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Report on the functioning of the UK carbon market for 2024

A joint report from the UK ETS Authority

October 2025



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Contents

1	Introduction	4
2	UK ETS Participants	5
2.1	Installations overview	5
2.2	Aviation overview	5
3	The UK ETS Registry	7
3.1	Registry account holder data	7
4	Supply of UK allowances released in 2024	8
4.1	Free allocation	8
4.2	Participating in UK ETS auctions	9
5	Auction results in 2024	10
5.1	Auction overview	10
5.2	Cost Containment Mechanism	10
6	Market Oversight	13
7	Compliance	14
7.1	Compliance overview	14
7.2	Compliance statistics for the 2024 scheme year	14
7.3	Emissions	15
7.4	Surrender obligations	16
8	Conclusions and outlook	18

1 Introduction

The UK Emissions Trading Scheme (UK ETS) was established on 1 January 2021 by the UK ETS Authority (UK Government, Scottish Government, Welsh Government and the Department of Agriculture, Environment and Rural Affairs for Northern Ireland, (DAERA)) to incentivise cost-effective carbon emissions reduction in the industrial and power sectors (“operators”), and aviation sectors (“aircraft operators”) as part of our plans to deliver against our net zero commitments.

This report on the functioning of the UK carbon market for the 2024 scheme year represents a synthesis of existing publicly available material. It is presented in accordance with the UK ETS Authority’s commitment to provide transparency wherever possible on the performance of the scheme.

2 UK ETS Participants

The UK ETS applies to energy intensive industries, the power generation sector and the aviation sector. Activities in scope of the UK ETS are listed in Schedule 1 (aircraft operators) and Schedule 2 (operators) to the Greenhouse Gas Emissions Trading Scheme Order 2020¹.

2.1 Installations overview

The UK ETS applies to regulated activities which result in greenhouse gas emissions, including combustion of fuels on a site where combustion units with a total rated thermal input exceeding 20 megawatts (MW) are operated (except in installations where the primary purpose is the incineration of hazardous or municipal waste).

Under the hospitals and small emitters (HSE) scheme, there are simplified provisions for hospitals and installations with emissions lower than 25,000 tonnes of carbon dioxide equivalent greenhouse gas (tCO₂e) per annum, where the installation carrying out the activity of combustion has rated thermal capacity below 35MW. HSEs are subject to emissions targets instead of having UK allowance (UKA) surrender obligations. There is the option for HSEs to participate in the main scheme if they so wish.

If eligible, installations with emissions lower than 2,500 tCO₂e per annum may obtain ultra-small emitter (USE) status. USEs are not required to hold a permit but are still required to monitor their emissions and must notify their regulator if they exceed the threshold.

There are six power generating stations in Northern Ireland that do not participate in the UK ETS as they remain as participants in the EU Emissions Trading System (EU ETS), under the terms of the Windsor Framework, to protect the operation of the Single Electricity Market on the island of Ireland.

2.2 Aviation overview

In 2024, flights covered by the UK ETS included UK domestic flights, flights between the UK and Gibraltar, flights departing the UK to European Economic Area States, and flights departing Great Britain (England, Scotland and Wales) to Switzerland conducted

¹ <https://www.legislation.gov.uk/uksi/2020/1265/contents>

by all aircraft operators, regardless of nationality. As in the EU ETS, certain flights are exempt from regulation, for example, humanitarian flights.²

An aviation company will have an obligation for a given scheme year if they conduct an aviation activity and are not exempted by being below the thresholds for full-scope flights³ under Article 7 or 8 of the Order.

² Further information is available at <https://www.gov.uk/guidance/uk-emissions-trading-scheme-for-aviation-how-to-comply>.

³ A full-scope flights means flights departing from, or arriving in, an aerodrome situated in the UK, Gibraltar, Switzerland, or an EEA state.

3 The UK ETS Registry

The UK ETS Registry⁴ tracks the number of UKAs held in the accounts of scheme participants and any transactions between those accounts. As part of their compliance obligations, operators and aircraft operators are required to use the Registry to surrender an amount of UKAs equal to their reportable emissions or aviation emissions respectively. As well as containing the accounts for operators and aircraft operators, the Registry also contains trading accounts that are used for the holding and trading of UKAs that are unrelated to the compliance cycle.

