overall, there were 55 micro-emitters in the sample. Please note that micro-emitters are included in all overall ‘main scheme’ figures. Micro-emitters are not necessarily small organisations: some may be large aircraft operators with small emissions within scope of the UK ETS but who may have large emissions elsewhere.

After this change, cross-tabulations in the analysis were done with respect to the following variables and categories. Maximum sample size, i.e. including records from the qualitative research, is also reported:

- Type of major installation (from database)
 - Installation operators (n=108)
 - Aircraft operators (n=41)
 - Micro-emitters (n=55)
- Volume of free allocation in 2021 as a proportion of 2022 emissions (from database)
 - Zero free allocation (n=32)
 - Up to 50% (n=67)
 - More than 50% (n=50)

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- Micro-emitters (n=55)
- Volume of 2022 emissions (from database)
 - Micro-emitters (n=55)
 - Small emitters (1,000-2,500 tCO₂e) (n=14)
 - Medium emitters (2,500 – 50,000 tCO₂e) (n=77)
 - Big emitters (more than 50,000 tCO₂e) (n=58)
- Number of full-time staff in organisation (from survey data)
 - Up to 249 (n=40)
 - 250 and over (n=87)
 - Micro-emitters (n=55)
- Existence of EU ETS account (survey data)
 - They hold an EU ETS account (n=61)
 - They do not hold an EU ETS account (n=62)
 - Micro-emitters (n=55)
- Is there a staff member/team whose sole responsibility is ETS compliance? (survey data)
 - Yes (n=61)
 - No (n=56)
 - Micro-emitters (n=55)
- Region
 - All installations in England (i.e. regulated by the EA) (n=113)
 - At least one installation outside England (n=28)
 - No data (n=8)
 - Micro-emitters (n=55)

In the trading behaviour and carbon abatement sections, additional analysis was also conducted. In addition to percentages of participants choosing a response option, the proportion of total emissions accounted for by those respondents was also calculated¹. By 'emissions', we mean CO₂e emissions in the UK in 2022 as those were provided by DESNZ. This was done because, even though certain types of trading and carbon abatement behaviour were taken up by small proportions of participants, these participants accounted for much larger proportions of total emissions. About three quarters (76%) of total emissions covered by this survey were accounted for by the 21 records provided to Winning Moves by CAG Consultants. This is expected as CAG Consultants had purposively reserved many high emitters for their in-depth qualitative interviews. For that reason, the additional emissions

¹ Except for the question related to how free allocation is used, where the proportion of total free allocation accounted for by each response option was calculated instead.

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analysis was only conducted for questions for which data from CAG Consultant's in-depth interviews was available.

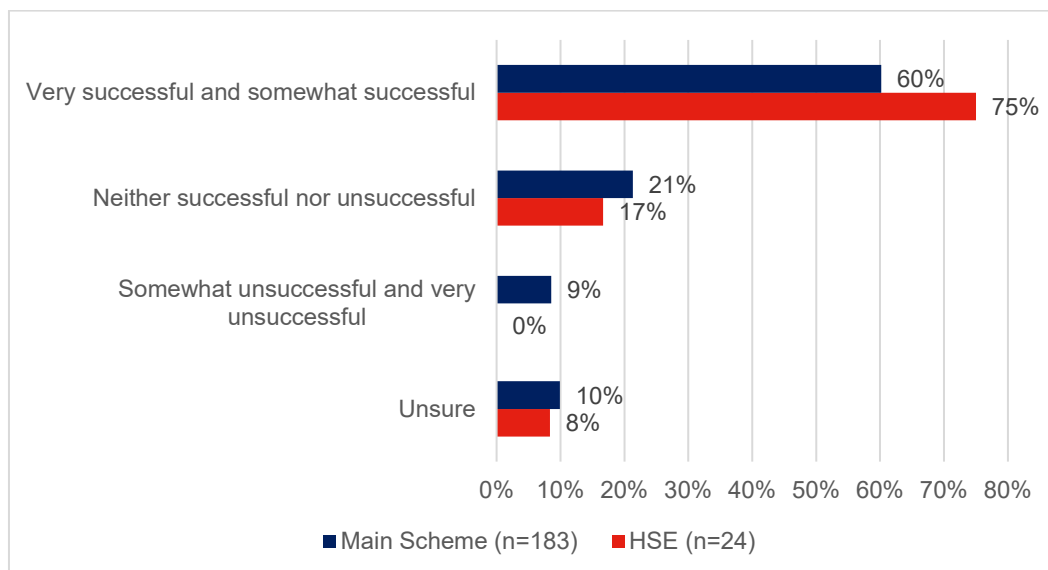
Process (including Transition)

Transition from the EU ETS to the UK ETS

Government’s handling of the transition

A majority of both main scheme participants (60%) and HSE installations (75%) considered the government’s handling of the transition from the EU ETS to the UK ETS as successful. This was true for all operator types examined. However, operators and AOs with high emissions (more than 50,000 tCO₂e) tended to find the transition less successful, but any observed variation fell below the levels of statistical significance.

Figure 1: How would you rate the government’s role in the transition from the EU ETS to the UK ETS? (all main scheme participants & HSE installations)

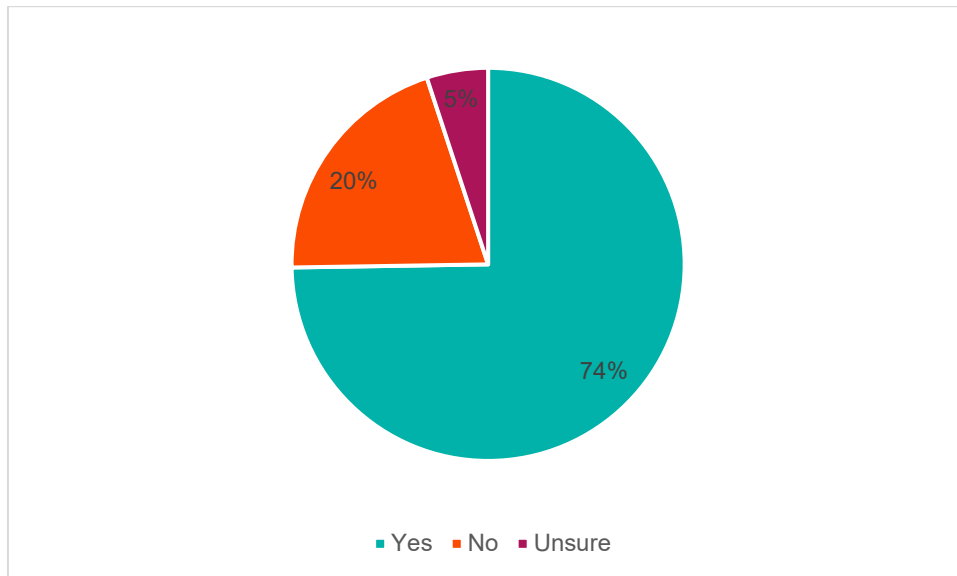


When asked to explain their rating of the government’s handling of the transition process, most operators and AOs reported no problems (45%; n=163), and a fifth (21%) expressed their approval of how the government had communicated the changes. In contrast, about a third (35%) felt the transition process was complicated, and a fifth (21%) encountered problems related to the scheme’s perceived lack of compatibility with the EU ETS. Firms with high emissions (more than 50,000 tCO₂e) tended to find the process complicated, but any observed variation fell below levels of statistical significance.

Awareness of the free allocation process

Regarding the process of allocating free allowances in the UK ETS scheme, the vast majority of participants that were eligible for free allowances (74%) confirmed that they were aware of the process at the time of establishment of the UK ETS, with 20% saying they were not.

Figure 2: At the time of the establishment of UK ETS, was your organisation sufficiently aware of the process for allocating free allowances? (all main scheme participants receiving free allowances; n=107)

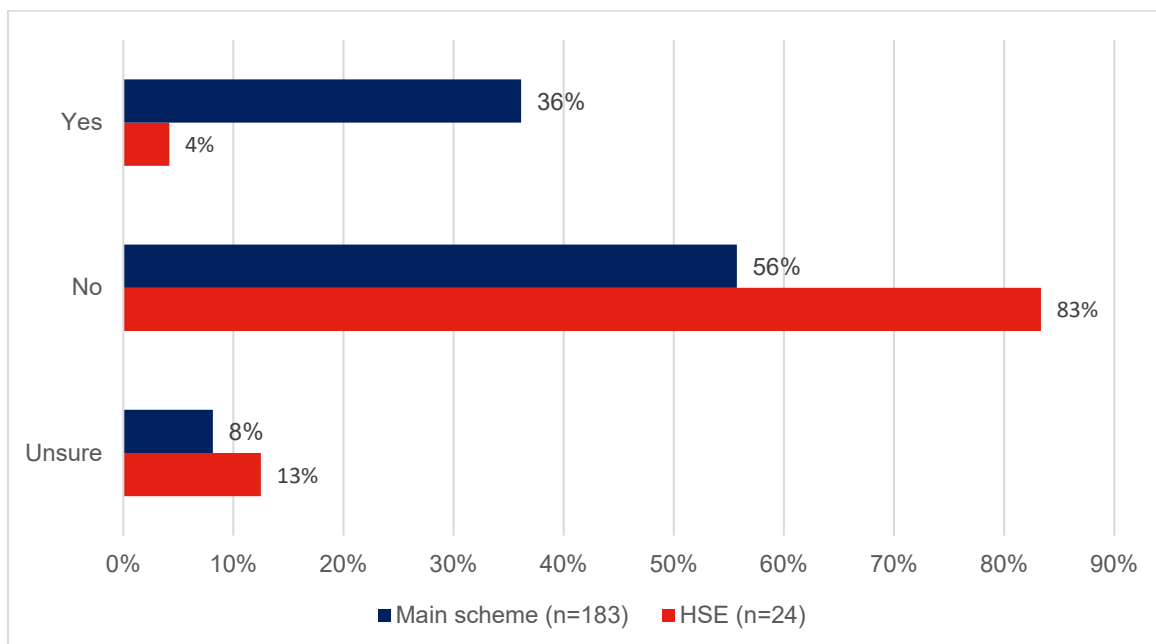


Those without a concurrent EU ETS account tended to be less aware of the free allocation process, but any variation fell below levels of statistical significance. Where participants stated that they were unaware of the process, most of them explained that the information they had received about it was not clear (56%; n=20).

Costs incurred as a result of the transition

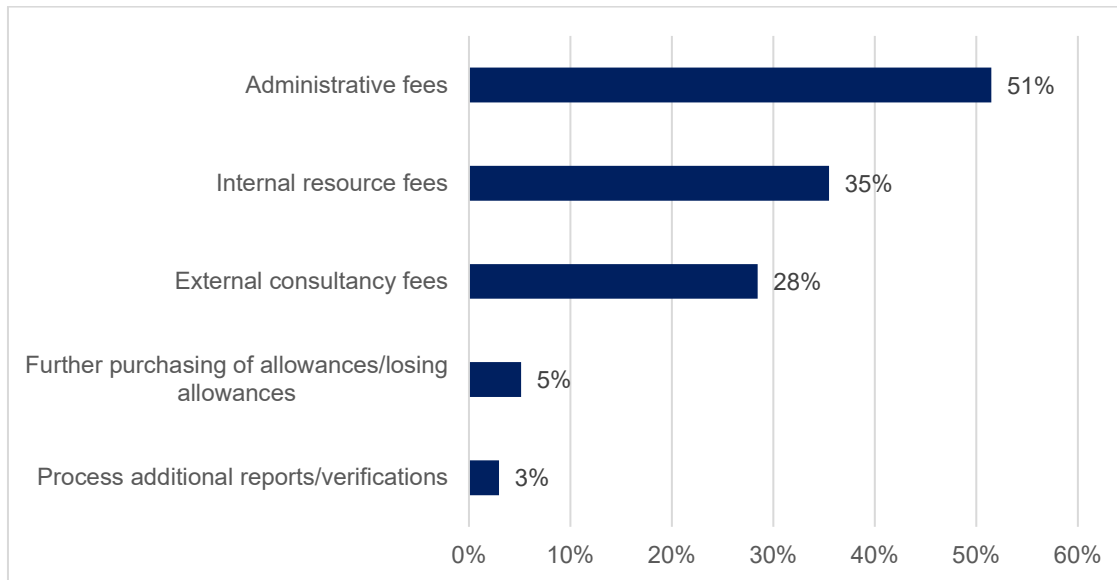
The majority of participants reported no one-off costs incurred as a result of the transition from the EU ETS to the UK ETS. Among main scheme participants, 36% stated that they incurred costs, whereas only 4% of HSE installations said they had done so.

Figure 3: Were there any one-off costs incurred by the organisation related to the transition from the EU ETS to the UK ETS? (all main scheme participants & HSE installations)



Those main scheme participants reporting one-off costs incurred as a result of the transition from EU ETS to UK ETS suggested that these costs were primarily administrative fees (51%) and internal resource costs (35%).

Figure 4: What were the one-off costs you incurred associated with? (multiple response allowed; main scheme participants incurring one-off costs; n=67)



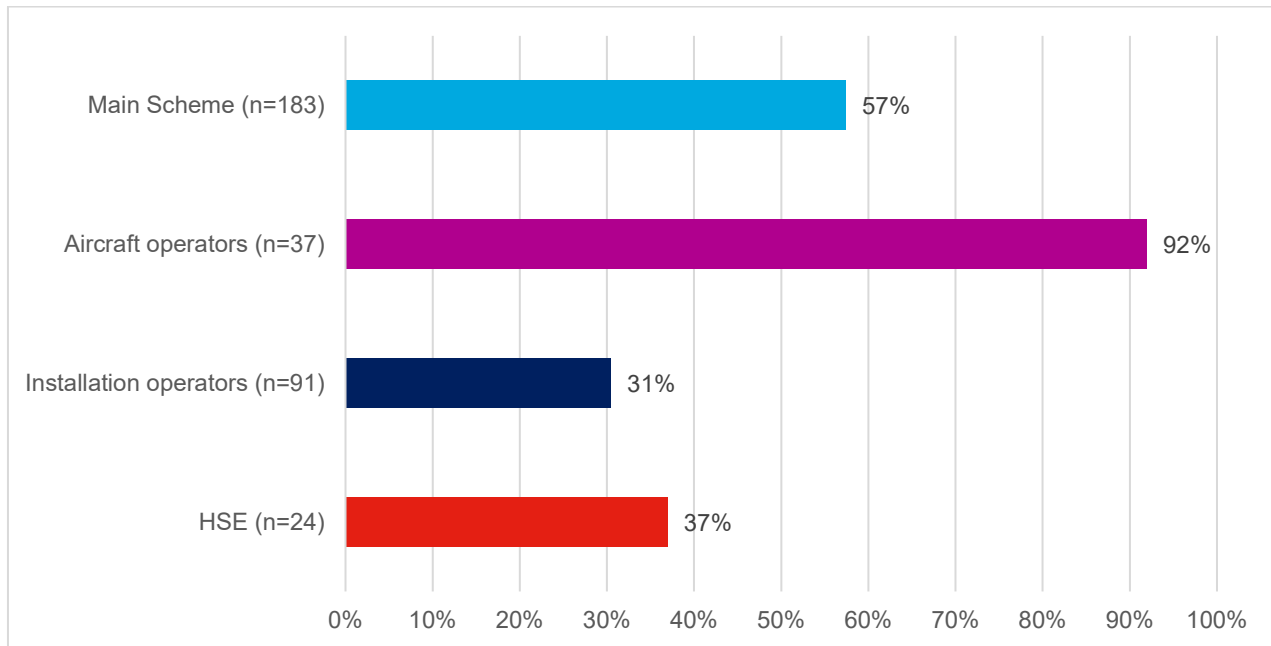
The same participants were also asked to estimate the scale of the incurred costs. Where participants reported a cost, the median reported cost was £1,000 (n=67), with 40% of them incurring costs under £1,000, whereas 7% reported costs over £10,000. Those with an existing EU ETS account tended to report costs over £10,000, but there was no statistically significant variation.

Existence of concurrent EU ETS account

As the UK ETS succeeded the EU ETS for the UK, many operators and AOs already had existing EU ETS accounts. Depending on where their operations were based, they either had to close their EU ETS accounts and then register to the UK ETS, or, if they had operations in the EU, they had to open a new UK ETS account while still retaining their existing EU ETS account. This was especially true for international aircraft operators which had to comply with the EU ETS for qualifying flights arriving in the UK, and comply with the UK ETS for qualifying flights departing from the UK.

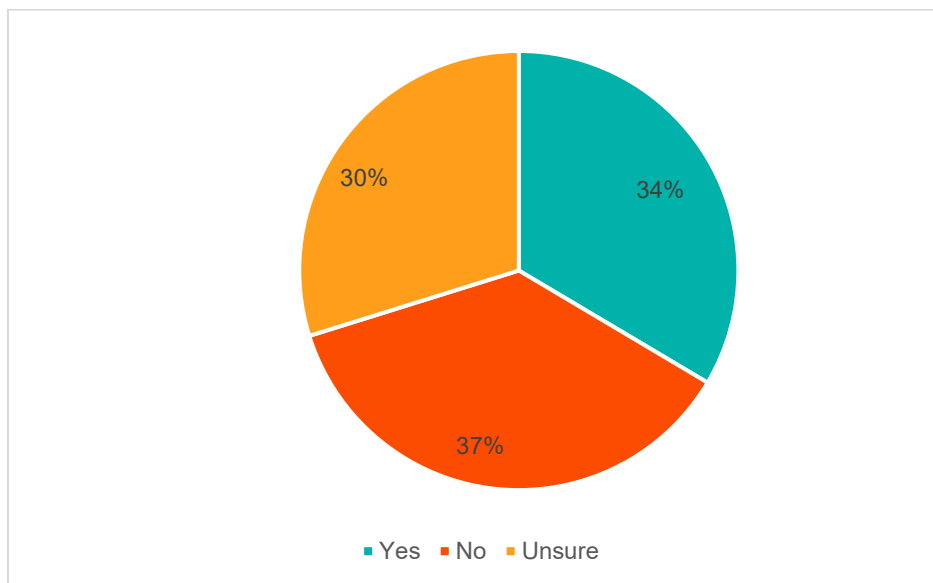
As shown in the graph below, and in line with expectations, the vast majority of aircraft operators in the main scheme (92%) also held an EU ETS account. Conversely, about only one third of installation operators in the main scheme (31%) held one. With regards to HSE installations, 37% of those also held an EU ETS account.

Figure 5: Does your organisation currently hold any EU ETS accounts? (all main scheme participants & HSE installations)



Overall, 34% of main scheme participants reported incurring costs as a result of participation in both schemes. Aircraft operators in the main scheme were much more likely to suggest they incurred costs from having to participate in both schemes, with 59% of them saying so compared to only 3% of installation operators in the main scheme.

Figure 6: Is your organisation additional ongoing administrative costs from participating in both schemes? (main scheme participants with an EU ETS account; n=105)



The median additional ongoing cost reported from participating in both schemes was £3,400 (n=36), with 16% of main scheme participants incurring costs from participating in both schemes reporting costs greater than £10,000.

