Department for
Energy Security
& Net Zero

Final Statement for the Third Carbon Budget

Reporting UK 2018-2022 emissions to Parliament under the Climate Change Act 2008

May 2024

Department for Energy Security and Net Zero

Final Statement for the Third Carbon Budget

Presented to Parliament pursuant to section 18 of the Climate Change Act 2008

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Ministerial Foreword

I am pleased to publish the final statement for the third carbon budget, which ran from 2018 to 2022, and was set in 2009 according to what was considered a realistic emissions reductions trajectory at the time. This statement confirms we have not only achieved, but also over-delivered on the target for this period by 15%.

By the end of the period in 2022, UK net greenhouse gas emissions were 50% lower than the base year emissions, which makes the UK the first major economy to halve its emissions since 1990, while also growing its economy by around 80%.

The Climate Change Act was passed in 2008 and amended in 2019 to increase the ambition of our 2050 target to Net Zero. The Act sets out the legal framework to keep us on track to Net Zero, with carbon budgets setting interim targets over 5-year periods. It also includes flexibilities to support the delivery of carbon budgets, such as the use of international carbon units and ability to carry forward over-performance from one carbon budget period to the next to incentivise early delivery of emissions savings.

This statement confirms that we have not relied on international carbon units to meet the third carbon budget. I am also pleased to confirm that I have decided to forego the option to carry forward any over-performance from the third carbon budget to the fourth carbon budget. We are already on track to over-deliver once again in the fourth carbon budget without the need to exercise this power.

Our performance to date demonstrates Government's unwavering commitment to meet our ambitious emissions targets, including the legislated carbon budgets and net zero by 2050, while taking a pragmatic, proportionate and realistic approach to doing so, easing burdens on working people.

The Rt Hon Claire Coutinho MP

Secretary of State for Energy Security and Net Zero

Executive Summary

This is the final statement for the third carbon budgetary period covering 2018 to 2022 as required under section 18 of the Climate Change Act 2008[1]. It confirms that the net UK carbon account was 2,152,791,393 tCO_2e, which is 391,208,607 tCO_2e (15%) below the cap of 2,544,000,000 tCO_2e. The average annual net UK carbon account across the third carbon budget period represents a 47% reduction from base year emissions. By the end of the period in 2022, UK net greenhouse gas emissions were 50% lower than the base year emissions.

This statement confirms that the UK has over-performed on all its carbon budgets to date. We have gone beyond what was considered to the feasible when the third carbon budget was set in 2009. Provisional data for 2023 show that the UK is on track to also over-perform in the fourth carbon budget period and is now halfway to its 2050 Net Zero goal, leading the world as the first major economy to be able to make this claim.

[1] http://www.legislation.gov.uk/ukpga/2008/27/section/18

Introduction

The Climate Change Act 2008 sets out a legally binding target to reduce greenhouse gas emissions by at least 100% below the 1990 baseline by 2050. The Act also introduced "carbon budgets", which set the trajectory to ensure the 2050 target in the Act is met. These budgets represent legally-binding limits on the total amount of greenhouse gases that can be emitted in the UK for a given five-year period.

In order to measure compliance against each carbon budget, section 18 of the Climate Change Act requires that the Government lays before Parliament a final statement for each budgetary period by 31 May in the second year after the budget finishes. This must provide information on whether the UK has met each carbon budget in a clear and transparent way. The statements must include information on both emissions of greenhouse gases in the UK and removals of greenhouse gas emissions from the atmosphere (e.g. from forestry activities), as well as the use of carbon units – which can be brought into the UK from overseas to offset UK emissions, or sold to a third party outside the UK. This ensures that an amount for "the net UK carbon account" can be calculated for each budgetary period, in accordance with the requirements in the Act.