The Registry is provided and maintained by the UK ETS Authority, with the Registry Administrator (the Environment Agency on behalf of all regulators) carrying out the day-to-day operations and acting as the point of contact for the holders and authorised representatives of Registry accounts.

3.1 Registry account holder data

Installations

In the 2024 scheme year, there were 707 operators with an open Operator Holding Account (OHA) in the Registry, of which 688 were operating in 2024.

Aviation

In the 2024 scheme year, there were 574 aircraft operators who held an open aircraft operator holding account (AOHA) in the Registry, with 370 operating UK ETS-covered flights in 2024.

Trading accounts

There were 200 trading accounts open in the Registry in 2024.

⁴ The UK ETS Registry is part of the UK Emissions Trading Registry, which also contains the Kyoto Protocol (KP) Registry. The KP Registry allows participants in the Kyoto Protocol to hold and trade Kyoto Units. The KP Registry is not covered in this report.

4 Supply of UK allowances released in 2024

In its July 2023 response to the ‘Developing the UK Emissions Trading Scheme’ consultation, the Authority confirmed the decision to set a net zero consistent UK ETS cap. This meant reducing the phase 1 cap (2021 – 2030) to 936 million UKAs, a drop of 30% over the course of this phase.

To smooth the transition to the net zero cap, the UK ETS Authority announced that it would release 53.5 million additional UKAs from the reserve pots to the market between 2024 and 2027, thus ensuring no sudden drop in UKA supply. These are pre-existing allowances created in previous scheme years and remain under the limit set by the overall Scheme cap. This ensures that the UK ETS continues to drive ambitious decarbonisation within the covered sectors, while allowing the market and participants time to adapt.

For the calendar year 2024, the UK ETS Authority initially issued 35,189,384 UKAs through free allocation and 68,964,000 UKAs via auctions throughout the year.

4.1 Free allocation

To reduce the risk of carbon leakage to UK businesses, operators in vulnerable sectors covered by the UK ETS can apply to be provided with a free allocation of UKAs.

Installations

The table at <https://www.gov.uk/government/publications/uk-ets-allocation-table-for-operators-of-installations> contains a preliminary list of each installation’s free allocation for the 2021-2025 allocation period⁵. This includes amendments to stationary installations’ free allocation due to an activity level change (ALC).

The annual ALC reporting process ultimately determines whether an installation is receiving too much, or too little, free allocation based on their actual emissions data for the two previous years. When the level of activity at an installation either increases or decreases by more than 15% when compared to the historic activity level (HAL), the

⁵ The “[UK Emissions Trading Scheme: Moving the Second UK ETS Free Allocation Period Authority Response](#)” confirmed that the start of the second UK ETS free allocation period will be moved from 2026 to 2027. This means that the 2026 scheme year will be treated as an extension of the 2021-2025 allocation period, with free allocation for installations in the 2026 scheme year determined on the basis of the same rules for the years 2021-2025.

level of free allocation entitlement is adjusted. This may mean retrospectively adjusting free allocation entitlement throughout a given allocation period. Free allocation entitlement for the next allocation period (2027 – 2030) will be determined by collecting new baseline data from installation operators in 2025.

Aircraft operators

The list of free allocation entitlements for aircraft operators for the 2021-2025 allocation period can be found at <https://www.gov.uk/government/publications/uk-ets-aviation-allocation-table>. Aviation free allocation is only awarded to aircraft operators that are captured by the scheme in that scheme year. Aircraft operators must return any free allocation if the amount awarded exceeded their 2024 emissions. Aircraft operators are not subject to the ALC process described above.

4.2 Participating in UKA auctions and secondary markets

Participants (operators, aircraft operators, and traders) wishing to take part in UK ETS auctions (“the primary market”) must register as bidders with ICE Futures Europe (ICE), the contracted auction platform provider. Auctions of UKAs were hosted on a fortnightly basis on the ICE platform during 2024.

Delivery of UKAs following any successful bid in the primary market are distributed to winning bidders before 09:00 the day after the auction.

Once allowances have been released through auctions and free allocation, they can be traded on the UK ETS secondary market, including via futures products, third party traders or intermediaries, or directly with another operator. A UKA Futures Contract is a deliverable contract where each Clearing Member with a position open at cessation of trading for a contract period is obliged to make or take delivery of UKAs to or from the Registry.

The primary and secondary markets provide a means for market participants to source allowances for immediate compliance purposes and/or to plan ahead through hedging future carbon costs.