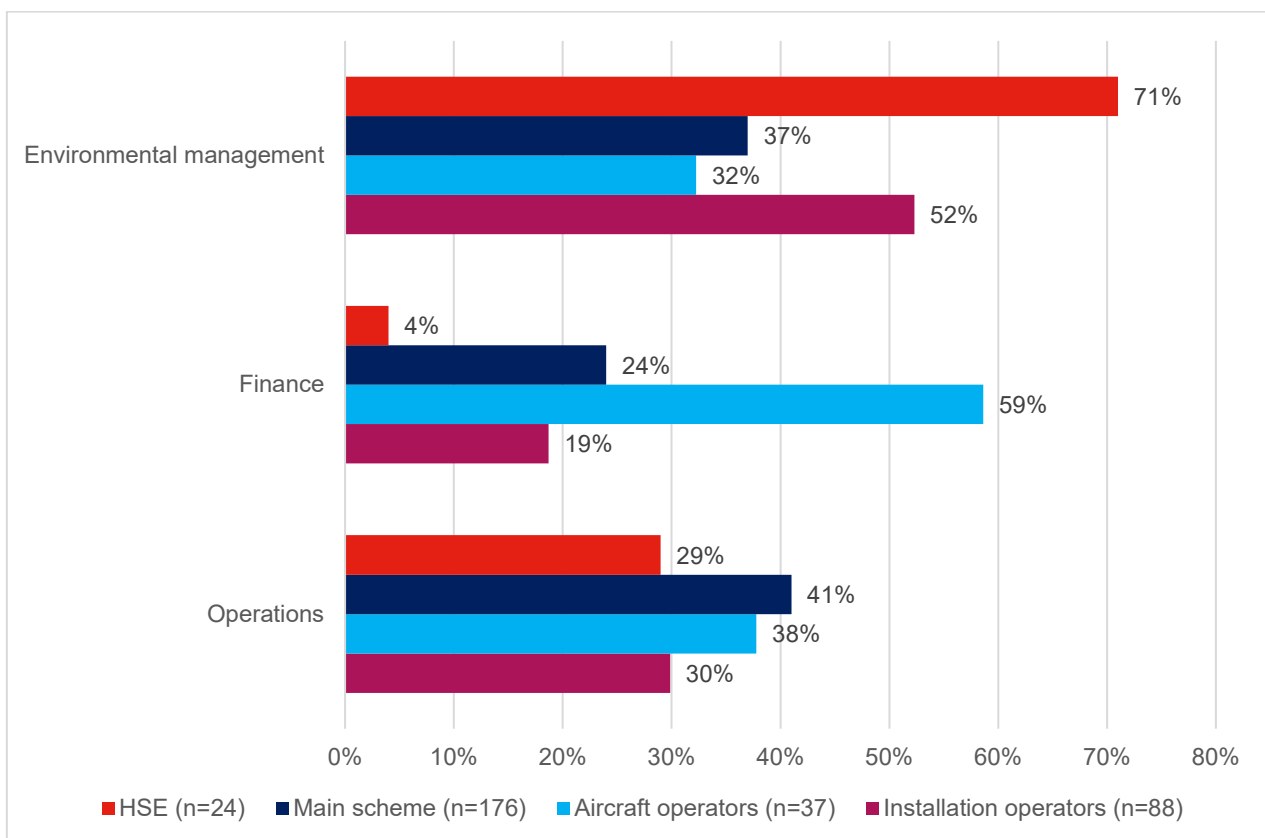
Organisational approaches to ETS compliance

Departments responsible for UK ETS compliance

Operators and AOs managed compliance with the UK ETS in different ways. Overall, 41% of main scheme participants managed compliance with the UK ETS through their operations department, whereas 37% used their environmental management department. Within HSE installations, 71% reported using the environmental management department.

Responses further varied across types of participants. Within installation operators in the main scheme, a majority (52%) reported using their environmental management department for UK ETS, whereas for aircraft operators in the main scheme, a majority (59%) were using their finance department. Micro-emitters (those with less than 1,000 tCO₂e in the UK; n=51) were mainly using the operations department (61%).

Figure 7: Which department within your organisation has responsibility for UK ETS compliance? (multiple response allowed; all main scheme participants & HSE installations)



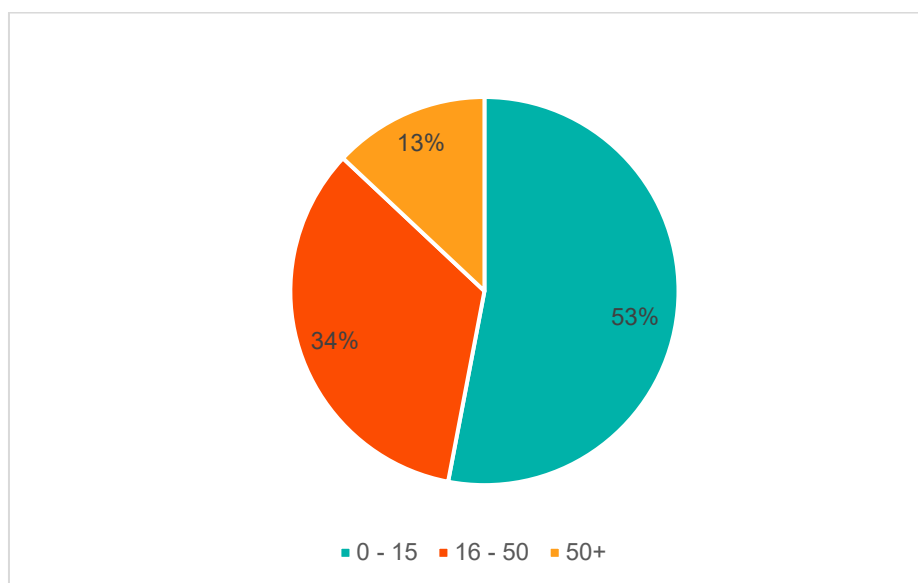
Installation operators in the main scheme were also more likely to be using the commercial department for UK ETS compliance (11%). Operators and AOs with high emissions (those with more than 50,000 tCO₂e; n=36) were also more likely to use the commercial department (20%), as well as the health and safety department (13%).

Those participants reporting that there was a staff member or team solely responsible for UK ETS compliance (n=56) were more likely to use their environmental management department (53%) and the health and safety department (11%).

Time dedicated to UK/EU ETS related activities

The majority of participants (53%) reported spending up to 15 days a year on UK ETS compliance, approximately once a month. On the other hand, about one in seven (13%) reported spending more than 50 days a year, i.e. approximately at least once a week.

Figure 8: How many days per year does your organisation dedicate to UK/EU ETS related activities? (all main scheme participants; n=183)



Operators and AOs with high emissions (more than 50,000 tCO₂e; n=38) tended to report more than 50 days a year dedicated to UK/EU ETS related activities, but any variation observed fell below statistical significance levels.

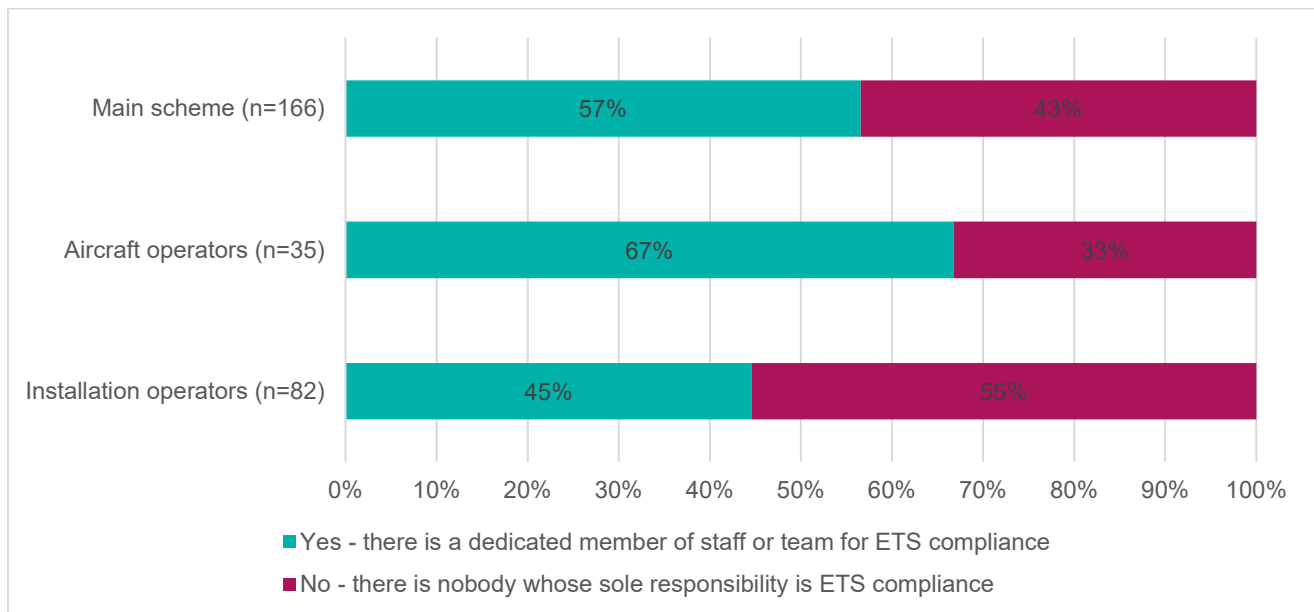
Operators and AOs whose compliance with emissions trading schemes is managed by their environmental management department were more likely to report more than 15 days a year dedicated to EU/UK ETS activities (64%; n=69). However, the difference between the median number of days reported by these operators and AOs and the overall number of days mentioned above was not statistically significant.

Existence of staff members whose sole responsibility is ETS compliance

Overall, participants were almost evenly split on whether their organisation had a staff member or a team with the sole responsibility of looking after compliance with the emission trading schemes; this would include the UK ETS as well as the EU ETS, where applicable. Just under six in ten main scheme participants (57%) confirmed having at least one staff member whose sole responsibility was compliance with emission trading schemes, but 63% of HSE installations said they did not have such a staff member.

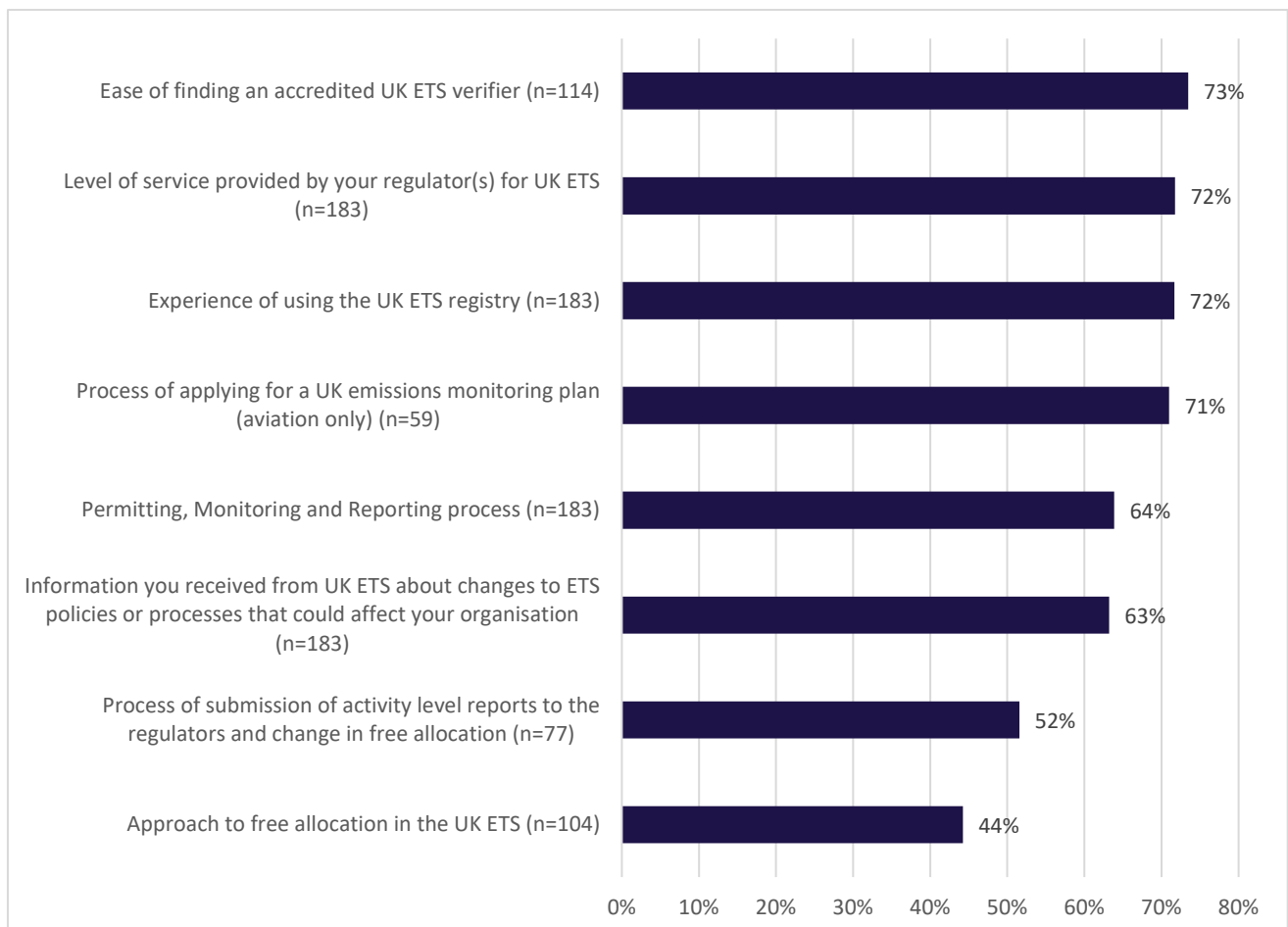
There was also a sharp contrast between aircraft and installation operators in the main scheme. Within aircraft operators, where most operators are in multiple ETS schemes, 67% had at least one staff member whose sole responsibility was compliance with the emission trading schemes, compared to 45% of installation operators in the main scheme.

Figure 9: Is there a staff member or team whose sole responsibility is ETS compliance? (all main scheme participants)



Views and experiences of engaging with the UK ETS scheme

Figure 10: Proportion of participants satisfied and very satisfied with various UK ETS processes (all main scheme participants)



Participants were fairly satisfied with most UK ETS processes, with the ease of finding an accredited verifier receiving the highest rating (73%). In contrast, participants were least satisfied with the approach to free allocation and the process of submitting activity level reports (44% and 52% respectively).

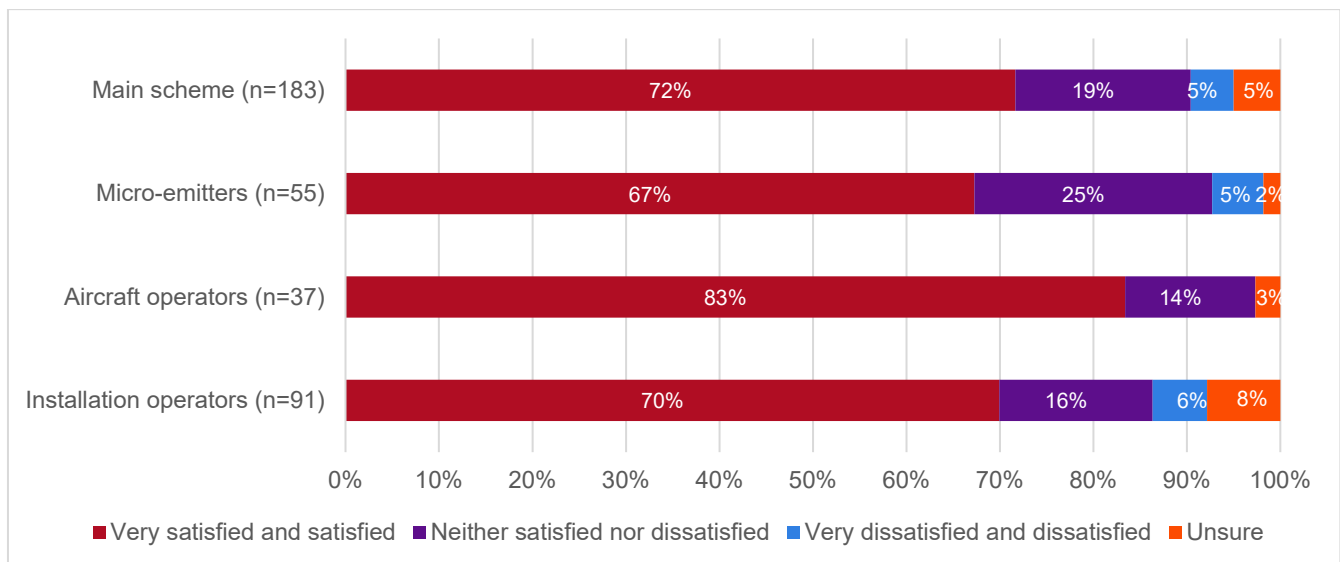
With regards to the four processes that were applicable to all respondents (n=183) (i.e. the UK ETS registry; permitting, monitoring and reporting; the level of service provided by regulator(s) and information received from UK ETS) about four in ten participants (44%) were satisfied with all of them. There was also a tendency for those with zero free allocation to be in that category, but their difference from the rest of the sample was not statistically significant.

There were very few respondents (8%) who did not express satisfaction with any of the processes that were applicable to all participants, including those that were unsure and neither satisfied nor dissatisfied. Those with no staff member or team solely responsible for ETS compliance had a tendency to fall into that category, but this was not statistically significant.

Please note that responses collected from large emitters through the qualitative interviews do not include the questions about the various processes in this section. Thus, their views on the various UK ETS processes have not been captured.

View on the UK ETS Registry

Figure 11: On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with your experience of using the UK ETS Registry? (all main scheme participants)



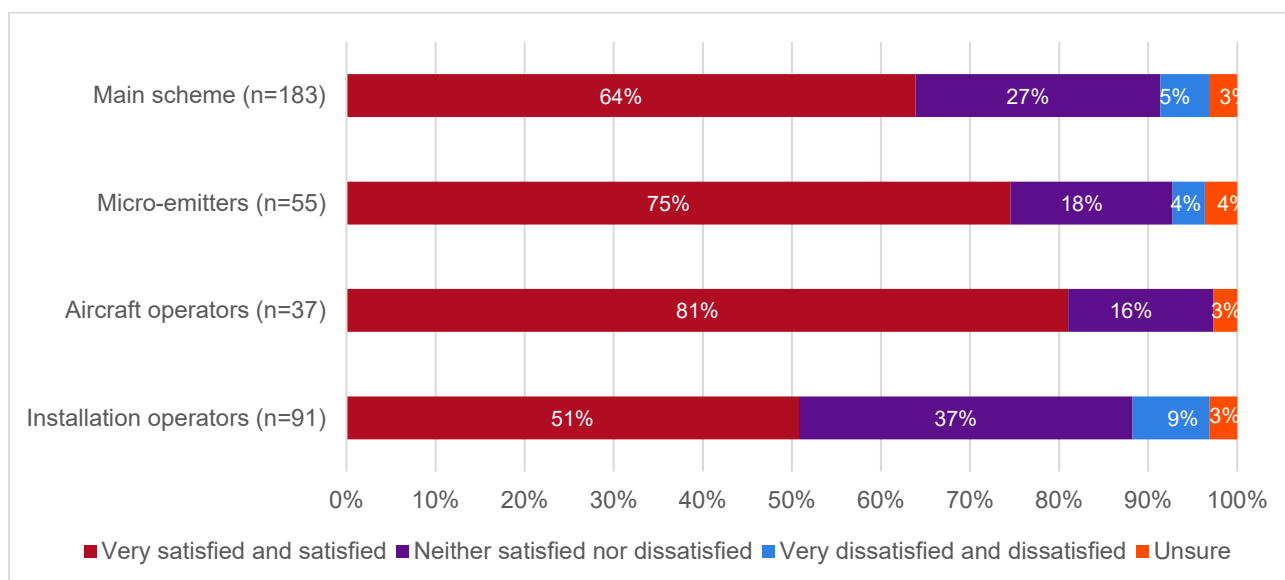
Satisfaction with using the UK ETS Registry was fairly high, with 72% of main scheme participants (n=183) saying that they were satisfied or very satisfied. Dissatisfaction was very low at 5%. There was no particular variation across different types of respondents.

Of those main scheme participants suggesting improvements for the UK ETS Registry (n=83), the majority (68%) focused on simplifying the process. Facilitating navigation on the registry's

website, by making things easier to find, was mentioned by 29%, whereas another 22% asked for clearer information and more training on how to do things.

Views on the permitting, monitoring and reporting process

Figure 12: On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the permitting, monitoring and reporting process? (all main scheme participants)



Even though an emissions monitoring plan is required to comply with UK ETS, aircraft operators already having one from EU ETS did not have to reapply for a new one. Aircraft operators in the main scheme that had applied for an emissions monitoring plan (n=59), were overall satisfied with the process of applying for one; 71% were satisfied/very satisfied, with 8% expressing dissatisfaction.