The UK has set six carbon budgets in total to date, covering years 2008 to 2037. The UK met its first (2008-2012) and second (2013-2017) carbon budgets, with a surplus of 36,452,037 tCO_2e and 383,874,007 tCO_2e respectively. The third carbon budget period ran from 2018 to 2022 with an emissions cap of 2,544,000,000 tCO_2e. The fourth budget will cover the period 2023-2027 (1,950,000,000 tCO_2e), the fifth budget 2028-2032 (1,725,000,000 tCO_2e) and the sixth budget 2033-2037 (965,000,000 tCO_2e).

Calculating the net UK carbon account

Section 27 of the Climate Change Act[2] defines the "net UK carbon account". This is what we compare against carbon budgets to determine whether we are meeting them. The net UK carbon account must not exceed the level of the carbon budget at the end of each budgetary period. The process for determining the net UK carbon account in each year is summarised in Figure 1.

The starting point is UK emissions for the year, comprising emissions from all sources in the UK, excluding those from land use, land use change and forestry (LULUCF). These are then adjusted to take into account emissions and removals by sources and sinks associated with LULUCF activity, and removals associated with non-LULUCF activity which are currently not

[2] http://www.legislation.gov.uk/ukpga/2008/27/section/27

reported. The new total is referred to as net UK emissions. Data are sourced from the annual National Statistics on territorial UK GHG emissions[3].

- Net UK emissions are then further adjusted to account for carbon units which have been brought in from overseas by Government and others (e.g. installations covered by the EU Emissions Trading System (EU ETS)) to offset UK emissions ("credits"), thereby reducing the net UK carbon account; and
- UK carbon units which have been sold to a third party outside the UK or otherwise disposed of ("debits"). These increase the net UK carbon account as the recipient can use these units to offset their own emissions and it would lead to double counting if they were also used to offset UK emissions.

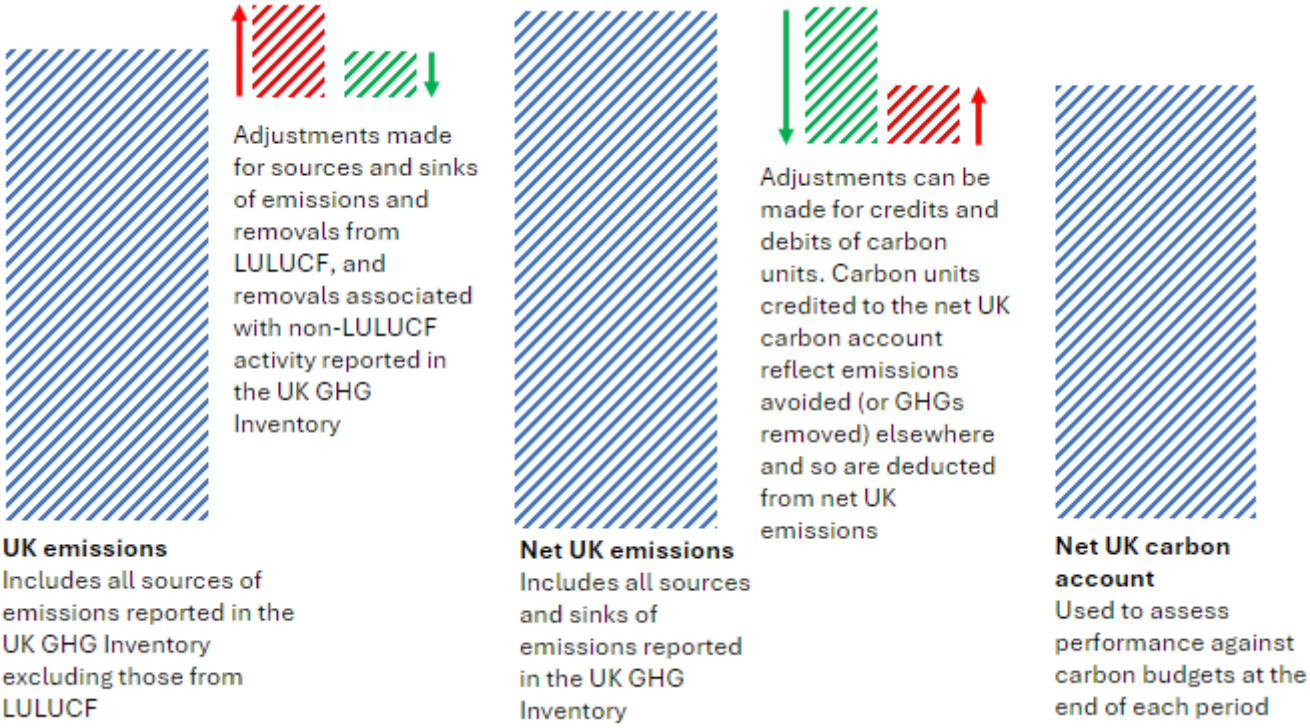
The Government publishes an Annual Statement of Emissions each year. It should be noted that the emissions estimates for years 2018 to 2021 reported in this statement differ from emissions reporting in respective annual statements of emissions. This is because of changes in the historical time series of emissions data back to 1990 in the most recent greenhouse gas emissions statistics (published in February 2024).