5 Auction results in 2024

5.1 Auction overview

A total of 68,964,000 UKAs were available for auction in 2024.

The 2024 auction calendar was first published by ICE on 5 October 2023 with a revised version published by ICE on 4 September 2024. The updated calendar took account of the revised free allocation entitlements for aircraft operators, which had increased from the initial estimate. The amendment to the 2024 auction volume was a reduction of 9,000 UKAs spread across the remaining auctions until the end of the scheme year, from and including the 18 September 2024 auction.

All auctions in 2024 successfully cleared. The outcomes of the UKA auctions in 2024 are set out in Table 1 below.

The clearing price at auctions ranged from a low of £32.10 on 21 February 2024 to a high of £46.92 on 12 June 2024. The total number of bidders per auction fluctuated between 16 and 21 total bidders per auction.

UKA auction outcomes are available on the ICE website at <https://www.ice.com/report/278>

5.2 Cost Containment Mechanism

The UK ETS has a Cost Containment Mechanism (CCM) that is triggered if current prices are elevated for a sustained period relative to a historic average. The CCM is triggered if the average of the end-of-day settlement prices for the UKA December futures contract over a given month is more than 3 times higher than the comparator average prices of the reference period (the previous 2 years) for 6 consecutive months. The UK ETS Authority must then assess the nature of the price movements in question and decide whether and to what extent to intervene by bringing increased supply to future auctions.⁶

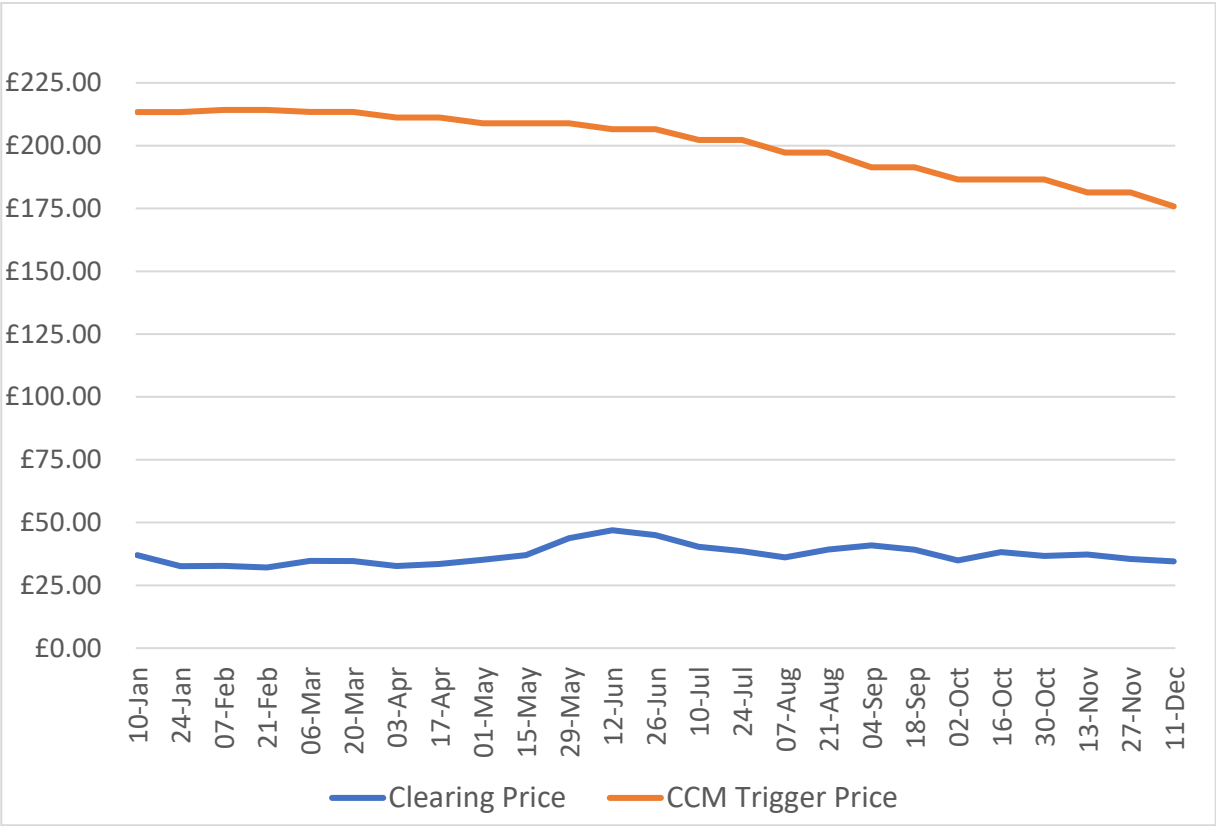
Due to settlement prices being below the level needed to trigger the CCM in any given month of the scheme year, the CCM was not triggered in 2024 (see Figure 1).