With regards to the permitting, monitoring and reporting process, the compliance requirements of the scheme varied between installation and aircraft operators; whereas installation operators were obliged to obtain a Greenhouse Gas permit, aircraft operators were under no such obligation. To reflect that, aircraft operators were asked about the monitoring & reporting processes only. For simplicity, findings for both installation and aircraft operators are presented together in this chapter.

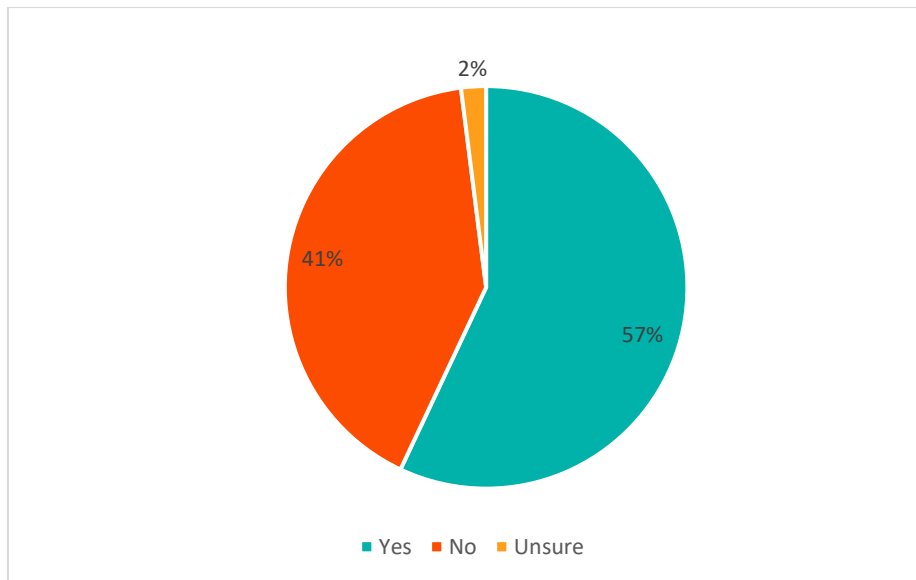
As shown above, 64% of participants said they were satisfied with the permitting (installation operators only), monitoring and reporting process. However, views on the process differed between aircraft and installation operators in the main scheme. Within aircraft operators in the main scheme, 81% were satisfied with the process compared to 51% of installation operators in the main scheme.

Satisfaction with the permitting, monitoring and reporting process was lower among operators and AOs with high emissions (over 50,000 tCO₂e in the UK; n=39); 45% expressed satisfaction and 14% expressed dissatisfaction with the process.

Regarding the ways that the permitting, monitoring and reporting process could be improved, the majority of those suggesting improvements (56%; n=85) asked for simplified administrative processes, whereas one in four (25%) asked for better guidance. Respondents also asked for more support throughout the process (14%) and for a tailored approach to the scale of the operation (17%). Micro-emitters (less than 1,000 tCO₂e in the UK; n=23), which are more likely to be small aircraft operators having accounts in both schemes, were also more likely (35%) to ask for more compatibility between the EU and UK emission trading schemes.

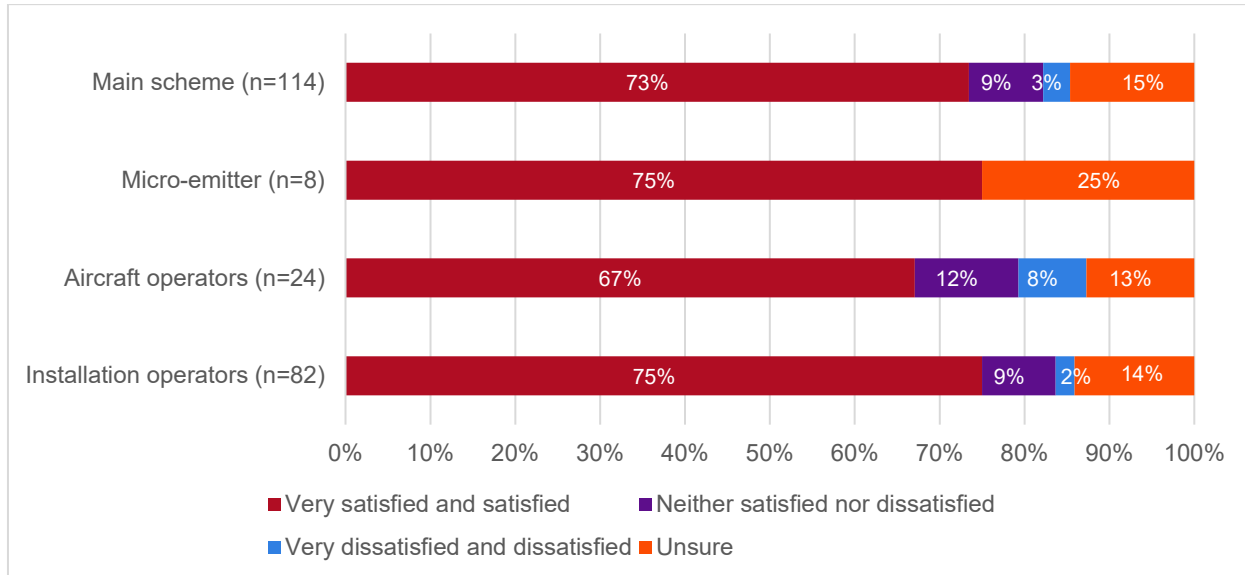
The majority of main scheme participants (57%) were aware of the transition from the ETSWAP system to the new 'Manage your UK Emissions Trading Scheme Reporting Service' (METS).

Figure 13: Are you aware that, in summer 2023, the government will launch a new digital permitting, monitoring, reporting and verification system called METS to replace the existing ETSWAP? (all main scheme participants; n=183)



Views on the verification process

Figure 14: On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the ease of finding an accredited UK ETS verifier? (all main scheme participants except for aircraft operators using the simplified reporting procedure)



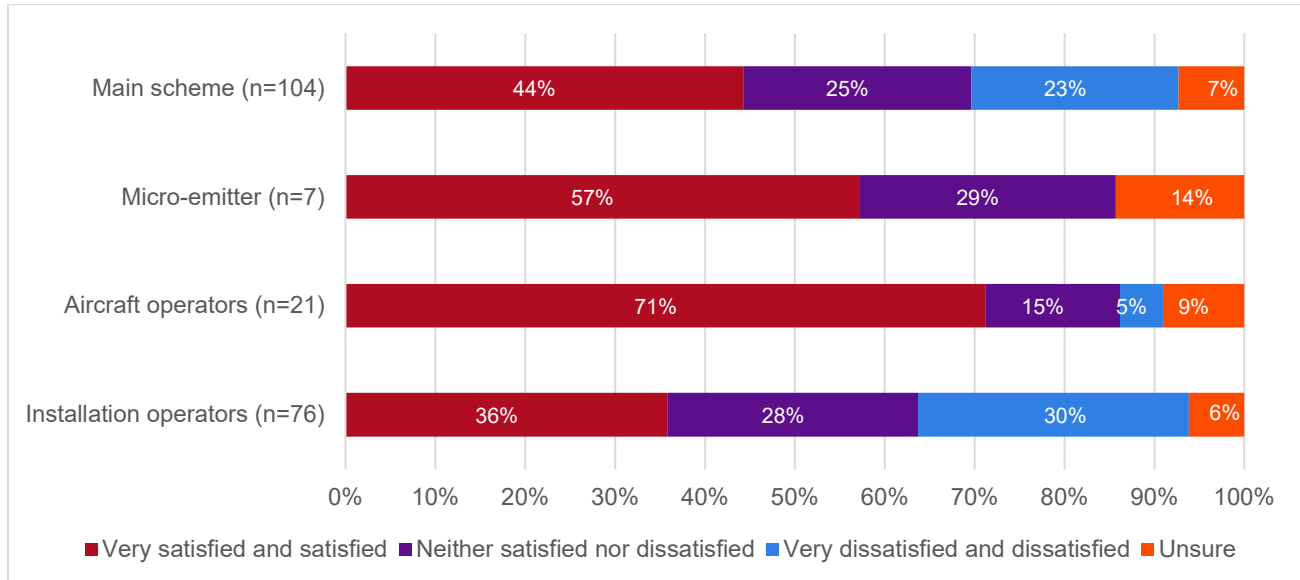
Among participants having to go through the verification process – which excludes those aircraft operators using the simplified reporting procedure – 73% were satisfied with the ease of finding an accredited verifier, whereas 3% were dissatisfied. There was no particular variation across operator types.

The vast majority of those expressing satisfaction with the ease of finding an accredited verifier (73%; n=83) said that they were using the same verifier as in EU ETS.

Of those respondents suggesting improvements for the verification process (n=37), the majority asked for a more simplified process (52%). Other suggestions included to bring verification forward (17%), increase the availability of verifiers (17%), reduce administrative costs associated with the process (13%) and provide clearer guidance on the process (11%).

Views on the free allocation process

Figure 15: On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the approach to free allocation in the UK ETS? (all main scheme participants receiving free allowances)



Of those participants being allocated free allowances (n=104) (i.e. all main scheme participants except for power generators), 44% said they were satisfied with the process of allocating free allowances, whereas 23% said they were dissatisfied with the process.

Operators and AOs with high emissions (more than 50,000 tCO₂e in the UK in 2022; n=31) were more likely to be dissatisfied than satisfied with the free allocation process (39% dissatisfied and 35% satisfied).

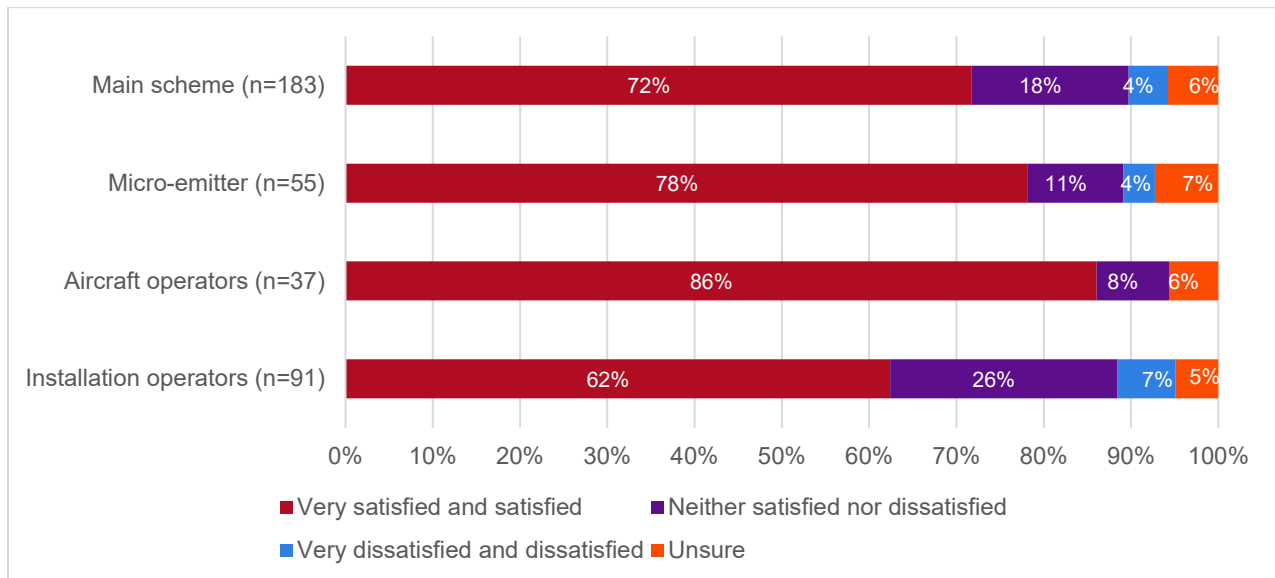
Those suggesting improvements for the free allocation process (n=59) mainly asked for more information sooner as well as for clearer guidelines (49%). About one in five (19%) asked for more free allowances, and 14% asked for more clarity on the government's future plans regarding free allocation. Other suggestions included redistributing free allowances to small emitters (9%), making allocation criteria more flexible (9%), aligning the process with the EU ETS (8%), and changing the baseline year on which allocation is based (3%).

Installation operators receiving free allowances had to submit activity level reports to check whether their free allocation needed to be adjusted; however, this did not apply to aircraft operators who did not submit such reports. Overall, 48% of participants for which this process was applicable (n=77) said they were satisfied with the process, whereas 9% said they were dissatisfied with the process.

Of those suggesting improvements to the process of submitting activity level reports (n=39), the majority asked for streamlined reporting and tools (54%). Other participants asked for the process to be more transparent (40%) and quicker (15%).

Views on the regulator and the UK ETS Authority

Figure 16: On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the level of service provided by your regulator(s) for UK ETS? (all main scheme participants)

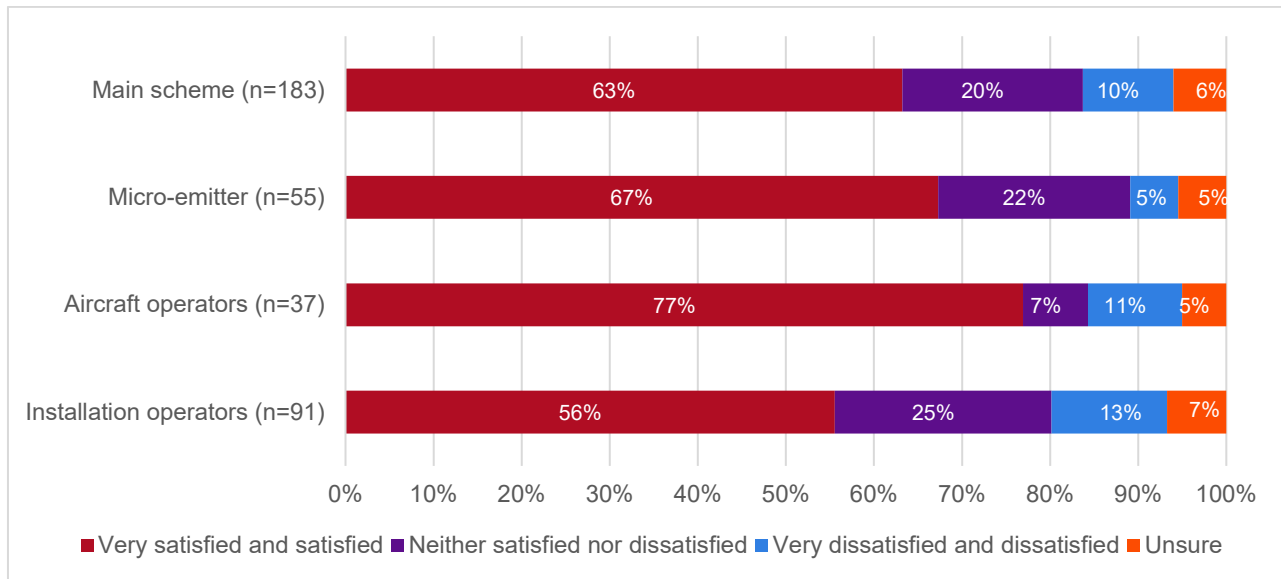


The level of service provided by the regulators was approved by respondents, with 72% being satisfied with it. On the other hand, 4% said they were dissatisfied.

Among those suggesting improvements for the service provided by regulators (n=70), about a third (34%) asked for a nominated person in the regulator to be directly contactable. About one in four (26%) of those suggesting improvements said that the regulator was understaffed asking for more personnel to be hired. Other suggestions included reducing delays (21%), streamlining processes (19%) and better and clearer communications (19%).

Regarding the information received from the UK ETS Authority, approximately two thirds of respondents (63%) said they were satisfied, whereas 10% said they were dissatisfied, as shown in the chart below.

Figure 17: On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the information you received from the UK ETS Authority about changes to ETS policies or processes that could affect your organisation? (all main scheme participants)

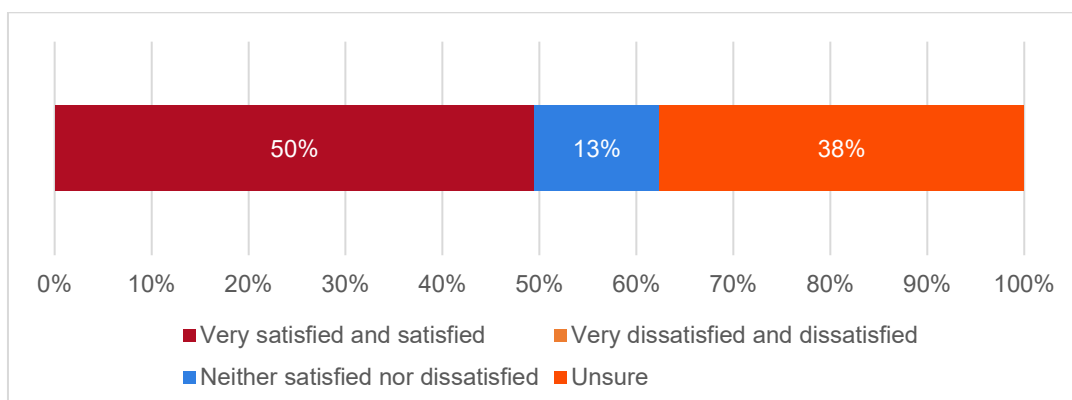


Those suggesting improvements to the communications received from the UK ETS Authority asked to be more promptly notified about any scheme changes (64%; n=71). They also asked for rules and regulations to be explained in layman’s terms (21%), for more targeted communications rather than generic emails (13%) and for workshops to be organised to go through changes (11%). Finally, 5% would like to see an increase in the maximum number of contacts allowed in the email list.

Views of HSE installations

Views on the process of registering as a HSE installation were overwhelmingly positive, with 50% of respondents saying they were satisfied with it, and none expressing dissatisfaction. Though a high percentage, 38%, were unsure, it is likely that many of these were unable to comment, having not been involved in the application process.

Figure 18: To what extent are you satisfied with the process of applying for the Hospital and Small Emitters scheme? (all HSE installations; n=24)

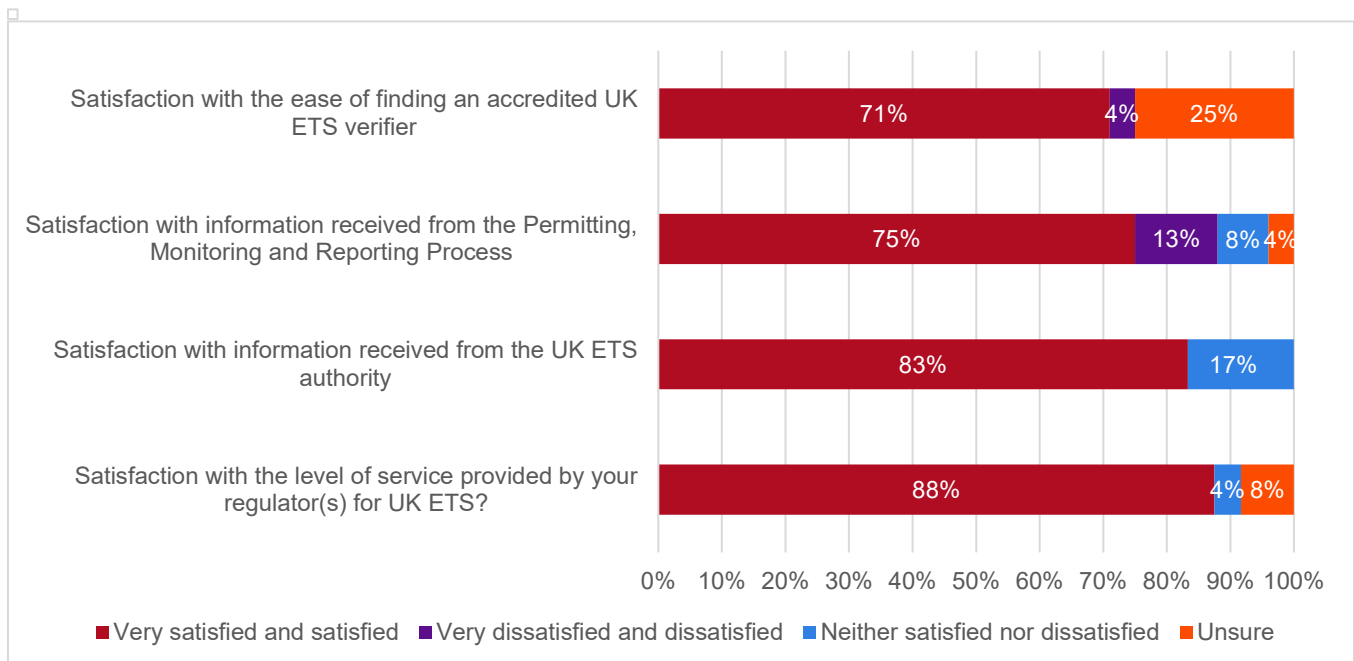


Likewise, 74% of HSE installations (n=24) agreed that information about HSE status was clear and transparent, whereas only 9% disagreed. Of the 24 respondents, only one suggested improvements to the process.