Section 27 of the Climate Change Act 2008 makes provision for regulations to be made in relation to the crediting to or debiting from the net UK carbon account of specified carbon units. Up until 2020, when the UK was participating in the European Union Emissions Trading System ("EU ETS"), the net UK carbon account was adjusted to reflect net trading of emissions allowances. From 2021, the UK was no longer participating in the EU ETS and no other adjustments were required for carbon unit trading.

The Climate Change (Targeted Greenhouse Gases) Order 2023[4], made on 2nd February 2023, extends the scope of emissions captured and reported under the Climate Change Act 2008 by including nitrogen trifluoride ("NF3") as a targeted greenhouse gas. This means that NF3 emissions are included within the scope of emissions in this Statement, and the full accounting period for the UK's third and subsequent carbon budgets.

[3] The final 2022 estimates of UK greenhouse gas emissions were published on 6 February 2024: https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2022
[4] The Climate Change (Targeted Greenhouse Gases) Order 2023, https://www.legislation.gov.uk/uksi/2023/118/contents/made

Figure 1: The net UK carbon account



Note – LULUCF includes both emissions and removals and so can be a net source or sink of GHGs, depending on a variety of factors, including the age profile of UK forests. A negative value means the net effect is the removal of GHGs from the atmosphere, whereas a positive value means the net effect is the addition of GHGs to the atmosphere. Since 2021, the UK GHG Inventory has included updated estimates for peatlands emissions in accordance with international guidelines. This resulted in LULUCF becoming a net source of emissions across the time series (from 1990 to latest estimates) where it was previously reported as a net sink.

Structure of the report

This report contains two sections:

- Part 1 provides UK greenhouse gas emissions statistics for the third budgetary period, covering emissions, removals and net emissions of each of the seven greenhouse gases covered by carbon budgets, individually and collectively.
- Part 2 sets out the amount of units which were credited to and debited from the net UK carbon account during the third budgetary period. The calculations in this part of the report are based on the methodologies established by Section 27 of the Climate Change Act, and carbon accounting regulations relevant to 2018, 2019 and 2020[5].

[5] Carbon Accounting Regulations 2009 (https://www.legislation.gov.uk/uksi/2009/1257/contents/made), Carbon Accounting (Provision for 2018) Regulations 2020 (https://www.legislation.gov.uk/uksi/2020/115/contents/made), Carbon Accounting (Provision for 2019) Regulations 2021

- Annex A sets out the stringency calculations to determine whether assigned amounts under the second commitment period of the Kyoto Protocol are greater than carbon budgets and determines whether any excess units need to be put out of use.

(https://www.legislation.gov.uk/uksi/2021/189/contents/made), and Carbon Accounting (Provision for 2020) Regulations 2022 (https://www.legislation.gov.uk/uksi/2022/62/contents/made).