⁶ Further information is available at <https://www.gov.uk/government/publications/taking-part-in-the-uk-emissions-trading-scheme-markets/taking-part-in-the-uk-emissions-trading-scheme-markets>.

Table 1: Auction outcomes for the 2024 scheme year

Date	UKAs	Clearing price	UKAs bid for	Total bidders	Successful bidders	Revenue
10 Jan	2,759,000	£37.02	4,760,500	21	15	£102,138,180
24 Jan	2,759,000	£32.61	4,421,000	21	19	£89,970,990
07 Feb	2,759,000	£32.75	3,940,000	18	18	£90,357,250
21 Feb	2,759,000	£32.10	3,882,000	20	17	£88,563,900
06 Mar	2,759,000	£34.70	4,260,000	17	14	£95,737,300
20 Mar	2,759,000	£34.65	4,943,500	20	16	£95,599,350
03 Apr	2,759,000	£32.70	3,928,500	20	18	£90,219,300
17 Apr	2,759,000	£33.50	3,627,500	21	19	£92,426,500
01 May	2,759,000	£35.15	5,768,500	21	13	£96,978,850
15 May	2,759,000	£37.00	4,749,000	19	13	£102,083,000
29 May	2,759,000	£43.75	4,048,000	15	10	£120,706,250
12 Jun	2,759,000	£46.92	3,742,000	20	15	£129,452,280
26 Jun	2,759,000	£45.00	3,966,000	16	16	£124,155,000
10 Jul	2,759,000	£40.35	3,725,000	18	17	£111,325,650
24 Jul	2,759,000	£38.62	3,699,000	17	17	£106,552,580
07 Aug	2,759,000	£36.10	3,039,000	17	17	£99,599,900
21 Aug	2,759,000	£39.25	4,854,500	20	17	£108,290,750
04 Sep	2,759,000	£40.90	4,331,500	21	17	£112,843,100
18 Sep	2,758,000	£39.20	4,349,500	18	15	£108,113,600
02 Oct	2,758,000	£34.91	4,656,000	21	18	£96,281,780
16 Oct	2,758,000	£38.25	4,253,000	17	15	£105,493,500
30 Oct	2,757,000	£36.72	3,609,500	16	15	£101,237,040
13 Nov	2,757,000	£37.30	4,380,000	19	14	£102,836,100
27 Nov	2,757,000	£35.50	3,686,000	17	16	£97,873,500
11 Dec	2,757,000	£34.55	4,760,500	21	15	£95,254,350
Totals	68,964,000					£2,564,090,000

Chart 1: UKA auction and CCM trigger prices in 2024



6 Market Oversight

The Financial Services and Markets Act 2000 (Regulated Activities) Order 2001 sets out that the carbon allowances of both the EU ETS and UK ETS (i.e. EUAs and UKAs) are “financial instruments”. This means that rules applicable to traditional financial markets, including carbon derivatives traded on leading platforms or over-the counter (OTC), also apply to the spot segment of the secondary carbon market (transactions in emission allowances for immediate delivery in the secondary market). This segment is thus put on equal footing with the derivatives market in terms of transparency, investor protection and integrity. The framework for oversight in the primary market for UKAs is covered by the Greenhouse Gas Emissions Trading Scheme Auctioning Regulations 2021. It details market oversight requirements for the auction platform (ICE), the auctioneer (DESNZ) and the Financial Conduct Authority (FCA) directly. However, the framework also relies on other financial regulations market supervision requirements such as the UK Markets in Financial Instruments Regulation 2014 and the Recognised Auction Platforms Regulations 2011 to support this framework and supplement the direct requirements.

Moreover, other pieces of financial markets legislation apply to the primary and secondary market of UKAs. For example, the UK Market Abuse Regulation (UK MAR) which covers transactions and conduct involving emission allowances, on both primary and secondary markets. The Money Laundering, Terrorist Financing and Transfer of Funds (Information on the Payer) Regulations 2017 also applies.