Views were mixed, however, on the extent to which set emissions targets were achievable. Four in ten respondents (38%; n=24) thought they were somewhat or to a great extent achievable, but 25% said they were a little or not at all achievable. Another 38% took a neutral position on this.

Overall, satisfaction of HSE installations with the processes that were applicable to them was high. Satisfaction with the level of the service provided by the regulator(s) as well as the information received from the UK ETS Authority was very high, exceeding 80%.

Figure 19: Satisfaction with various processes (all HSE installations; n=24)



Views on the simplified reporting procedure

About nine in ten aircraft operators using the simplified reporting procedure (88%; n=58) agreed that the information on the simplified reporting procedure was clear and transparent. Only 2% disagreed.

Similarly, 86% were satisfied with the process of using the simplified reporting procedure for aircraft operators that are small emitters. Only 2% were dissatisfied.

Of those suggesting improvements to the process (n=23), most of them asked for a less bureaucratic procedure and a more user-friendly system (57%). Other suggestions were to use Excel as a data entry tool, to automate reporting by taking numbers from EUROCONTROL and to improve communications and accessibility.

Trading

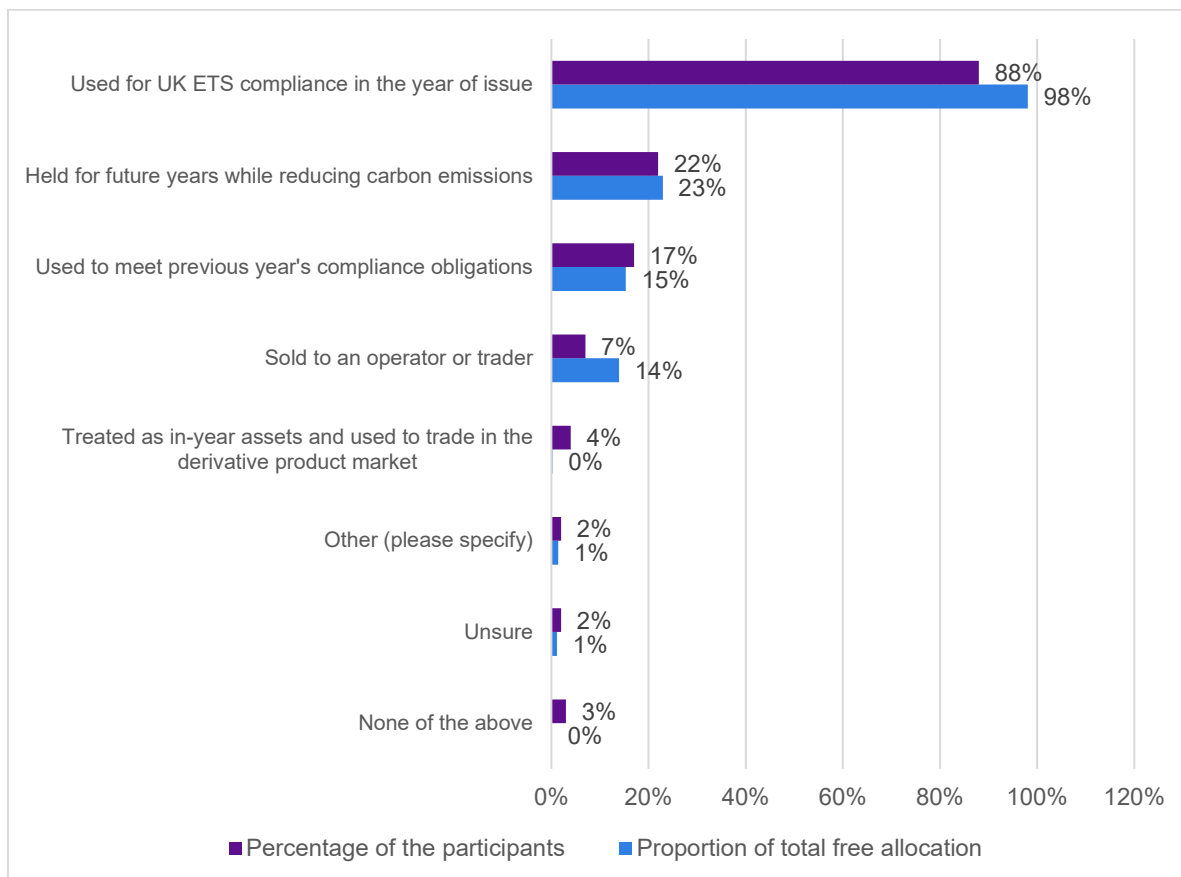
Trading behaviour

Free allocation

The vast majority of participants receiving free allowances (88%) reported using their free allocation for UK ETS compliance in the year of issue. About a fifth of respondents (21%) said they were also holding their free allocations for future years while reducing their carbon emissions, whereas 17% said they were using their current year free allocation to meet the previous year’s compliance obligations.

As shown in the graph below, when analysing the data from the perspective of the 2022 free allocation accounted for by each response option, respondents using their free allocation for UK ETS compliance in the year of issue accounted for 98% of all free allowances. Those holding their free allocation for future years accounted for 23% of all free allowances whereas those using them for meeting previous year’s obligations accounted for 15%.

Figure 20: Thinking about your organisation's free allocation specifically, are free allowances used in any of the following ways? (all main scheme participants receiving free allowances, including data from CAG Consultants qualitative interviews; n=121)

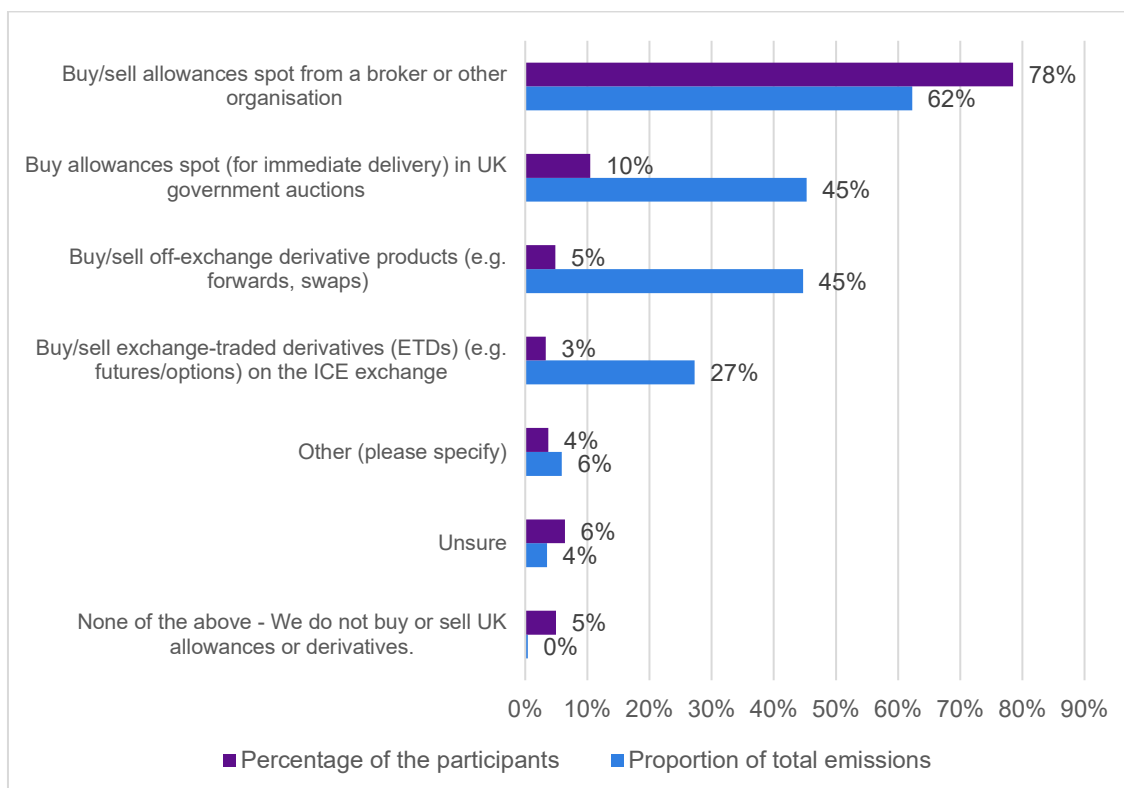


General trading behaviour

With regards to trading behaviour, the vast majority of participants (78%) buy or sell allowances spot from a broker or other organisation – please note that multiple responses were allowed for this question. This is the only type of trading behaviour reported by a majority of participants; the only other type reported by more than 10% of participants was buying allowances in UK government auctions. Around one in twenty (5%) reported not trading at all, i.e. not buying or selling allowances in any way.

The picture is different when analysed according to the 2022 CO₂e emissions accounted for by each response option. Respondents whose trading behaviour included buying/selling allowances spot from a broker or other organisation accounted for 62% of all emissions. Those buying from a UK government auction accounted for 45% of all emissions, as did those buying/selling off-exchange derivative products. Those buying/selling derivatives on the ICE trading platform accounted for 27% of all emissions. Please note that multiple responses were allowed and numbers do not add up to 100%. Overall, these numbers show that the small fraction of participants engaging in auctions, as well as derivatives trading, accounted for a significant proportion of all emissions.

Figure 21: Does your organisation buy and/or sell allowances and/or derivative products in any of the following ways? (multiple responses allowed; all main scheme participants, including data from CAG Consultants qualitative interviews; n=204)

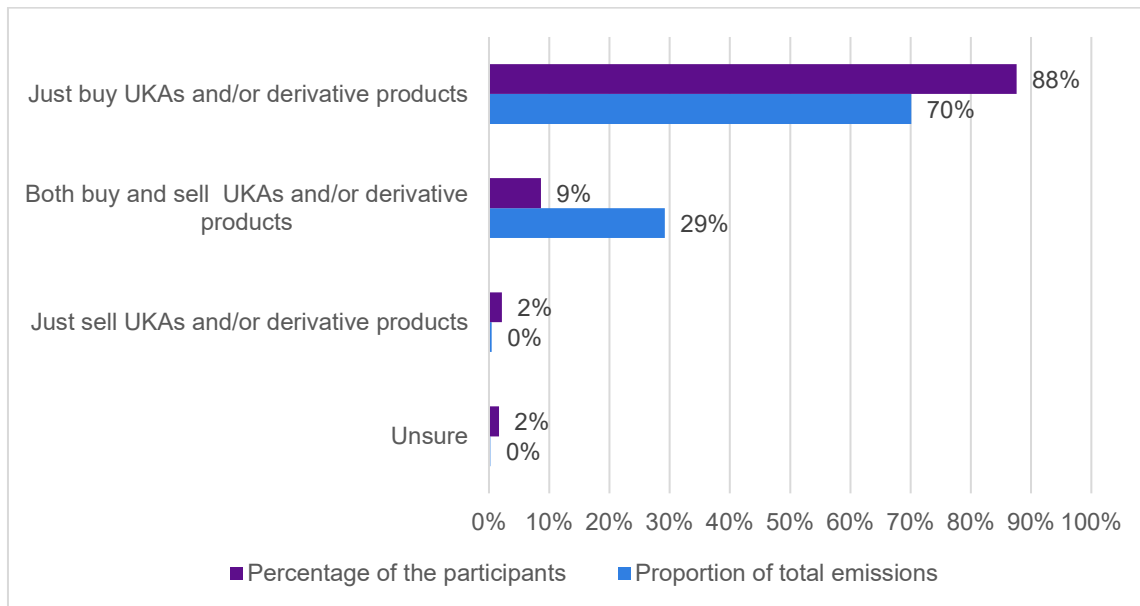


The data also shows that installation operators (n=108), as well as those whose free allocation accounts for less than 50% of their emissions (n=67), were more likely to participate in UK government auctions (18% and 21% respectively).

Those trading allowances and/or derivatives were also asked to specify whether that included selling them too. Of all participants, only 11% reported selling allowances and/or derivatives, whereas 88% said they were just buying.

However, from the perspective of 2022 CO₂e emissions accounted for by each response option, those undertaking selling activity accounted for 30% of all emissions.

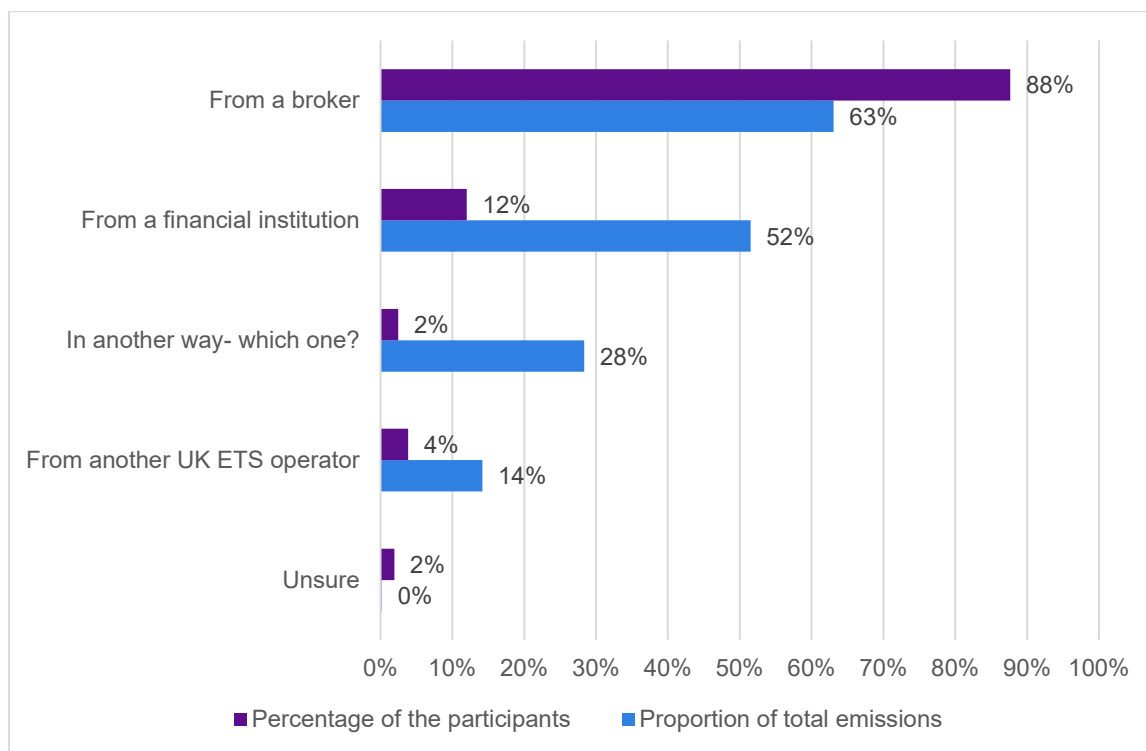
Figure 22: You suggested you buy and/or sell UKAs and/or derivatives. Do you... (all main scheme participants engaging in the carbon market, including data from CAG Consultants qualitative interviews; n=182)



Those reporting buying allowances and/or derivatives from another organisation – as opposed to through a UK government auction or on the ICE trading platform – were also asked to specify where they buy them from. The most commonly cited option was from a broker (88%), with 12% reporting they buy them from ‘a financial institution’ (multiple response was allowed for this question).

However, from the perspective of 2022 CO₂e emissions accounted for by each response option, those buying from a financial institution accounted for 52% of all emissions, whereas those buying from a broker accounted for 62% of all emissions. This suggests that firms with high emissions were more likely to use a bank as an intermediary, rather than a broker.

Figure 23: Which organisations do you buy UKAs or derivatives from (multiple response allowed; all main scheme participants buying UKAs/derivatives from another organisation, including data from CAG Consultants qualitative interviews; n=157)



Those buying allowances and/or derivatives from auctions or the ICE trading platform were asked to specify how they were doing so. The majority (59%, n=24) said they were doing this indirectly, i.e. through an exchange member or Auction-only Access Provider (AAP). Conversely, 23% (n=24) said they were doing this directly² as they were ICE members.

Participants reporting that they bought allowances ‘spot’ were asked to explain why. The majority answered that their emissions volume was too low to justify derivatives purchases (54%; n=151). About one in four (28%) said that buying spot was cheaper than buying derivatives; this was cited by 61% of operators and AOs with high emissions (more than 50,000 tCO₂e in the UK in 2022; n=31).

Other commonly cited reasons were that this was the advice from their broker or external consultant (27%), that they lacked the expertise to engage in derivatives trading (17%), and that complying with legal or regulatory requirements of ICE would be too burdensome (12%).

Frequency of trading

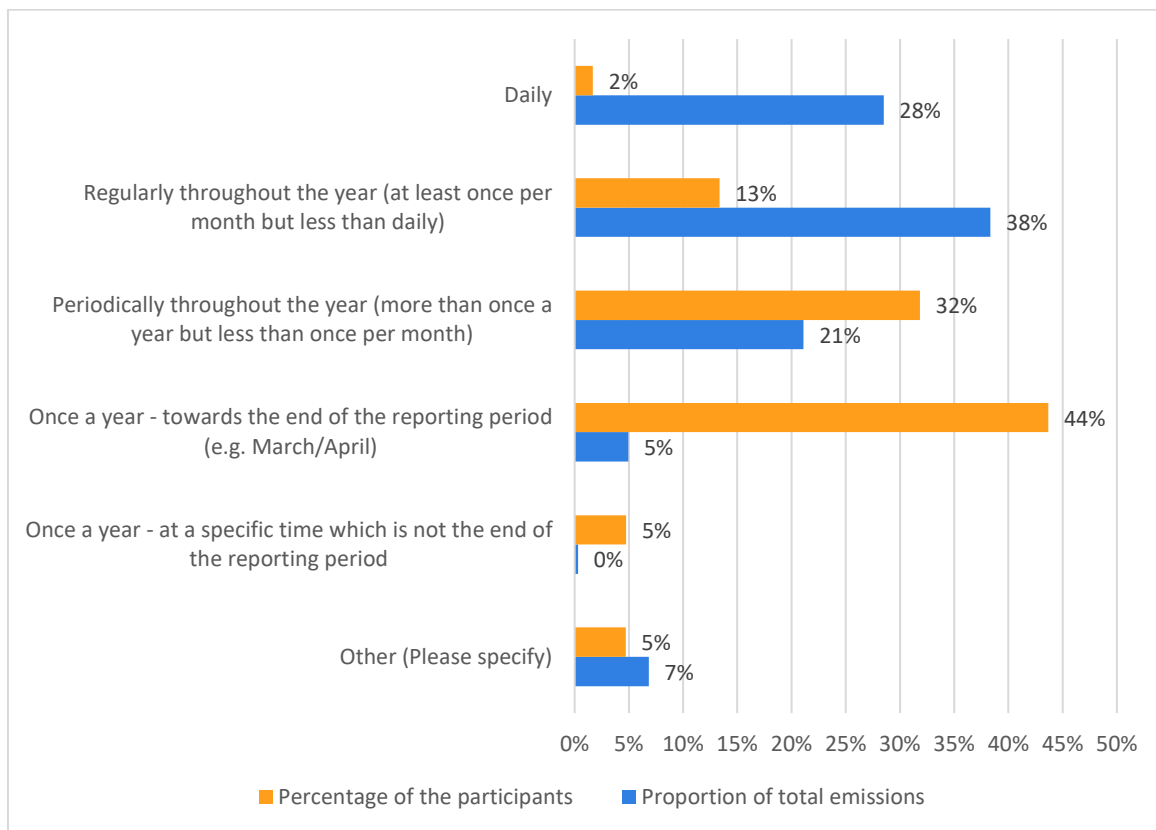
Where participants buy allowances spot, most of them do so once a year (44%). However, this result is heavily influenced by micro-emitters (less than 1,000 tCO₂e in the UK in 2022; n=51): 82% of micro-emitters reported buying once a year. Conversely, most medium emitters (2,500-50,000 tCO₂e in the UK in 2022; n=59) reported buying allowances spot periodically throughout the year (more than once a year but less than once a month; 53%). The most

² Operators and AOs saying that they participate directly do so through a clearing member to handle their UKA certificates and cash.

commonly cited frequency among operators and AOs with high emissions (more than 50,000 tCO₂e in the UK in 2022; n=48) was buying allowances spot regularly throughout the year (at least once a month but not daily; 39%).