Part 1 – UK Greenhouse Gas Emissions

The information contained in this part of the statement is derived from the final UK greenhouse gas emissions statistics for 2022, which were published on 6 February 2024. Emissions coverage under the Climate Change Act 2008 comprises UK territory only (i.e. England, Wales, Scotland and Northern Ireland)[6].

Unless otherwise stated, all figures in this section are stated in tonnes of carbon dioxide-equivalent (tCO_2e). This is the usual way of reporting greenhouse gases to account for the different global warming potentials of each gas. Agreed at international level, the global warming potential (GWP) of a gas is a measure of its impact on global warming relative to carbon dioxide. Carbon dioxide equivalent figures are therefore produced by multiplying the emissions of a greenhouse gas by its GWP. This means the emissions and removals figures for different greenhouse gases in this part of the report are directly comparable.

UK emissions totals

Section 18(2) of the Climate Change Act

Table 1 below sets out in respect of each targeted greenhouse gas, the final adjusted amount for the period of UK emissions, UK removals and net UK emissions of that gas.

The emissions and removals data included in table 1 are taken from the greenhouse gas emissions data published on 6 February 2024, derived from the UK's 1990-2022 National Greenhouse Gas Emissions Inventory. The methodologies used to calculate and compile these data are in line with United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines on annual inventories. These methods include emissions factors (country specific, plant specific and the default emissions factors used under the international framework), as well as emissions and production data reported by operators and regulators, and modelling[7].

[6] Section 89 of the Climate Change Act specifies that this includes UK coastal waters and the UK sector of the continental shelf: http://www.legislation.gov.uk/ukpga/2008/27/section/89

[7] Further details on the methods used in specific sectors are set out in table 6.2 of the data tables published alongside the final 2022 emissions data, available from: https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2022

Table 1: Net UK greenhouse gas emissions during the third carbon budgetary period (2018 to 2022) by gas, tCO2e

Greenhouse gas	Emissions (excluding net LULUCF emissions/removals)	Net LULUCF emissions/removals	Net emissions (including net LULUCF emissions/removals)
Carbon dioxide (CO2)	1,741,384,709	-30,797,898	1,710,586,811
Methane (CH4)	262,867,568	28,545,432	291,413,000
Nitrous oxide (N2O)	88,190,339	6,504,124	94,694,464
Hydrofluorocarbons (HFC)	41,682,339	0	41,682,339
Perfluorocarbons (PFC)	849,737	0	849,737
Sulphur hexafluoride (SF6)	2,214,811	0	2,214,811
Nitrogen trifluoride (NF3)	275	0	275
Total	**2,137,189,778**	**4,251,658**	**2,141,441,436**

Note: a negative value means that the net effect is the removal of gas from the atmosphere (i.e. a carbon sink), while a positive figure means the net effect is emissions to the atmosphere.

Part 2 – The Net UK Carbon Account

This part sets out the amount of carbon units which are to be credited to and debited from the net UK carbon account during the third budgetary period. The Government must follow the rules set out in the regulations when working out the net UK carbon account and so the calculations in this part of the statement are based on the methodologies established by Section 27 of the Climate Change Act, and carbon accounting regulations relevant to 2018, 2019 and 2020[8].

Total amount of units credited to and debited from the net UK carbon account

Section 18(3) of the Climate Change Act

The net UK carbon account for a given year is calculated by taking net UK emissions for that year, with an adjustment made to reflect the amount of units to be credited to, and debited from, the net UK account for that year. Carbon units that are counted as credits reduce the level of the net UK carbon account, while carbon units that are counted as debits increase the level of the net UK carbon account.