The FCA is responsible for monitoring the market under the existing market abuse rules, both with respect to the auctions and the secondary market. The FCA has the power to impose remedial action or sanctions when they decide that certain behaviours give rise to market abuse. To allow the FCA to carry out their market monitoring task, the financial markets legislation establishes several reporting and transparency requirements applicable to trading venues. This includes the requirement for trading venues and investment firms to communicate to the FCA detailed data on transactions in emission allowances or their derivatives, carried out on the trading venues and OTC. The reporting requirements also include an obligation for trading venues and investment firms to provide the FCA with position data as regards emission allowances as part of the transparency requirements, trade data and weekly aggregated position data are made public by trading venues and investment firms.

7 Compliance

7.1 Compliance overview

The five UK ETS regulators are responsible for monitoring compliance with UK ETS legislation and taking any necessary enforcement action. This includes carrying out operational functions such as issuing, and ensuring compliance with, permits for operators and emissions monitoring plans for aircraft operators.

Jurisdiction	Regulator
England (and aircraft operators registered or resident outside the UK)	Environment Agency (EA)
Scotland	Scottish Environment Protection Agency (SEPA)
Wales	Natural Resources Wales (NRW)
Northern Ireland	Northern Ireland Environment Agency (NIEA)
Offshore oil and gas	Offshore Petroleum Regulator for Environment and Decommissioning (OPRED)

An operator or aircraft operator with an ‘obligation to surrender’ in a given Scheme Year must, by 30 April of the following year, surrender 1 UKA for every 1tCO₂e of their reportable emissions or aviation emissions, respectively. The Order provides for a mandatory excess emissions penalty of £100 (indexed to inflation) for every UKA a participant fails to surrender to meet its obligation.

Note that a participant’s obligation and its compliance status relate to the entire trading period, and not just a particular scheme year. This means that, should a participant fail to meet its obligation for a given scheme year and incur an excess emissions penalty, the participant will still be required to surrender allowances to make up any shortfall.

7.2 Compliance statistics for the 2024 scheme year

On 11 June 2025 the UK ETS Authority published a report based on the compliance status of operators and aircraft operators as of 1 May 2025.⁷ It details the cumulative surrender and emissions figures for each operator and aircraft operator that participated

⁷ The report is available at <https://reports.view-emissions-trading-registry.service.gov.uk/ets-reports.html>

in UK ETS for the 2024 scheme year. Since that date, emissions figures may have been revised, with any over or under-surrender position now corrected.

7.3 Total sector emissions

The total emissions recorded in the fourth compliance year of the UK ETS were 85,634,344 tCO₂e.

This compares to 96,750,817 tCO₂e in 2023, which represents a year-on-year decrease of 11,116,473 tCO₂e (a decrease of 11.5%). This change was largely driven by decreases in:

- power sector emissions covered by the UK ETS from 36,084,695 tCO₂e to 29,484,524 tCO₂e (18.3%)
- industrial emissions from 38,806,018 tCO₂e to 35,078,328 tCO₂e (9.6%)
- fuel supply emissions from 12,234,083 tCO₂e to 11,305,804 tCO₂e (7.6%)

Aviation emissions were at 8,989,648 tCO₂ in 2024, representing a very small increase from 8,802,350 tCO₂ in 2023 (2.1% increase).