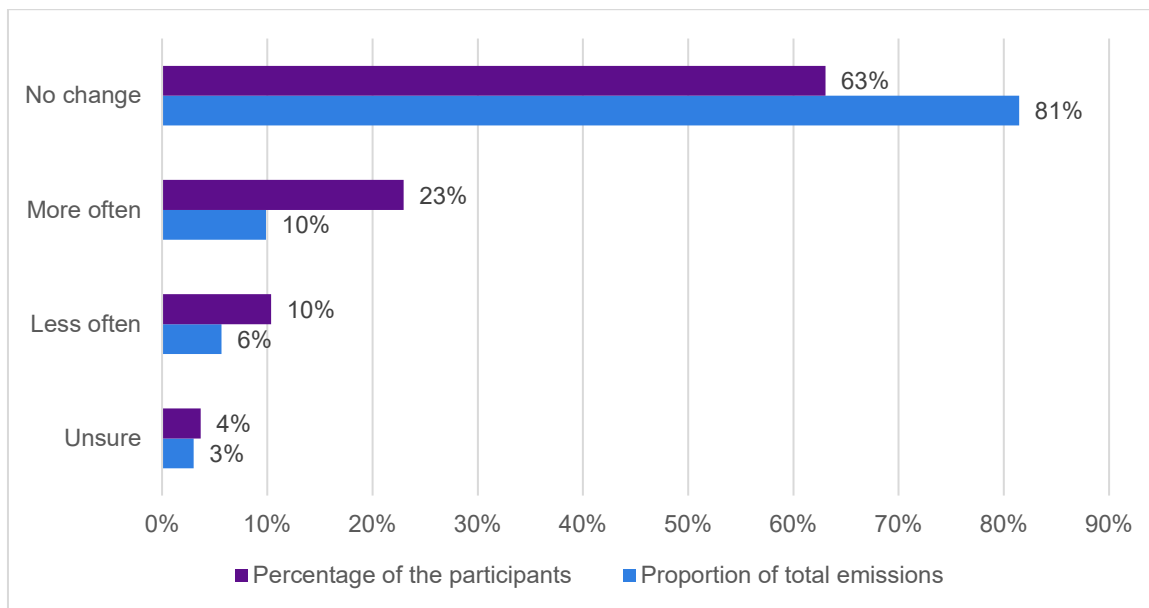
However, when analysed according to the 2022 CO₂e emissions accounted for by each response option, those buying allowances spot at least once a month, including daily, accounted for the majority of all emissions (67%). Those buying allowances spot daily accounted for 28% of all emissions, whereas those buying at least once a month but not daily accounted for 38%. Those buying only once a year, even though they were the most populous group, accounted for only 5% of all emissions.

Figure 24: How often do you buy allowances spot? (all main scheme participants buying allowances spot, including data from CAG Consultants qualitative interviews; n=169)



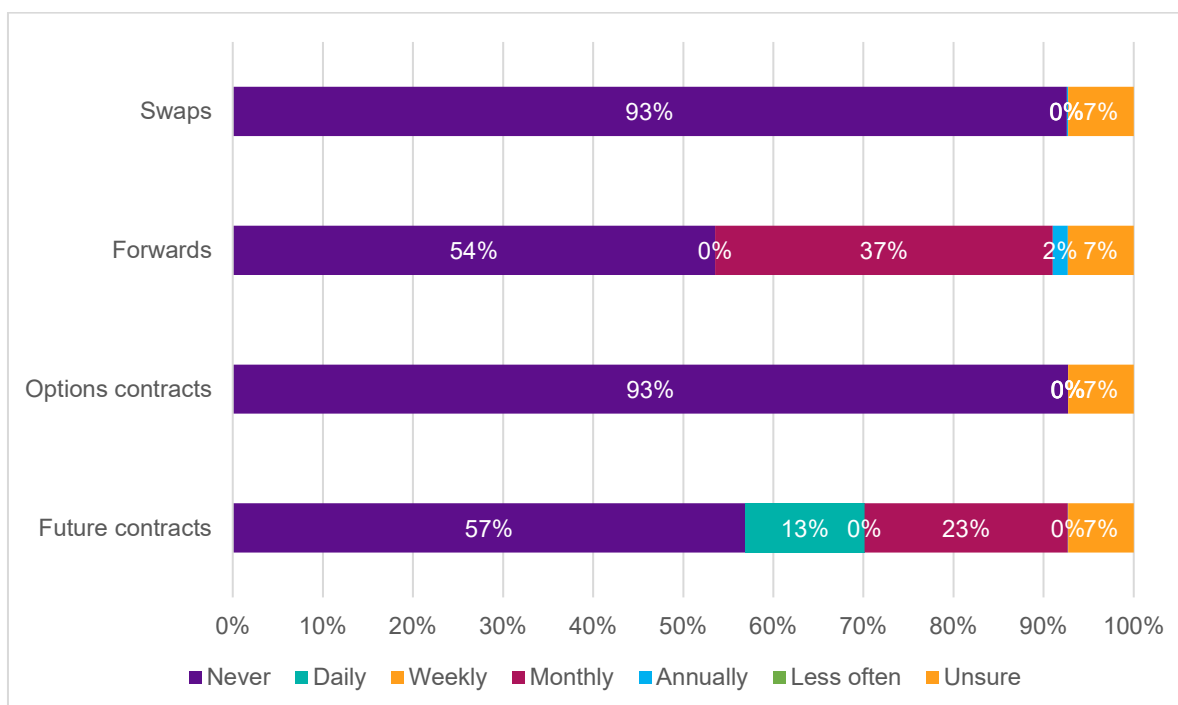
With regards to how the frequency of buying allowances spot has changed over time, about one in four participants buying allowances spot said that they do so more often than 12 months before (23%). However, these participants accounted for only 10% of all emissions in 2022. Only 10% reported buying less often than 12 months before, accounting for 6% of all 2022 emissions.

Figure 25: Compared to 12 months ago, do you buy allowances spot... (all main scheme participants buying allowances spot, including data from CAG Consultants qualitative interviews; n=170)



With regards to derivative products, those never buying derivatives accounted for the majority of all 2022 emissions, as shown in the graph below. Those purchasing future contracts on a daily basis accounted for 13% of all 2022 emissions, and those doing so on a monthly basis accounted for 23% of all 2022 emissions. Those purchasing forwards on a monthly basis accounted for 37% of all 2022 emissions. With regards to options, they have not historically been available on ICE, probably explaining why no participant mentioned purchasing them.

Figure 26: Can you please indicate how often the following types of derivatives are purchased by your organisation? (% emissions; all main scheme participants, including data from CAG Consultants qualitative interviews; n=204)



Of those selling allowances and/or derivatives (n=18), half of them (n=9) said they were doing so annually or less often.

Reported costs

When asked about the perceived scale of transaction costs for buying/selling allowances from a broker or other organisation, 33% (n=146) said they were low and 20% said they were high. About one in five (22%) were unsure.

Views on auctions

As mentioned above, a clear majority of participants reported that they were not participating in UK government auctions. Those saying so (n=166) were asked to provide the reasons why. The most commonly cited reason (43%) was that they lacked the internal expertise to participate in auctions. About one in four (24%) said that complying with the regulatory requirements was too burdensome for them, whereas 15% said they were uncertain about their future need for allowances or how prices would evolve in the future.

Regardless of their reported participation in auctions, participants were asked if they had any suggestions to improve the auction process. About two thirds (66%) had nothing to suggest as they had no human or IT resources to participate anyway. Another 13% said they were happy with the auction as it was. Making the registration process simpler and/or quicker was suggested by 13% of participants, whereas 9% asked for more help from the regulator, for example, case studies outlining the benefits of participating in auctions to participants.

The most commonly cited suggestions by operators and AOs with high emissions (more than 50,000 tCO₂e in the UK in 2022; n=38) were to amend the auction frequency to weekly from fortnightly, as well as to reduce the stringency of the ICE participation criteria (both at 20%). The introduction of maximum bid size limits was suggested by 18% of operators and AOs with high emissions.

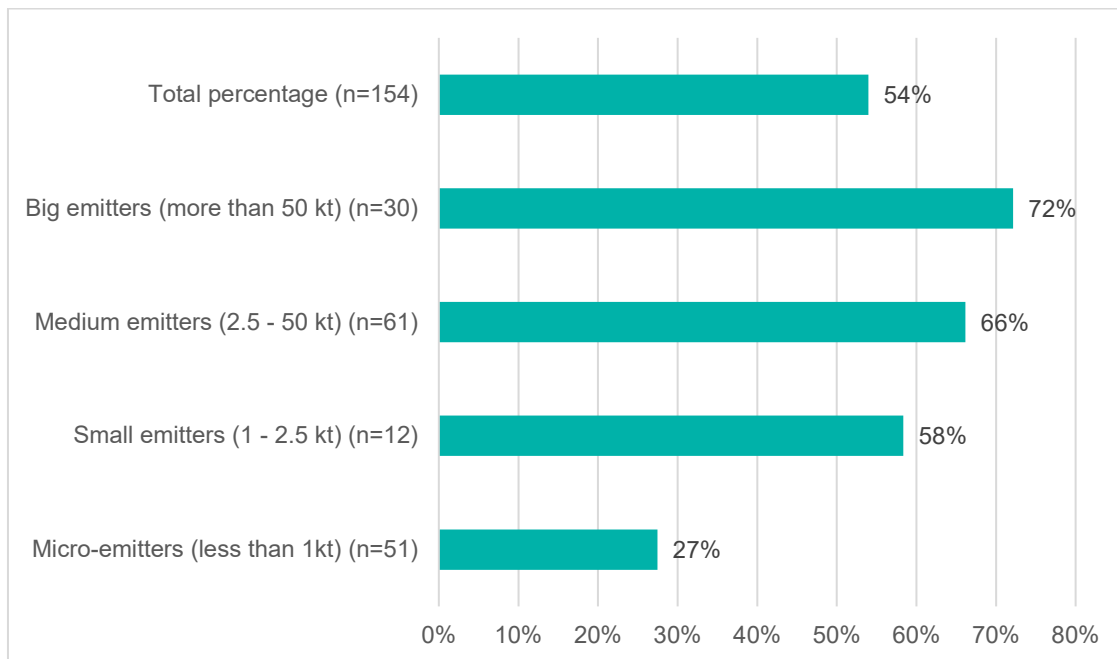
Forecasting underpinning trading

Forecasting future needs for allowances

Most participants buying allowances and/or derivatives stated that their purchases were based on forecasts of their future need for allowances (54%). However, this was reported by a minority of micro-emitters (less than 1,000 tCO₂e in the UK in 2022; n=51) as well as a minority of those with zero free allocation (n=26) (27% and 38% respectively).

Conversely, medium emitters (2,500-50,000 tCO₂e in the UK in 2022; n=61), as well as organisations with more than 250 employees (n=70) were more likely to report basing their purchases on forecasts of their future needs (66% and 73% respectively).

Figure 27: Do you buy UKAs or derivative products based on forecasts of your future needs for emissions allowances? (% yes; all main scheme participants buying UKAs/derivatives)

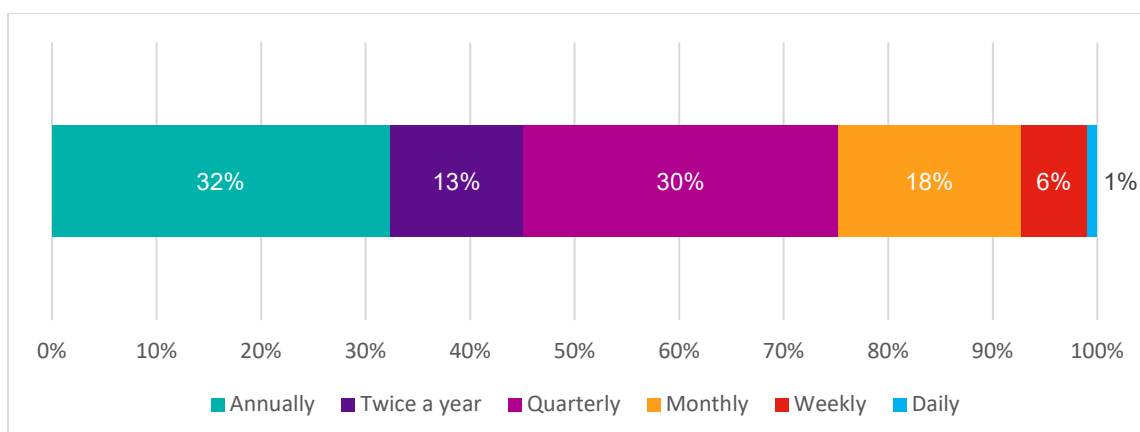


The vast majority of those not basing their purchases on forecasts of their future needs for allowances (83%; n=68) said that they bought allowances when they knew what they needed, often towards the end of the reporting period.

The majority of those basing their purchases on forecasts of their future needs for allowances (62%) started doing so before 2021 in the EU ETS market. Only 17% started in the last 12 months.

A majority of these participants said that were forecasting their needs for emissions allowances at least on quarterly basis (55%), with 1% saying they were doing so daily, 6% weekly, 18% monthly and 30% on a quarterly basis. Conversely, 32% were forecasting their needs for allowances once every year.

Figure 28: How often do you forecast the need for emissions allowances? (all main scheme participants forecasting allowance needs; n=85)



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With regards to whether that frequency had changed in the last 12 months, about one in five (18%) said they were forecasting their needs for allowances more often, whereas only 2% said they were doing this less often.

Forecasting of carbon prices, which is also relevant to trading, is covered in the carbon abatement section below.

Carbon Abatement

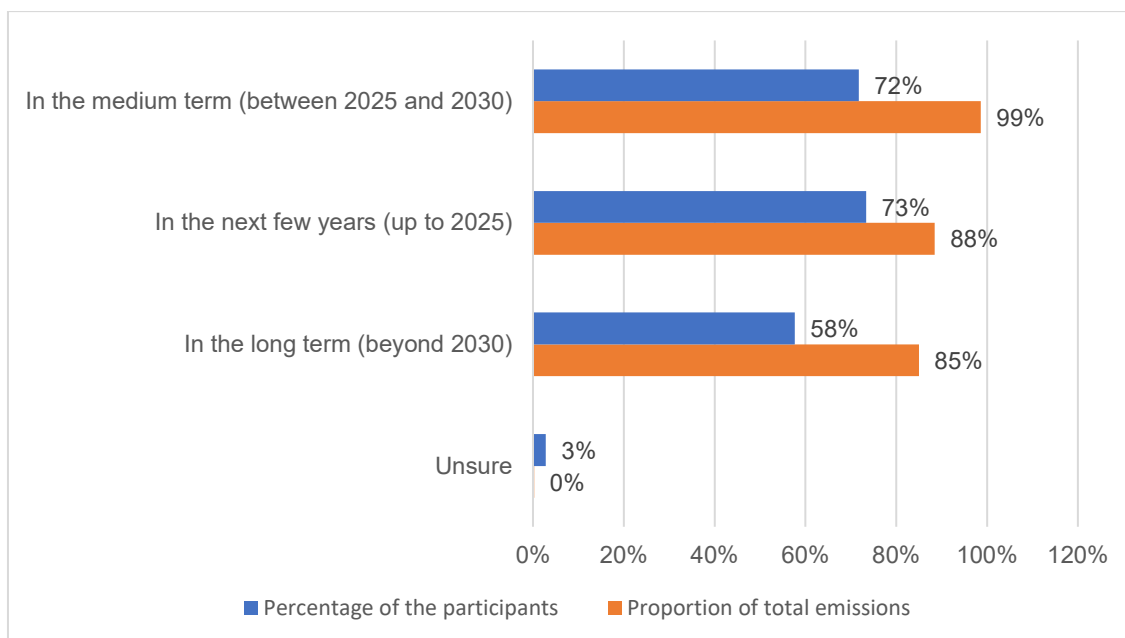
Plans to reduce carbon emissions

The vast majority of participants (90%) reported having a plan to reduce carbon emissions, though 9% said they did not have one. Micro-emitters (less than 1,000 tCO₂e in the UK in 2022; n=55) were the most likely not to have a plan to reduce carbon emissions (20%).

Regarding the time horizon of the actions in their plans to reduce emissions, 73% reported that their plans included short-term actions, 72% reported their plans included medium-term actions and 58% reported their plans included long-term actions.

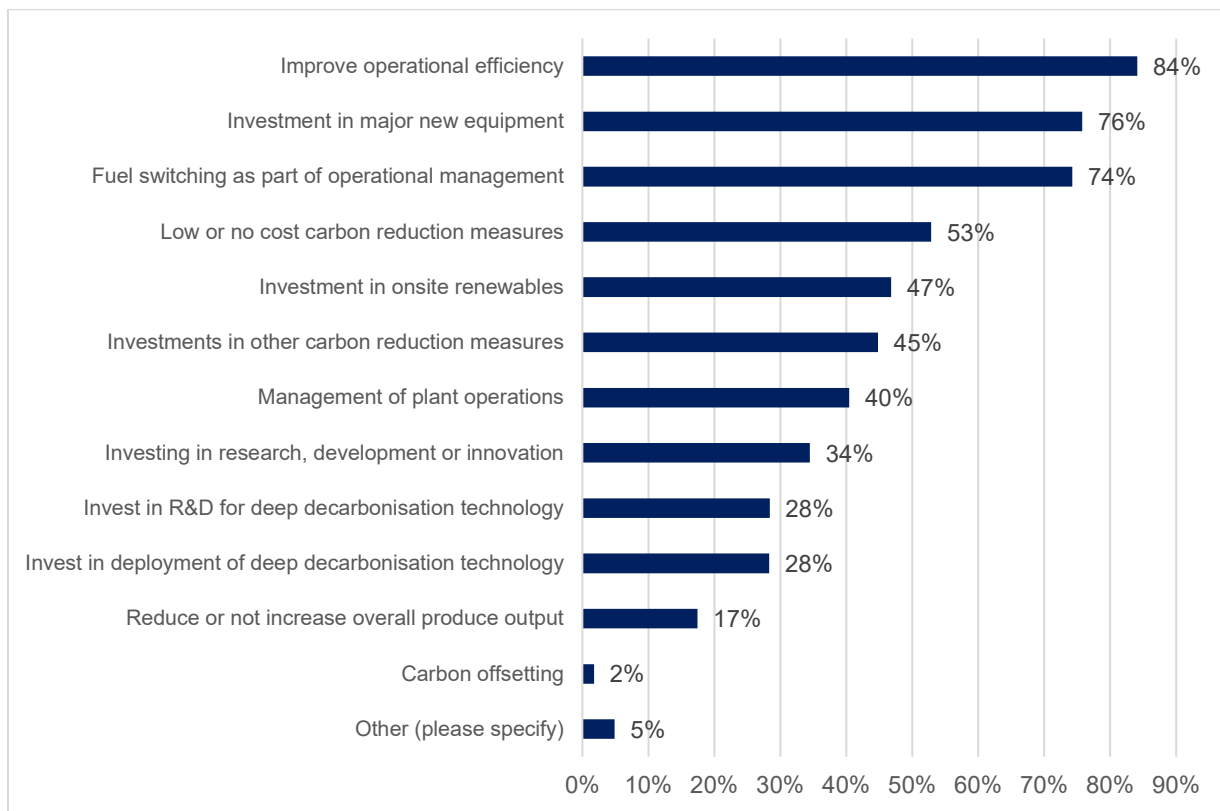
When analysed according to the 2022 CO₂e emissions accounted for by each response option, those reporting that their plans included short-term actions accounted for 88% of all emissions, those reporting their plans included medium-term actions accounted for 99% of all emissions, and those reporting their plans included long-term actions accounted for 85% of all emissions.