The amounts of units to be counted as credits and debits in respect of the third budgetary period should be calculated based on:

- amount of carbon units that have been credited or debited from the net UK carbon account for the period
- effect of the EU ETS (including emissions arising from domestic aviation)

Units in the credit account

The Government set up a "credit account" in the UK Registry in 2009 which is the dedicated route through which carbon units can be credited voluntarily to the net UK carbon account. During the third budgetary period, zero units were credited to the net UK carbon account under this mechanism.

[8] Carbon Accounting Regulations 2009 (https://www.legislation.gov.uk/uksi/2009/1257/contents/made), Carbon Accounting (Provision for 2018) Regulations 2020 (https://www.legislation.gov.uk/uksi/2020/115/contents/made), Carbon Accounting (Provision for 2019) Regulations 2021 (https://www.legislation.gov.uk/uksi/2021/189/contents/made), and Carbon Accounting (Provision for 2020) Regulations 2022 (https://www.legislation.gov.uk/uksi/2022/62/contents/made).

Accounting for the EU Emissions Trading System (EU ETS)

The net UK carbon account reflects the operation of the EU ETS. We call the portion of emissions covered by the EU ETS the 'traded sector'.

The UK was a participant in the EU ETS for the 2018 and 2019 scheme years. Following the UK's exit from the European Union, the UK continued to participate in the EU ETS during the transition period for the 2020 scheme year.

The EU ETS is a cap and trade system that sets a limit on the total amount of GHGs that can be emitted by installations in the system[9]. This cap is reduced over time so that emissions decrease across the EU. During 2020, the EU ETS was in its third phase, running from 2013 to 2020. In this phase Member States did not receive a fixed cap at the national level as was the case during the first UK carbon budget[10]; the ETS instead operated at installation level[11]. Therefore, within carbon budgets a share of this, a notional UK share of the EU ETS cap, was calculated for the traded sector. If EU ETS participants in the UK collectively exceeded the notional UK share of the EU ETS cap, the amount of emissions in excess of the cap must be considered as a 'credit', as operators must have bought units from other EU ETS participants to cover these emissions or used previously retained units. If on the other hand EU ETS participants in the UK collectively reduced their emissions below the notional UK share of the EU ETS cap, then the difference between reported emissions from the EU ETS sector and the cap must be considered a 'debit', as operators must have sold or retained excess units which were not required to cover emissions in the UK.

UK stationary installations and aviation operators participated in the EU ETS over 2018-20. As described in Carbon Accounting Regulations (provisions for 2018, 2019 and 2020), crediting and debiting of carbon units from stationary installations and domestic aviation are handled separately as set out below.

The net effect of the EU ETS (stationary installations)

The methodology for calculating the UK share of the EU ETS cap is set out in table 2. It is calculated by adding together the volume of EU allowances freely allocated to UK stationary operators, the volume of allowances in the EU-wide auction pot auctioned by the UK to stationary operators, and the volume of EU ETS allowances allocated to the UK from the New Entrants Reserve (NER)[12].

[9] https://ec.europa.eu/clima/policies/ets_en
[10] Details of this calculation can be found in the end of budgetary statement found here: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/310648/final_statement_first_carbon_budget_period.pdf
[11] Detailed guidance on Phase 3 of the ETS can be found here: https://www.gov.uk/participating-in-the-eu-ets
[12] See Carbon Accounting Regulations 2020, 2021 and 2022 for further information.

Table 2: Calculating the UK share of the EU ETS cap (stationary installations) during the third carbon budgetary period (2018 to 2020), tCO2e

	2018	2019	2020	2021	2022	CB3 period
Allowances freely allocated	49,449,564	47,667,411	45,876,077	N/A	N/A	142,993,052
Allowances auctioned	101,053,000	55,062,000	55,963,500	N/A	N/A	212,078,500
Allowances allocated under the New Entrants Reserve	1,808,943	1,694,795	2,183,806	N/A	N/A	5,687,544
UK share of the EU ETS cap	**152,311,507**	**104,424,206**	**104,023,383**	**N/A**	**N/A**	**360,759,096**

The UK share of the EU ETS cap (stationary installations) over 2018 to 2020 was calculated to be 360,759,096 tCO2e.