Chart 2: Emissions and free allocation since 2008 - all sectors

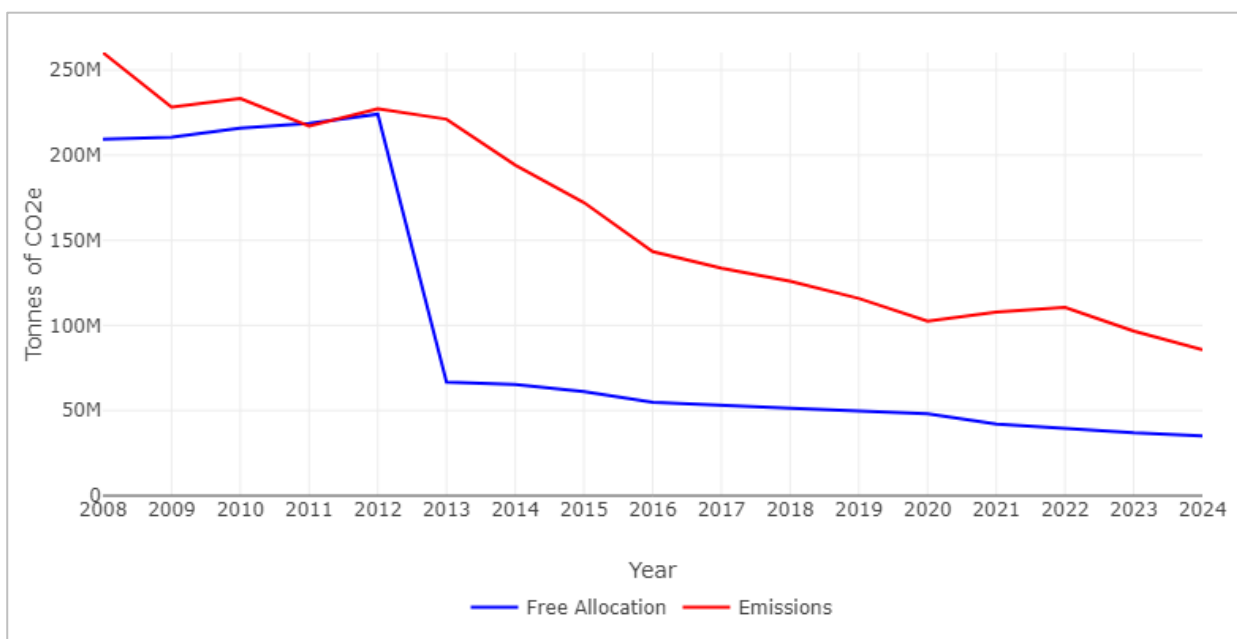
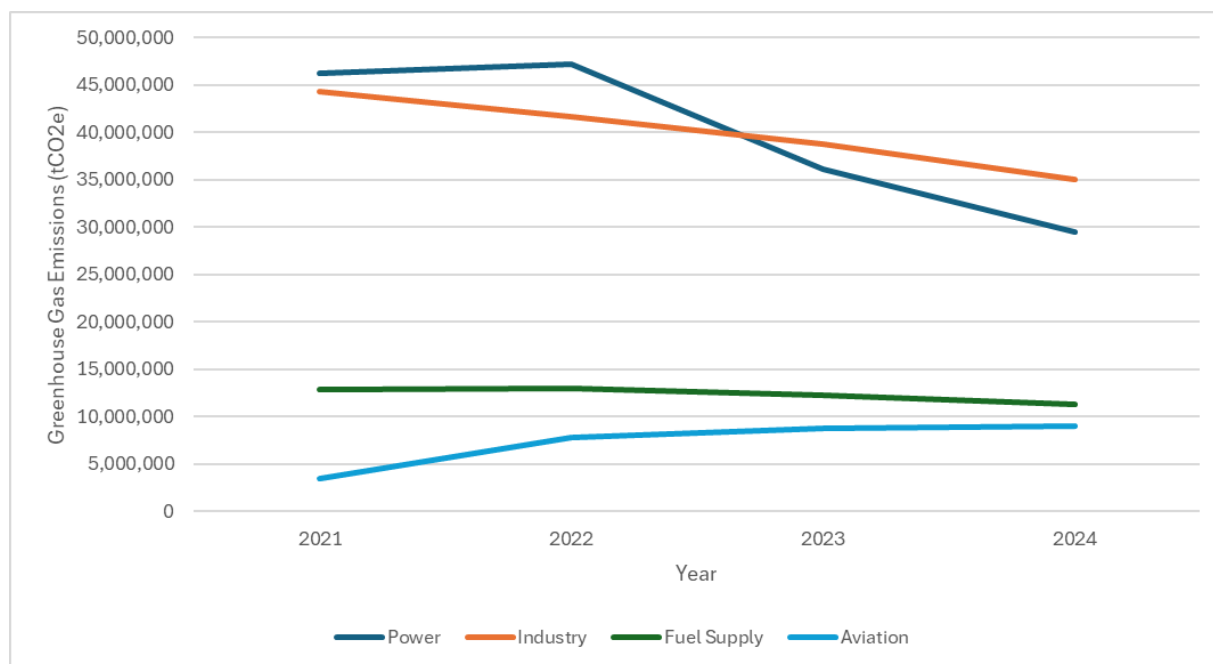


Chart 3: Annual greenhouse gas emissions under UK ETS – by sector



7.4 Emissions and surrender obligations

Operators of installations

Of the 707 Operators with an open OHA in the Registry, 689 had a surrender obligation for 2024. Of these, 685 operators surrendered UKAs equal to or greater than their reportable emissions recorded in the Registry by the 30 April 2025 deadline.