Figure 29: Does the plan to reduce carbon emissions involve actions or changes planned to be taken forward... (multiple response allowed; all main scheme participants with a plan to reduce carbon emissions, including data from CAG Consultants qualitative interviews; n=184)



Most plans to reduce carbon emissions involved actions to improve operational efficiency (84%), investment in major new equipment (76%) and fuel switching (74%). By contrast, the least commonly cited types of measures were investment in deep decarbonisation technologies (28%), and to reduce or not increase overall produce output (17%).

Figure 30: What types of actions do these plans to reduce carbon emissions involve? (multiple response allowed; all main scheme participants with a plan to reduce emissions, including data from CAG Consultants qualitative interviews; n=184)



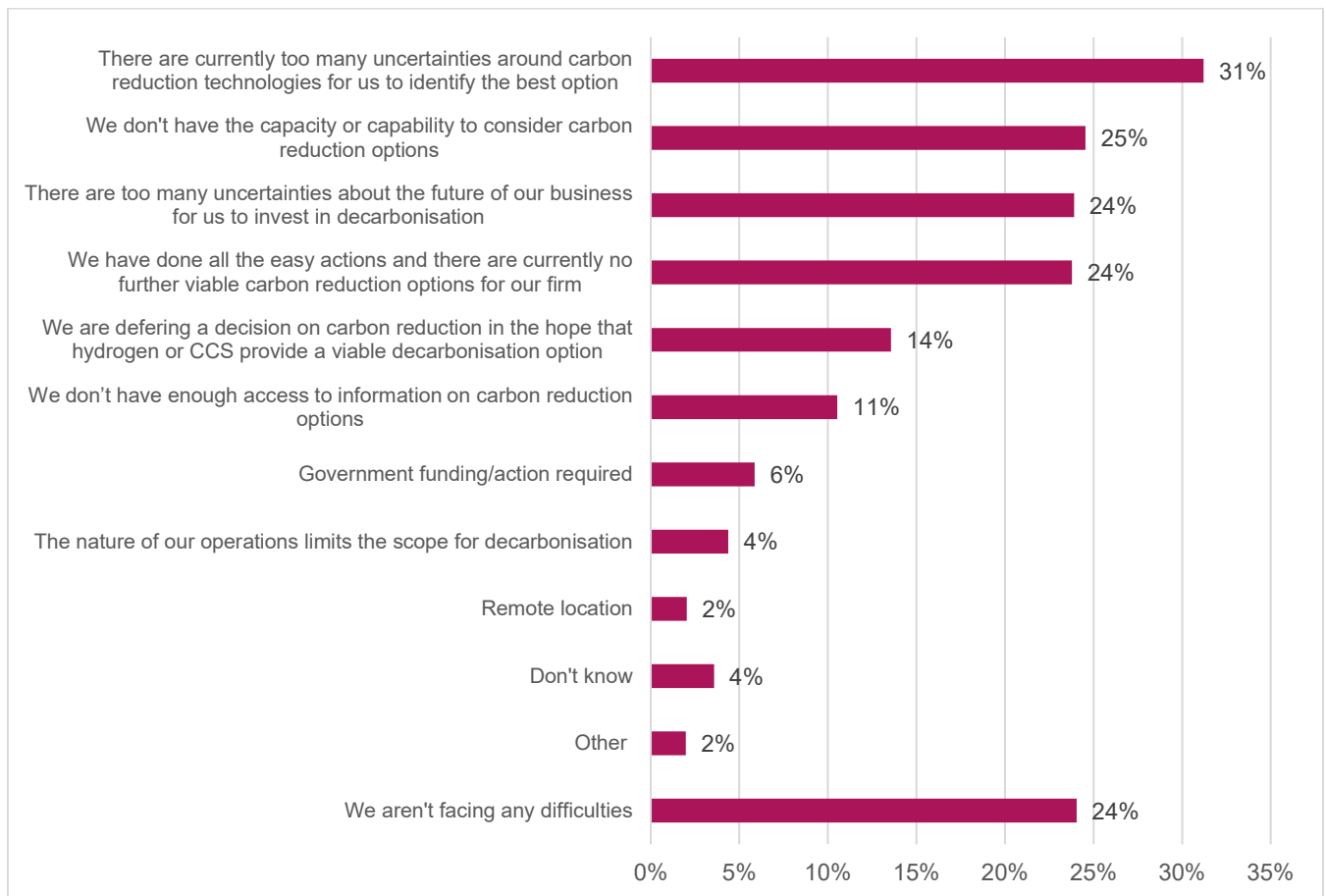
Compared to other participants, operators and AOs with high emissions (more than 50,000 tCO₂e in the UK in 2022; n=57) were more likely to report that their plans to reduce emissions included investment in research and development (R&D) for deep decarbonisation (46%), as well as investment in onsite renewables (61%).

Medium emitters (2,500-50,000 tCO₂e in the UK in 2022; n=71) were more likely to report that their plans included low or no cost carbon reduction measures (65%).

When asked about difficulties encountered in the process of reducing carbon emissions, the most commonly cited difficulties were the uncertainties around carbon reduction technologies (31%). Other hurdles reported by participants were a lack of capacity or capability (25%), all the easy options having already been taken up (24%), and uncertainties around the future of the organisation itself (24%).

Conversely, about one in four participants (24%) said they were not facing any difficulties. Operators and AOs with high emissions (more than 50,000 tCO₂e in the UK in 2022) tended to report at least one difficulty, but this effect was not statistically significant.

Figure 31: Is your organisation facing any of the following difficulties in planning to reduce its carbon emissions? (multiple response allowed; all main scheme participants; n=183)



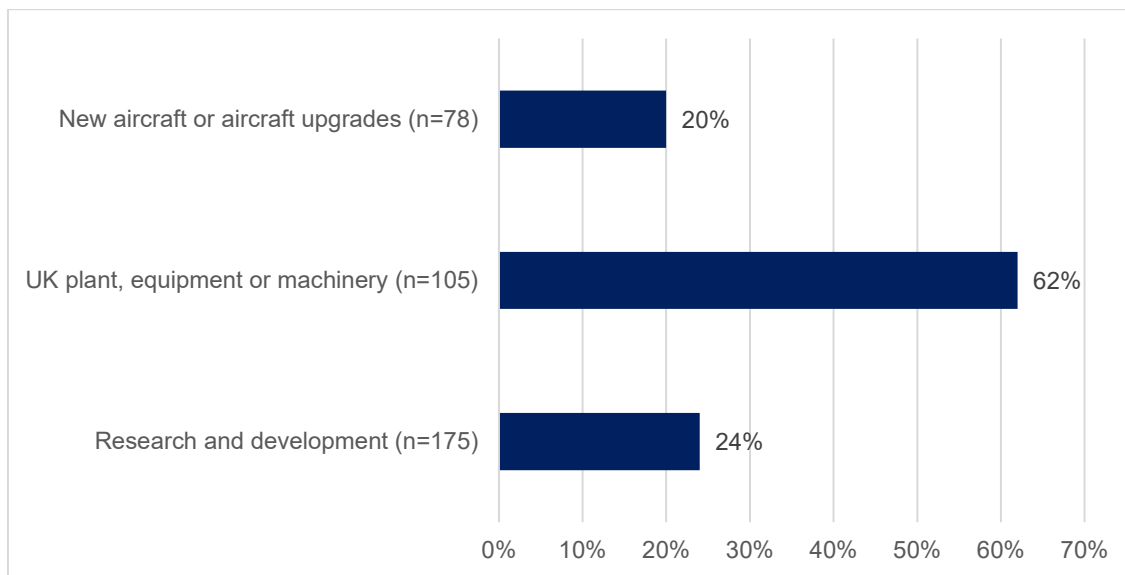
Influences in increasing decarbonisation investment

Influence of the cost of UKAs on decarbonisation investment

With regards to how influential the cost of emissions allowances (UKAs) is on decisions about carbon reduction, installation operators appeared more likely to acknowledge an influence than their aircraft operator counterparts. Around six in ten installation operators (62%) said that the cost of UKAs had influenced their organisations to increase decarbonisation investment in their UK plants, equipment or machinery. Conversely, only one in five aircraft operators (20%) said that the cost of UKAs had influenced their organisation to increase decarbonisation investment in new aircraft or aircraft upgrades.

With regards to decarbonisation investment in research and development, about two thirds of participants (67%; including both installation and aircraft operators) said there had been no influence of the cost of the UKAs.

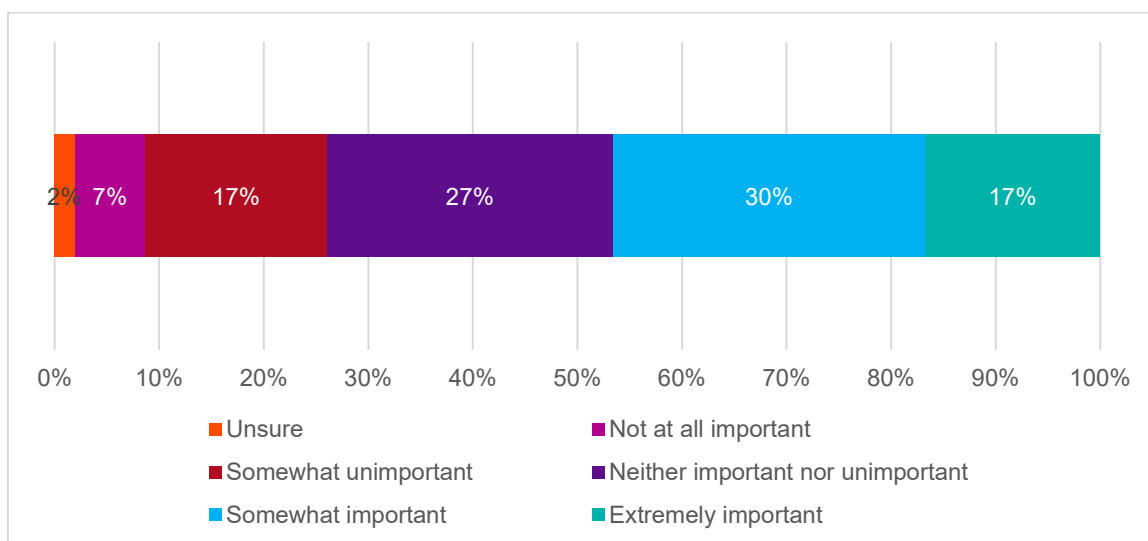
Figure 32: Thinking about the cost of UKAs, would you say that the cost of the UKAs has influenced your organisation to increase decarbonisation investment in... (% yes; all main scheme participants)



Where an influence of the cost of the UKAs on decarbonisation investment was acknowledged, the majority of participants said that they had invested in emissions reduction (58%). About three in ten (28%) suggested that the cost of the UKAs had been built into business decisions.

About half the participants acknowledging the influence of the cost of the UK ETS on increasing decarbonisation investment (47%) considered it an important influence, whereas 24% considered it unimportant relative to other factors.

Figure 33: How important was the cost of UKAs in influencing your organisation to increase decarbonisation investment? (all main scheme participants acknowledging UKA cost influence; n=99)

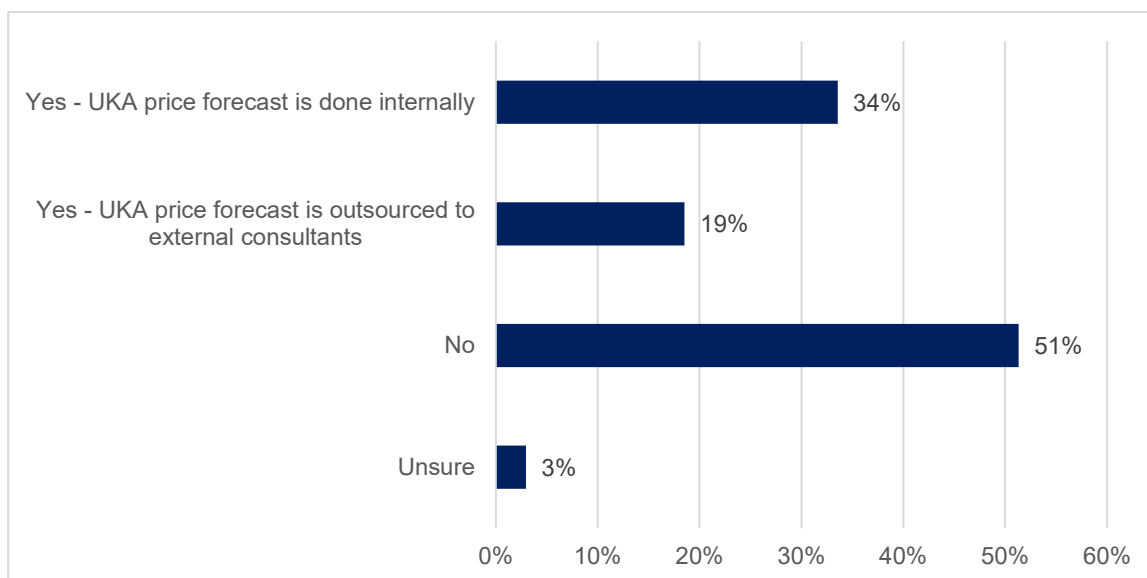


The majority of those saying the cost of the UKAs was an important influence explained it constituted a big cost for the business (56%; n=40), whereas those saying that it was not so important explained that there were other factors driving their investment choices (78%; n=37).

Forecasting of the price of UKAs and influence on operations

The majority of participants buying allowances and/or derivatives do not forecast the price of allowances in the market (51%). However, a majority of installation operators do so (60%), with 40% saying they do it internally and 28% outsourcing it to external consultants (multiple responses were allowed in this question, i.e. certain participants forecast the allowance price both internally as well as by use of an external consultant).

Figure 34: Do you forecast the price of UKAs in the market? (multiple response allowed; all main scheme participants buying UKAs; n=161)



Participants whose free allocation accounts for more than 50% of their CO₂e emissions (n=28) are the most likely to forecast the allowance price (74%). Most of them reported doing this internally (54%), whereas 19% were outsourcing it to an external consultant (as above, multiple responses allowed).

Those forecasting the price of allowance in the market started doing so before 2021 in the EU ETS market (71%). Only 14% started in the last 12 months.

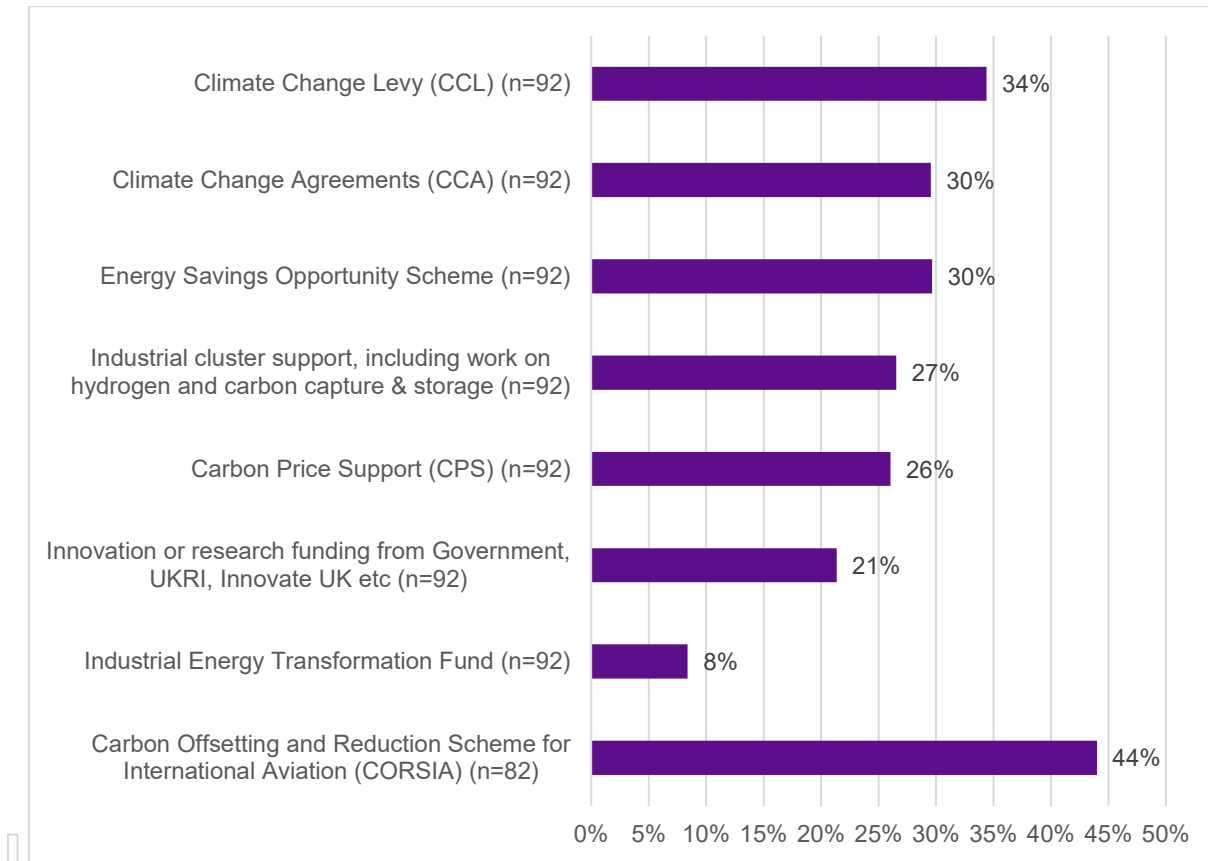
With regards to the extent to which the allowance price influences decisions about aircraft or plants operations, the majority of participants buying allowances and/or derivatives (78%) said that there was no influence, with only one in six (16%) confirming that there was.

Influence of other policies

The influence of other policies on awareness of and decisions about carbon reduction appeared to be limited. With regards to policies that were applicable to installation operators, the policy reported to exert the most influence was the Climate Change Levy (34%), followed by the Climate Change Agreements (CCA; 31%). Almost half (44%) of installation operators that are big emitters (more than 50,000 tCO₂e in the UK in 2022; n=37) said that their decisions about carbon reduction opportunities had been affected by industrial cluster support, compared to 27% of installation operators overall.

With regards to policy influences checked with aircraft operators, which were only CORSIA and UK ETS³, 44% of respondents acknowledged the influence of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

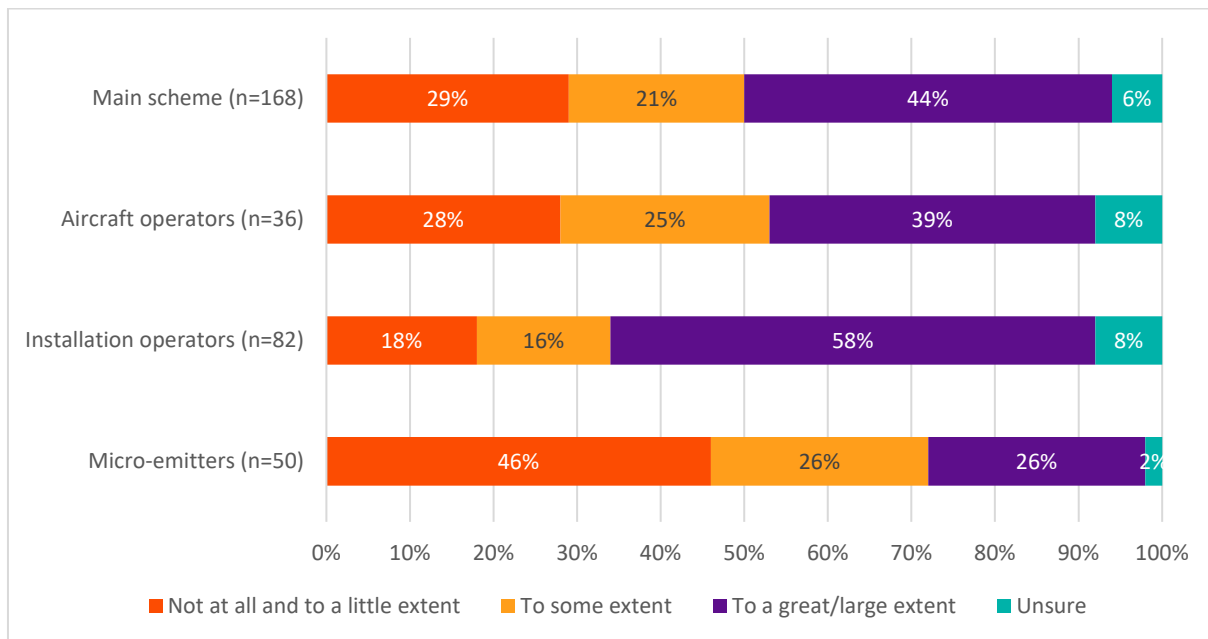
Figure 35: To what extent has your awareness of carbon reduction opportunities been influenced by the following policies? (% to a great extent & to a large extent; all main scheme participants)



Overall, 44% of respondents mentioned UK ETS. Installation operators (n=82) were more likely to cite the UK ETS as a policy having influenced their awareness of carbon reduction opportunities (58%). Conversely, only 26% of micro emitters cited the UK ETS as an influence over their decarbonisation decisions.

³ EU ETS influence was not included in the survey question.

Figure 36: To what extent has your awareness of carbon reduction opportunities been influenced by UK ETS? (all main scheme participants)



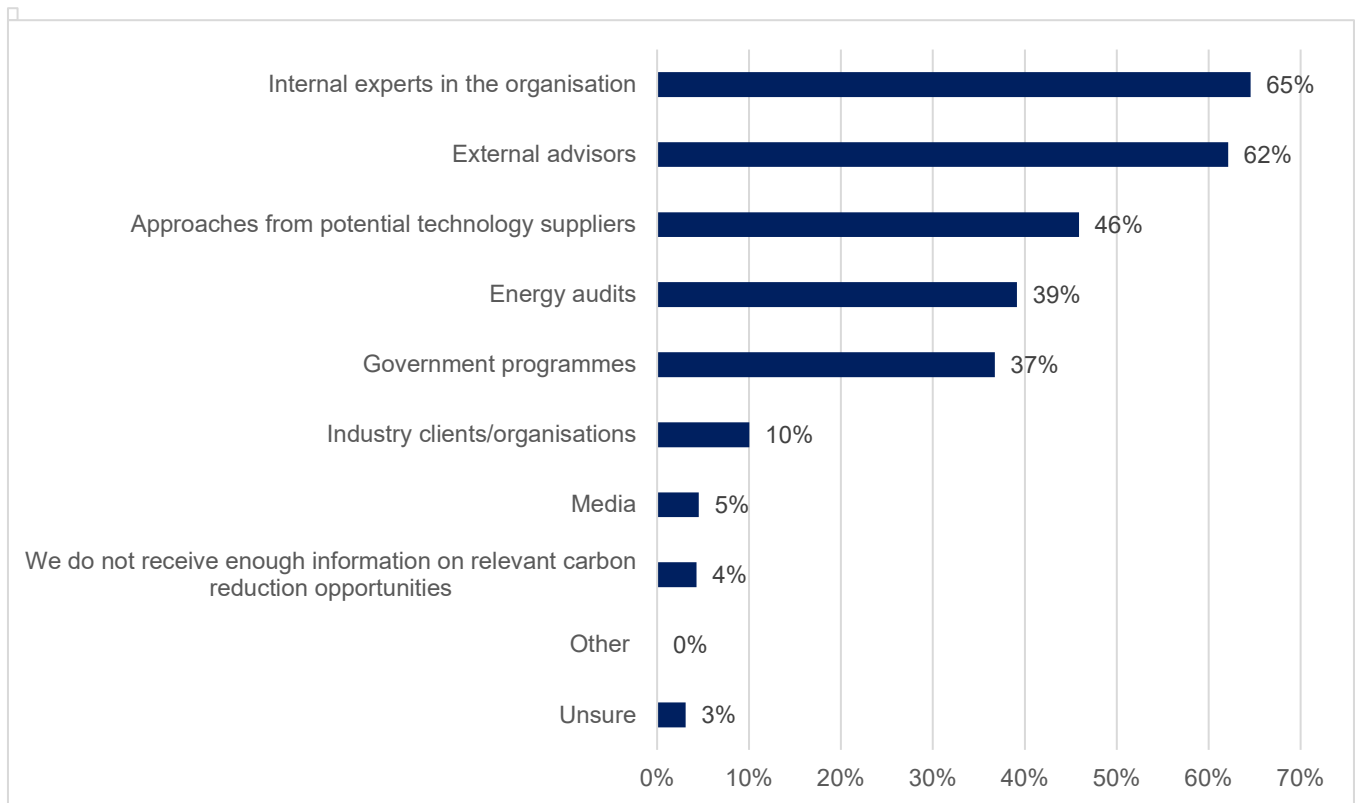
Operators and AOs with high emissions (more than 50,000 tCO₂e in the UK in 2022) also tended to acknowledge the influence of the UK ETS, but the difference with other participants was not found to be statistically significant. By contrast, micro emitters (less than 1,000 tCO₂e in the UK in 2022; n=50) were the least likely to acknowledge UK ETS’ influence (26%); their difference with other participants was statistically significant.

Organisational approaches to carbon reduction

Sources of information

With regards to how information about carbon reduction opportunities was sourced, most participants report having internal experts in their organisations (65%) as well as recruiting external advisors (62%). Other commonly cited channels of information were technology suppliers directly approaching them (46%), energy audits (39%) and government programmes (37%). Only 4% reported not receiving enough information about carbon reduction opportunities.

Figure 37: How does your organisation get information on carbon reduction opportunities? (multiple response allowed; all main scheme participants; n=183)



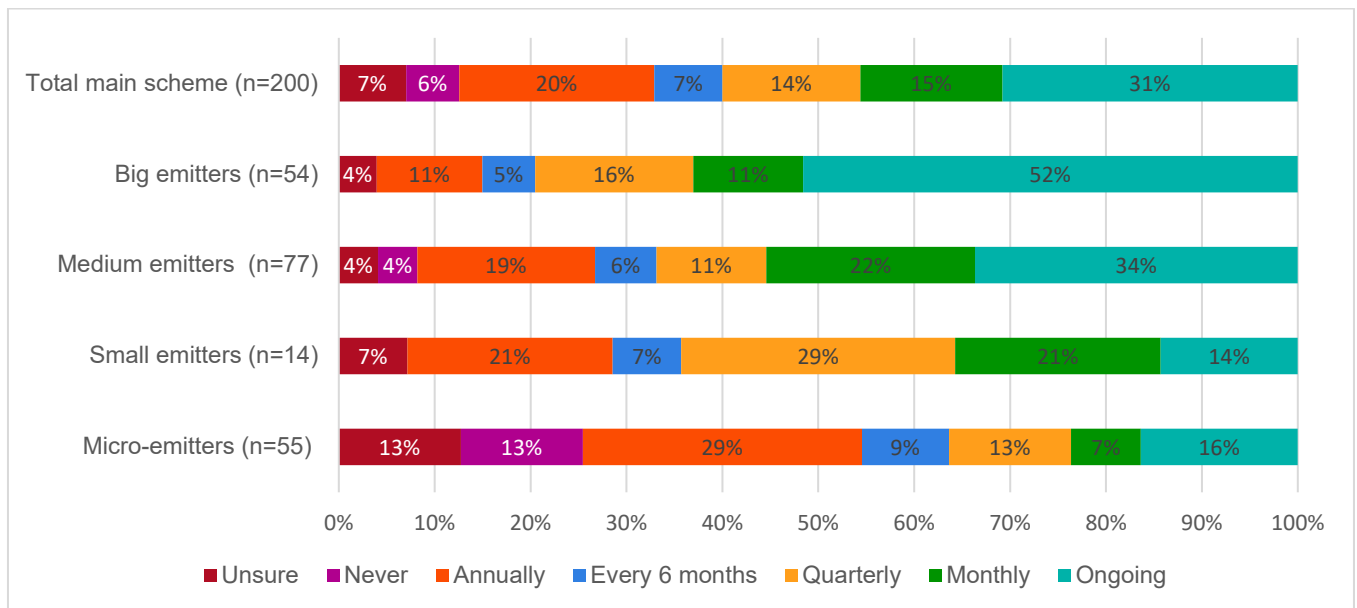
Compared to other participants, medium emitters (2,500-50,000 tCO₂e in the UK in 2022; n=76) were more likely to report receiving information from technology suppliers (63%) and having energy audits (56%).

Organisations with more than 250 employees were the most likely to have internal experts in their organisation (78%), as well as have an energy audit (55%) and being approached by technology suppliers (59%).

Most participants said that the process of reviewing carbon reduction opportunities was ongoing (31%), whereas another 15% said they were reviewing carbon reduction opportunities on a monthly basis. On the other hand, 20% of participants reviewed carbon reduction opportunities once every year, whereas 6% never do so.

The majority of operators and AOs with high emissions (more than 50,000 tCO₂e in the UK in 2022; n=54) said that they were constantly reviewing carbon reduction opportunities (52%).

Figure 38: How often do you review carbon reduction opportunities? (all main scheme participants, including data from CAG Consultants qualitative interviews)



Trends in decarbonisation spend

Compared to 2021, most participants (66%) were now spending more money on decarbonisation, compared to only 4% who were now spending less.

When asked to explain why they had increased their decarbonisation investment since 2021, 35% (n=110) suggest that they were continuing investment in existing projects to reach their decarbonisation goals, whereas 34% suggest they were investing in new technologies.

Those saying that they were spending the same money on decarbonisation as in 2021 explained that existing programmes were sufficient (28%; n=28) and/or that they could not make further changes before existing technologies evolved (24%).

Appendix 1: Quantitative grid used for selected qualitative interviews

Survey Qn	Questions	Options
43	Does your organisation buy and/or sell allowances and/or derivative products in any of the following ways? (select all that apply)	<p>Buy allowances spot in UK government auctions</p> <p>Buy/sell allowances spot (for immediate delivery) from a broker or other organisation</p> <p>Buy/sell exchange-traded derivatives (ETDs) (e.g. futures/options) on the ICE exchange</p> <p>Buy/sell off-exchange derivative products (e.g. forwards, swaps)</p> <p>Other (please specify)</p> <p>None of the above - We do not buy or sell UK allowances or derivatives.</p> <p>Unsure</p>
46	You suggested you buy and/or sell UKAs and/or derivative products in the carbon market. Do you: (one option)	<p>- Both buy and sell UKAs and/or derivative products</p> <p>Just buy UKAs and/or derivative products</p> <p>just sell UKAs and/or derivative products</p> <p>unsure</p>

Survey Qn	Questions	Options
47	How often do you buy allowances spot?	<ul style="list-style-type: none"> - Once a year - towards the end of the reporting period (e.g. March/April) Once a year - at a specific time which is not the end of the reporting period Regularly throughout the year (at least once per month but less than daily) daily other unsure
49	For the following types of derivatives products of emissions allowances, can you please indicate how often they are purchased by your organisation? - Future contracts	<ul style="list-style-type: none"> -Never -Daily -Weekly -Monthly -Annually -Less often -Unsure
	For the following types of derivatives products of emissions allowances, can you please indicate how often they are purchased by your organisation? - Options contracts	<ul style="list-style-type: none"> -Never -Daily -Weekly -Monthly -Annually -Less often -Unsure
	For the following types of derivatives products of emissions allowances, can you please indicate how often they are purchased by your organisation? - Forwards	<ul style="list-style-type: none"> -Never -Daily -Weekly -Monthly -Annually

Survey Qn	Questions	Options
		<ul style="list-style-type: none"> -Less often -Unsure
	<p>For the following types of derivatives products of emissions allowances, can you please indicate how often they are purchased by your organisation? - Swaps</p>	<ul style="list-style-type: none"> -Never -Daily -Weekly -Monthly -Annually -Less often -Unsure
50	<p>How frequently do you sell UKAs and/or derivative products?</p>	<ul style="list-style-type: none"> -Never -Daily -Weekly -Monthly -Annually -Less often -Unsure
51	<p>You suggested that you buy UKAs and/or derivative products from auctions and/or the ICE exchange. How do you do this? (select all that apply)</p>	<ul style="list-style-type: none"> Directly – we are an exchange member Indirectly - through an exchange member or Auction-only Access Provider (AAP) Other (please specify) Unsure
45	<p>You suggested that you do not buy UK allowances or derivatives. How do you acquire enough allowances to comply with the UK ETS? (select all that apply)</p>	<ul style="list-style-type: none"> We are using our free allowance surplus We borrow from next year's supply of free allowances We reduce our carbon emissions Other (please specify)

Survey Qn	Questions	Options
		Unsure
42	Thinking about your organisation's free allocation specifically, are free allowances used in any of the following ways? (select all that apply)	<p>Used for UK ETS compliance in the year of issue</p> <p>Used to meet previous year's compliance obligations</p> <p>Held for future years while reducing carbon emissions</p> <p>Sold to an operator or trader</p> <p>Treated as in-year assets and used to trade in the derivative product market</p> <p>Other (please specify)</p> <p>None of the above</p> <p>Unsure</p>
44	And which organisations do you buy UKAs or derivatives from?	<p>From another UK ETS operator</p> <p>From a financial institution</p> <p>From a broker</p> <p>In another way - which one?</p> <p>Unsure</p>
48	Compared to 12 months ago, do you buy allowances spot:	Less often/More often/No change/Unsure

Survey Qn	Questions	Options
65	Does your organisation have a plan for reducing its carbon emissions?	Yes/No/Unsure
66	Does the plan to reduce carbon emissions involve actions or changes planned to be taken forward (select all that apply)	In the next few years (up to 2025)
		In the medium term (between 2025 and 2030)
		In the long term (beyond 2030)
		Unsure
70	What types of actions do these plans involve (select any that apply):	Management of plant operations (e.g. decisions to run or not to run the plant)
		Improve operational efficiency
		Fuel switching as part of operational management
		Low or no cost carbon reduction measures
		Investment in major new equipment (e.g. more efficient; uses a different energy source)
		Investment in onsite renewables
		Investments in other carbon reduction measures
		Investing in research, development or innovation

Survey Qn	Questions	Options
		<p>Invest in R&D for deep decarbonisation technology (e.g. CCUS, hydrogen)</p> <p>Invest in deployment of deep decarbonisation technology (e.g. CCUS, hydrogen)</p> <p>Reduce or not increase overall produce output</p> <p>Other (please specify)</p>
73	Question	How often does your organisation review carbon reduction opportunities? (OE)
63	Thinking about the the cost of UKAs, would you say that the cost of the UKAs	<p>Influences whether and how frequently you operate your plant (Yes/No/Unsure)</p> <p>Influences decisions about how you operate your aircraft (Yes/No/Unsure)</p>
64	How frequently does the UKA price influence operational decisions?	<ul style="list-style-type: none"> - Daily or more frequently - Weekly - Monthly - Less frequently than annually - Unsure
67	Thinking about the cost of UKAs, would you say that the cost of the UKAs	<p>has influenced your organisation to increase decarbonisation investment in UK plant, equipment or machinery? (Yes/No/Unsure)</p> <p>has influenced your organisation to increase decarbonisation investment in new aircraft or aircraft upgrades? (Yes/No/Unsure)</p>

Survey Qn	Questions	Options
		<p>has influenced your organisation to increase decarbonisation investment in research and development. (Yes/No/Unsure)</p>
76	Question	<p>On a scale of 1-5, where 1 is "not at all important" and 5 is "extremely important", can you please indicate how important the cost of UKAs were in influencing your organisation to increase decarbonisation investment?</p>

Appendix 2: Quantitative survey questionnaire

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
1	Introduction	To those with small installations (<25 kt) - database information	Yes	No	To begin with can I check with you - according to our database, you have installations with less than 25 kt of annual carbon emissions. Are you intending to apply for either the 'hospital or small emitter' or 'ultra-small emitter' status for the 2026 – 2030 allocation period?
		Not to aircraft operators			Yes – I intend to apply for hospital or small emitter status
					Yes – I intend to apply for ultra-small emitter status
					No - why not?
					Unsure

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
2	Introduction	Aircraft operators only - database information	Yes	No	To begin with can I check with you - according to our database, the annual emissions based on your UK ETS full scope flights are under 25 kt annually. Are you using the simplified reporting procedure for small aircraft operators?
					Yes
					No - why not?
					Unsure
3	Introduction	Aircraft operators only - database information	Yes	No	Did you have to apply for an emissions monitoring plan with a UK regulator for the first time under UK ETS?
					Yes
					No

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Unsure
4	Introduction	All	Yes	Yes	Now then, can you please tell me what is the approximate number of full-time staff in your organisation? (whole organisation, not just this site or location) {tick one only}
					Fewer than 50
					50 – 249
					More than 250
					Unsure
5	Introduction	All	No	Yes	Have you applied for:
					The Hospitals and Small Emitters Scheme?
					The Ultra Small Emitters Scheme?

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					None of those (close survey)
6	Transition	All	Yes	Yes	<p>The next few questions are about the transition from EU ETS to UK ETS, which includes all the actions the government, regulators and operators had to take in order to prepare for the new reality of the UK ETS system and the associated costs that might or might not have been incurred. This also applies to those operators still holding accounts under EU ETS.</p> <p>Thinking about the government's role, on a scale of 1 to 5, where 1 is unsuccessful and 5 is successful, how would you rate the overall transition from the EU ETS to the UK ETS?</p>
					1 - Very unsuccessful - why?
					2- Somewhat unsuccessful - why?
					3 - Neither successful nor unsuccessful - why?
					4 - Somewhat successful - why?

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Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					5 - Very successful - why?
					6 - Unsure
7	Transition	All	Yes	Yes	As well as your UK ETS account, does your organisation (parent company or subsidiary) currently hold any EU ETS accounts?
					Yes
					No
					Unsure
8	Transition	Those required to hold an EU ETS account ("yes" to Q7)	Yes	Yes	(if yes) Is your organisation incurring additional ongoing administrative costs from having to participate in both schemes?

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Yes - how much?
					No
					Unsure
9	Transition	All	Yes	Yes	Were there any one-off costs incurred by the organisation related to the transition from the EU ETS to the UK ETS scheme?
10	Transition	Those incurring costs due to the transition from EU ETS to UK ETS ("yes" to Q9)	Yes	Yes	(if yes) What were those costs associated with? (OE)
11	Transition	Those incurring costs due to	Yes	Yes	(if yes) What was the cost in £?