The total reportable emissions from installations in 2024 amounted to 76,644,696 tCO₂e.

Since the scheme launched in 2021, the cumulative reportable emissions of installations stand at 371,843,207 tCO₂e, with an equivalent of 371,810,648 tCO₂e surrendered in UKAs by operators over the same period. This represents an overall compliance rate for the entire scheme of 99.99%.

Aircraft operators

There are 574 aircraft operators with an open AOHA in the Registry. 535 of these have had a surrender obligation over the first four years of the UK ETS, with 370 having a surrender obligation in 2024. Of the 535 aircraft operators with an obligation, 493 surrendered UKAs equal to or greater than their aviation emissions recorded in the Registry by the 30 April 2025 surrender deadline (352 of these were active in 2024).

There are 42 aircraft operators with an AOHA and a surrender obligation that failed to surrender by the deadline, including 17 AOHAAs that did not meet their obligation in However, these operators represent less than 1% of the total recorded obligations for aviation emissions.

The total aviation emissions in 2024 amounted to 8,989,648 tCO₂.

Since the scheme launched in 2021, the cumulative reportable emissions of aircraft operators stand at 29,045,912, with an equivalent of 28,989,966 tCO₂e surrendered in UKAs by aircraft operators over the same period. This represents an overall compliance rate of 99.81%.

Overall compliance

On 1 May 2025, 96% of operators and aircraft operators were fully compliant with their surrender obligations. This equates to over 99% of operators and 92% of aircraft operators surrendering UKAs at least equal to their cumulative recorded emissions. This high surrender rate was assisted by the targeted messaging of the regulators to help participants prepare for this deadline. These figures do not include aircraft operators who did not have an AOHA in the Registry.

Regulators have begun the process of enforcement for non-compliance relating to any failure to surrender the required number of UKAs. Regulators publish the lists of operators and aircraft operators who have been issued with a penalty as required by legislation.

8 Conclusions for 2024

The fourth scheme year was again an operational success. All 25 auctions held for the 2024 scheme year successfully cleared, allowing a smooth release of allowances into the market.

The high rates of compliance are indicative of engaged operators and effective communications between participants and the UK ETS Authority, regulators, and the Registry Administrator, and representative of familiarity with a maturing scheme.

The Registry and METS systems remained robust, with no security breaches and there were no unplanned outages that resulted in inaccessibility to operators and traders.

The UK ETS Authority is currently undertaking the second phase of its monitoring and evaluation programme which will provide a comprehensive assessment of the scheme's long-term impacts. It is due to report in 2026.

9 Outlook

On 18 December 2023, the UK ETS Authority launched a consultation seeking input on a number of proposals to develop future markets policy. The UK ETS Authority continues to work to ensure that markets policy remains fit for purpose and is effective in managing the risks faced by an established and maturing scheme. The consultation closed on 11 March 2024. The UK ETS Authority is currently considering the responses and will publish a formal response in due course.⁸

More broadly, the UK ETS Authority has continued to develop the scheme so that it can operate effectively and drive cost-effective decarbonisation. The Authority has consulted on extending the scheme beyond 2030 and on free allocation policy and will respond to both consultations in due course. The Authority has also published interim responses to its 2024 consultations on expansion of the scheme's scope to include waste incineration and maritime transport, and the potential inclusion of greenhouse gas removals in the scheme.

The UK and the EU have agreed to work towards linking the UK ETS and the EU ETS as announced at the EU-UK Summit on 19 May 2025. Linking with the EU ETS will help facilitate a cheaper path to net zero via a larger, more liquid carbon market, meaning UK business will have greater certainty when it comes to investment. Furthermore, trade worth £7bn in 2024 is currently at risk from paying the EU CBAM, with the linking of the two schemes creating the conditions to exempt UK exporters from this cost.

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⁸ <https://www.gov.uk/government/consultations/uk-emissions-trading-scheme-future-markets-policy>