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
		the transition from EU ETS to UK ETS ("yes" to Q9)			
12	Transition	All	Yes	Yes	On a scale of 1 to 5, where 1 is strongly disagree and 5 is strongly agree, to what extent do you agree or disagree with the following statements
					Operators were alerted to the establishment of a new, separate, UK-focused emissions trading scheme in a timely fashion
					The information received by operators on the new scheme was clear and transparent
					The channels through which information about the new scheme was communicated were appropriate
					My organisation had enough expertise to engage efficiently with the transition to the UK ETS

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Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					My organisation had enough capacity to engage efficiently with the transition to the UK ETS
					My organisation had a long enough time period to engage efficiently with the transition to the UK ETS
13	Transition	All except for power generators (database information)	Yes	No	At the time of the establishment of the new UK ETS scheme, was your organisation sufficiently aware of the process for allocating free allowances?
					Yes
					No - why not?
					Unsure
14		All	Yes	Yes	Approximately how many days per year does your organisation dedicate

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
	Process (other than trading)				To UK ETS related activities? For example, monitoring and reporting emissions, surrendering allowance, trading allowances.
		(to those holding EU ETS accounts - "yes" to Q7)			To EU ETS related activities?
15	Process (other than trading)	All	Yes	Yes	Within your organisation, is there a dedicated member of staff or team, whose sole responsibility is for
		(to those NOT holding EU ETS accounts - "no"/"unsure" to Q7)			Compliance with the UK ETS
		(to those holding EU ETS)			Compliance with the emissions trading schemes

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
		accounts - "yes" to Q7)			
16	Process (other than trading)	All	Yes	Yes	Which department within your organisation has responsibility for UK ETS compliance (select all that apply)?
					Legal
					Operations
					Finance
					Environmental management
					Trading
					External consultants
					Other (please specify)

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Not applicable - why?
					Unsure
17	Process (other than trading)	To HSE installations	No	Yes	On a scale of 1 to 5, where 1 is strongly disagree and 5 is strongly agree, to what extent do you agree or disagree with the following statement: The information on the Hospitals and Small Emitters Scheme was clear and transparent.
18	Process (other than trading)	To USE installations	No	Yes	On a scale of 1 to 5, where 1 is strongly disagree and 5 is strongly agree, to what extent do you agree or disagree with the following statement: The information on the Ultra Small Emitters Scheme was clear and transparent.
19	Process (other than trading)	To aircraft operators using the simplified reporting procedure	Yes	No	On a scale of 1 to 5, where 1 is strongly disagree and 5 is strongly agree, to what extent do you agree or disagree with the following statement: The information on the simplified reporting procedure for aviation operators was clear and transparent

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
20	Process (other than trading)	To HSE installations	No	Yes	On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the process of applying for the Hospitals and Small Emitters Scheme?
21	Process (other than trading)	To USE installations	No	Yes	On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the process of applying for the Ultra Small Emitters Scheme?
22	Process (other than trading)	To aircraft operators using the simplified reporting procedure ("yes to Q2)	Yes	No	On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the process of using the simplified reporting procedure for small emitters?
23	Process (other than trading)	To HSE installations	No	Yes	Are there any ways in which the process of applying for the Hospitals and Small Emitters Scheme could be improved?
					Yes - what?

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					No
					Unsure
24	Process (other than trading)	To USE installations	No	Yes	Are there any ways in which the process of applying for the Ultra Small Emitters Scheme could be improved?
					Yes - what?
					No
					Unsure
25	Process (other than trading)	To aircraft operators using the simplified reporting procedure ("yes" to Q2)	Yes	No	Are there any ways in which the process of using the simplified reporting procedure for small emitters could be improved?

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Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Yes - what?
					No
					Unsure
26	Process (other than trading)	All	Yes	No	On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with your experience of using the UK ETS registry (for example, accessing the registry, transferring allowance, surrendering allowances)?
27	Process (other than trading)	All	Yes	No	Are there any ways in which the experience of using the UK ETS registry could be improved?
					Yes - what?
					No
					Unsure

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
28	Process (other than trading)	Aircraft operators only - those who said in Q3 that they applied for an emissions monitoring plan	Yes	No	On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied were you with the process of applying for a UK emissions monitoring plan?
29	Process (other than trading)	All	Yes	Yes	<p>On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the Permitting, Monitoring and Reporting Process?</p> <p>Aircraft operators: On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the Monitoring and Reporting Process?</p>
30		All	Yes	HSE only	Are there any ways in which the permitting, monitoring, and reporting process could be improved?

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Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
	Process (other than trading)				Yes - what?
					No
					Unsure
31	Process (other than trading)	All except for aircraft operators using simplified reporting procedure ("yes" to Q2)	Yes	HSE only	On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the ease of finding an accredited UK ETS verifier?? Why?
32	Process (other than trading)	All except for aircraft operators using simplified reporting procedure	Yes	Yes	Are there any ways in which the verification process could be improved?

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Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
		("yes" to Q2)			
					Yes - what?
					No
					Unsure
33	Process (other than trading)	All	Yes	Yes	Are you aware that, in summer 2023, the Government will launch a new digital permitting, monitoring, reporting and verification system called Manage your UK Emissions Trading Scheme Reporting Service (METS) to replace the existing ETSWAP?
					Yes
					No
					Unsure

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
34	Process (other than trading)	All excluding power generators and aircraft operators (database information)	Yes	No	On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the process of submission of Activity Level Reports to the regulators and change in free allocation?
35	Process (other than trading)	All excluding power generators and aircraft operators (database information)	Yes	No	Are there any ways in which the process of submission of Activity Level Reports to the regulators and change in free allocation could be improved?
					Yes - what?
					No

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Unsure
36	Process (other than trading)	All excluding power generators (database information)	Yes	No	On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the approach to free allocation in the UK ETS?
37	Process (other than trading)	All excluding power generators (database information)	Yes	No	Are there any ways in which the approach to free allocation in the UK ETS could be improved?
					Yes - what?
					No
					Unsure

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
38	Process (other than trading)	All	Yes	Yes	On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the level of service provided by your regulator(s) for UK ETS?
39	Process (other than trading)	All	Yes	Yes	Are there any ways in which the level of service provided by your regulator(s) could be improved?
					Yes - what?
					No
					Unsure
40	Process (other than trading)	All	Yes	Yes	On a scale of 1 to 5, where 1 is very dissatisfied and 5 very satisfied, how satisfied are you with the information you received from the UK ETS authority about changes to ETS policies or processes that could affect your organisation?
41	Process (other than trading)	All	Yes	Yes	Are there any ways in which the information about changes to ETS policies or processes provided by the UK ETS Authority could be improved?

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Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Yes - what?
					No
					Unsure
42	Trading & allowance behaviour (process & outcomes)	All except for power generators (database information)			Thinking about your organisation's free allocation specifically, are free allowances used in any of the following ways? (select all that apply)
					Used for UK ETS compliance in the year of issue
					Used to meet previous year's compliance obligations
					Held for future years while reducing carbon emissions
					Sold to an operator or trader

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Treated as in-year assets and used to trade in the derivative product market
					Other (please specify)
					None of the above
					Unsure
43	Trading & allowance behaviour (process & outcomes)	All			Does your organisation buy and/or sell allowances and/or derivative products in any of the following ways? (select all that apply)
					Buy allowances spot in UK government auctions
					Buy/sell allowances spot (for immediate delivery) from a broker or other organisation
					Buy/sell exchange-traded derivatives (ETDs) (e.g. futures/options) on the ICE exchange
					Buy/sell off-exchange derivative products (e.g. forwards, swaps)

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Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Other (please specify)
					None of the above - We do not buy or sell UK allowances or derivatives.
					Unsure
44	Trading & allowance behaviour (process & outcomes)	Those picking option f in Q43.			You suggested that you do not buy UK allowances or derivatives. How do you acquire enough allowances to comply with the UK ETS? (select all that apply)
					We are using our free allowance surplus
					We borrow from next year's supply of free allowances
					We reduce our carbon emissions
					Other (please specify)
					Unsure

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
45	Trading & allowance behaviour (process & outcomes)	Those picking options a-e in Q43.			You suggested you buy and/or sell UKAs and/or derivative products in the carbon market. Do you: (one option)
					Both buy and sell UKAs and/or derivative products
					Just buy UKAs and/or derivative products
					Just sell UKAs and/or derivative products
					Unsure
46	Trading & allowance behaviour (process & outcomes)	to those picking b or d in Q43			And which organisations do you buy UKAs or derivatives from?
					From another UK ETS operator
					From a financial institution

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					From a broker
					In another way - which one?
					Unsure
47	Trading & allowance behaviour (process & outcomes)	Those who buy from auction or via the ICE exchange (picked a or c in Q43)			You suggested that you buy UKAs and/or derivative products from auctions and/or the ICE exchange. How do you do this?
					Directly – we are an exchange member
					Indirectly - through an exchange member or Auction-only Access Provider (AAP)
					Other (please specify)

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Unsure
48	Trading & allowance behaviour (process & outcomes)	Those buying spot (picked a or b in Q43)	Yes	No	What are the reasons you buy UKAs spot (for immediate delivery)? (Select all that apply)
					Price of UKA derivatives/futures is higher than spot price / Can get allowances cheaper on spot.
					Fees associated with buying derivatives are too high (e.g. Exchange fees or brokerage fees)
					Advice from our broker/external consultant
					Lack the internal knowledge or expertise to buy derivatives.
					It is too burdensome to comply with the legal or regulatory requirements or requirements of the ICE Exchange involved in buying derivatives.

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					The volume of allowances we require or the frequency with which we purchase allowances is too low for it to be necessary or desirable for us to buy derivatives
					Other (please specify)
49	Trading & allowance behaviour (process & outcomes)	Those buying UKASs (picked a or b in Q43)	Yes	No	How often do you buy allowances spot?
					Once a year - towards the end of the reporting period (e.g. March/April)
					Once a year - at a specific time which is not the end of the reporting period - when?
					Periodically throughout the year (more than once a year but less than once per month)

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Regularly throughout the year (at least once per month but less than daily)
					Daily
					Other (please specify)
					Unsure
50	Trading & allowance behaviour (process & outcomes)	Those providing a frequency (a-e to Q49)			Why do you buy with this frequency?
51	Trading & allowance behaviour (process & outcomes)	Those buying UKASs (picked a or b in Q43)	Yes	No	Compared to 12 months ago, do you buy allowances spot:

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Less often
					More often
					No change
					Unsure
52	Trading & allowance behaviour (process & outcomes)	Those buying derivative products (picked c or d in Q43)	Yes	No	Which are the reasons you buy derivative products, either on the ICE exchange or off-exchange? ? (please select all that apply)
					The ICE Exchange provides the most liquid market to buy and sell UKAs
					Less capital required for variation margin than to buy allowances spot

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Buying futures or other derivatives allows us to hedge against changes in the UKA price.
					Advice from our broker/external consultant
					Other (please specify)
53	Trading & allowance behaviour (process & outcomes)	Those buying derivative products (picked c or d in Q43)	Yes	No	For the following types of derivatives products of emissions allowances, can you please indicate how often they are purchased by your organisation?
		the first few rows indicate frequency (i.e. this is a			Never
					Daily
					Weekly

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Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
		matrix-type question)			Monthly
					Annually
					Less often
					Unsure
		the last few rows are types of derivatives			Future contracts
					Options contracts
					Forwards
					Swaps
					Other types of derivatives (please specify)

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Why do you buy these derivatives with this frequency?
54	Trading & allowance behaviour (process & outcomes)	Those selling (a or c in Q46) UKAs/derivatives	Yes	No	How frequently do you sell UKAs and/or derivative products?
					Daily
					Weekly
					Monthly
					Annually
					Less often
					Unsure

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
55	Trading & allowance behaviour (process & outcomes)	Those providing a frequency (a-e to Q54)	Yes	No	Why do you sell with this frequency?
56	Trading & allowance behaviour (process & outcomes)	Those picking options a-d in Q43.			(carry forward ways of engagement with the carbon market picked in Q43) For each of the following ways of engaging in the carbon market, on a scale from 1 to 5, where 1 is very low and 5 is very high, would you say that transaction costs (i.e. administrative costs plus fees) are:
					1-Very low
					2 - Low
					3 -Neither high nor low
					4 - High
					5 - Very high

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					6 - Unsure
57	Trading & allowance behaviour (process & outcomes)	Those not buying in auctions (did not pick a in Q43)	Yes	No	Which are the main reasons you do not participate in auctions? (please select all that apply)
					The fees to participate in auctions, either direct fees or fees paid to intermediaries, are too high relative to the fees paid to obtain UKAs via other routes.
					Lack of internal expertise (e.g. it would be too burdensome to dedicate human resources or to obtain and master the relevant software).
					It is too burdensome to comply with the legal or regulatory requirements involved in participating in auctions.
					Uncertainties over our future need for allowances or the future evolution of prices

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					We purchase allowance derivatives not spot allowances, and only spot allowances are available in auctions.
					We need to buy allowances more frequently than fortnightly auctions allow
					Other (please specify)
58	Trading & allowance behaviour (process & outcomes)	All	Yes	No	Regardless of whether you take part in auctions or not, what changes do you think would improve the auction process? (select all that apply)
					None - I am happy with the auction process as it is
					Reduction in fees or other direct participation costs
					Amendment of auction frequency to weekly, currently held fortnightly
					Amendment of minimum bid size limits, currently set at 500 allowances per bid.

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Introduction of maximum bid size limits
					Simpler / quicker process to register with platform
					Better help and communication from authorities in order to gain more in-house auctioning or trading expertise
					The criteria to qualify to participate on ICE should be less stringent
					Nothing - we do not have human or IT resources to participate in the auctions or we primarily buy derivatives and only spot allowances are available in auctions
					Other (please specify)
59	Trading & allowance behaviour (process & outcomes)	Those engaging in the carbon market (picked a-e in Q43)	Yes	Yes	Do you buy UKAs or derivative products based on forecasts of your future needs for emissions allowances?

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
				For HSE/USE, frame in terms of carbon emissions, not allowances	Yes
					No - why not?
					Unsure
60	Trading & allowance behaviour (process & outcomes)	Those buying allowances on the basis of forecasts ("yes" in Q59)	Yes	Yes	When did forecasts of your future needs for emissions allowances start forming the basis of your UKA/derivative products purchases?

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
				For HSE/USE, frame in terms of carbon emissions, not allowances	In the last 12 months
					More than 12 months but after launch of UK ETS market
					We started doing this before 2021 in the EU ETS market
					Unsure
61	Trading & allowance behaviour (process & outcomes)	Those buying allowances on the basis of forecasts ("yes" in Q59)	Yes	Yes	How often do you forecast the need for emissions allowances? (OE)

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
62	Trading & allowance behaviour (process & outcomes)	Those buying allowances on the basis of forecasts ("yes" in Q59)	Yes	Yes	Compared to 12 months ago, do you forecast the need for emissions allowances:
					Less often
					More often
					No change
					Unsure
63	Trading & allowance behaviour (process & outcomes)	Those engaging in the carbon market (a-e in Q43)	Yes	No	Do you forecast the price of UKAs in the market? (select any that apply)

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Yes - UK price forecast is done internally
					Yes - UKA price forecast is outsourced to external consultants
					No
					Unsure
64	Trading & allowance behaviour (process & outcomes)	Those forecasting the price of UKAs ("yes" in Q63)	Yes	No	When did you start forecasting the price of UKAs in the market?
					In the last 12 months
					More than 12 months but after launch of UK ETS market
					We started doing this before 2021 in the EU ETS market
					Unsure

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
65	Trading & allowance behaviour (process & outcomes)	Those forecasting the price of UKAs ("yes" in Q63)	Yes	No	Thinking about the cost of UKAs, would you say that the cost of the UKAs
		Installation operators only			Influences whether and how frequently you operate your plant (Yes/No/Unsure)
		Aircraft operators only			Influences decisions about how you operate your aircraft (Yes/No/Unsure)
66	Trading & allowance behaviour (process & outcomes)	Those picking "yes" in Q63	Yes	No	How frequently does the UKA price influence operational decisions?
					Daily or more frequently
					Weekly

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Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Monthly
		Aircraft operators only			Less frequently than annually
					Unsure
67	Carbon abatement	All			Does your organisation have a plan for reducing its carbon emissions?
					Yes
					No
					Unsure
68	Carbon abatement	Those picking a in Q67	Yes	Yes	Does the plan to reduce carbon emissions involve actions or changes planned to be taken forward (select all that apply)

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					In the next few years (up to 2025)
					In the medium term (between 2025 and 2030)
					In the long term (beyond 2030)
					Unsure
69	Carbon abatement	Those picking a in Q67	Yes	Yes	Thinking about the cost of UKAs, would you say that the cost of the UKAs
		Installation operators only			has influenced your organisation to increase decarbonisation investment in UK plant, equipment or machinery? (Yes/No/Unsure)
		Aircraft operators only			has influenced your organisation to increase decarbonisation investment in new aircraft or aircraft upgrades? (Yes/No/Unsure)

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
		All			has influenced your organisation to increase decarbonisation investment in research and development. (Yes/No/Unsure)
70	Carbon abatement	Those saying "no" to all statements in Q69	Yes	Yes	You indicated that the UKA price has not influenced your organisation to increase decarbonisation investment. Why is this?
71	Carbon abatement	Those saying "yes" to at least one statement in Q69	Yes	Yes	You indicated that the UKA price has influenced your organisation to increase decarbonisation investment. How?
72	Carbon abatement	Those saying "yes" to at least one statement in Q69	Yes	Yes	On a scale of 1-5, where 1 is "not at all important" and 5 is "extremely important", can you please indicate how important the cost of UKAs were in influencing your organisation to increase decarbonisation investment? Why?

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
73	Carbon abatement	Those having a plan to reduce emissions ("yes" to Q67)	Yes	Yes	What types of actions do these plans to reduce carbon emissions involve (select any that apply):
					Management of plant operations (e.g. decisions to run or not to run the plant)
					Improve operational efficiency
					Fuel switching as part of operational management
					Low or no cost carbon reduction measures
					Investment in major new equipment (e.g. more efficient; uses a different energy source)
					Investment in onsite renewables

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Investments in other carbon reduction measures
					Investing in research, development or innovation
					Invest in R&D for deep decarbonisation technology (e.g. CCUS, hydrogen)
					Invest in deployment of deep decarbonisation technology (e.g. CCUS, hydrogen)
					Reduce or not increase overall produce output
					Other (please specify)
74	Carbon abatement	All	Yes	Yes	Is your organisation facing any of the following difficulties in planning to reduce its carbon emissions?
					We don't have enough access to information on carbon reduction options

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					We don't have the capacity or capability to consider carbon reduction options
					There are currently too many uncertainties around carbon reduction technologies for us to identify the best option
					We have done all the easy actions and there are currently no further viable carbon reduction options for our firm
					There are too many uncertainties about the future of our plant for us to invest in decarbonisation
					We are deferring a decision on carbon reduction in the hope that hydrogen or Carbon Capture and Storage may provide a viable decarbonisation option in future
					Other (please specify)
75	Carbon abatement	All	Yes	Yes	How does your organisation get information on carbon reduction opportunities? (select all that apply)

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
					Internal experts in the organisation
					Energy audits
					External advisors
					Government programmes
					Approaches from potential technology suppliers
					We are do not receive enough information on relevant carbon reduction opportunities
					Unsure
					Other (please specify)
76	Carbon abatement	All	Yes	Yes	How often does your organisation review carbon reduction opportunities? (OE)

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
77	Carbon abatement	All	Yes	Yes	Thinking now about your awareness of and decisions about carbon reduction opportunities. To what extent, on a scale of 1 to 5, where 1 is not at all and 5 is to a great extent, have these been influenced by the following policies? [Researcher to note that overseas companies MAY not be familiar with all of these policies]
		Installation operators only			Industrial Energy Transformation Fund
		Installation operators only			Innovation or research funding from Government, UKRI, Innovate UK etc
		Installation operators only			Industrial cluster support, including work on hydrogen and carbon capture & storage
		Installation operators only			Energy Savings Opportunity Scheme

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Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
		Installation operators only			Climate Change Agreements (CCA)
		Installation operators only			Climate Change Levy (CCL)
		Installation operators only			Carbon Price Support (CPS)
		Aircraft operators only			Carbon Offsetting and Reduction Scheme for International Aviation (CORSA)
		all			UK ETS
		all			Other (please specify)

Section	Broad topic	Routing	Main scheme participants	HSE/USE installations	Questions
78	Carbon abatement	Those having a plan to reduce carbon emissions ("yes" to Q67)	Yes	Yes	Compared to 2021 spending, is your organisation spending on decarbonisation:
					Less money - why?
					The same money - why?
					More money - why?
					Unsure

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