Table 3 sets out the number of units surrendered by UK operators, as well as the UK share of the EU ETS, thus showing the effect of the EU ETS (stationary installations) on the net UK carbon account during the third carbon budgetary period.

Table 3: The net effect of the EU ETS (stationary installations) during the third carbon budgetary period (2018 to 2020), tCO2e

	2018	2019	2020	2021	2022	CB3 period
Allowances surrendered	128,001,146	118,512,287	105,098,379	N/A	N/A	351,611,812
UK share of the EU ETS cap	152,311,507	104,424,206	104,023,383	N/A	N/A	360,759,096
Difference	**24,310,361**	**-14,088,081**	**-1,074,996**	**N/A**	**N/A**	**9,147,284**

As the amount of units surrendered by UK operators was less than the UK share of EU ETS, a corresponding amount of units must be debited from the net UK carbon account. This means 9,147,284 tCO_2e are to be debited from the net UK carbon account during the third carbon budget period as a result of the EU ETS (stationary installations).

The net effect of the EU ETS (domestic aviation)

Under the Climate Change Act, the net UK carbon account must include emissions from domestic aviation (flights between UK airports). Between 2012 and 2020, carbon dioxide emissions from domestic aviation were part of the EU ETS and so included in the "traded sector" part of the budgets.

In order to determine whether units should be credited to or debited from the net UK carbon account each year, domestic aviation emissions are compared with the domestic aviation emissions cap.

Methodology to estimate the domestic aviation cap
Using the latest relevant available civil aviation data from the EU GHG inventory published on the European Environment Agency website[13], the steps listed below set out how we estimate a cap against which we report carbon dioxide emissions from UK domestic aviation. The calculation is shown in table 5.

[13] European Environment Agency website: https://www.eea.europa.eu/data-and-maps/data/national-emissions-reported-to-the-unfccc-and-to-the-eu-greenhouse-gas-monitoring-mechanism-16

This approach uses a baseline of total European Economic Area (EEA) domestic flights (i.e. total flights within individual EU countries plus Norway, Liechtenstein and Iceland), and an estimate of what share of this total can be attributed to the UK. The cap during each year of the third phase of the EU ETS (2013-20) is equivalent to 95% of the baseline, reflecting the ambition to reduce emissions from aviation.

There are three steps to the calculation:

1. **Calculate a baseline of total EU domestic aviation:** The baseline is the average of 2004–06 EEA domestic aviation carbon dioxide emissions[14] (flights within individual EEA countries). 2004–06 is used as this is a common baseline used for EU environmental targets.

2. **Calculate UK share and apply to the baseline:** The UK's share of EEA domestic aviation carbon dioxide emissions is taken from 2010. The UK's domestic aviation emissions are compared to total EEA domestic aviation emissions in this year (data for both are taken from the EU inventories as reported by EEA). 2010 is used because this was the benchmarking year for the allocation of free allowances to aircraft operators. This UK share of EEA domestic aviation is then applied to the 2004–06 EEA average.

3. **Set a declining trajectory in line with ambitions to reduce emissions:** For 2013-20, the cap is 95% of this annual average.

Methodology to assess performance against the cap

The UK's carbon dioxide emissions from domestic aviation in 2020 are taken from the UK inventory.

To assess the UK's emissions against this cap, the following methodology is used:

- Compare the national inventory figure for annual UK domestic aviation carbon dioxide emissions with the domestic aviation cap, then;
- If emissions exceed the cap then the difference is counted as a credit to the net UK carbon account.
- If emissions are below the cap then the difference is counted as a debit to the net UK carbon account.

[14] The total EEA figure will differ slightly from that published on the European Environment Agency website due to the removal of emissions attributable to UK flights to and from Gibraltar, which are included in the UK submission for the EU inventory, but which are not applicable to UK domestic aviation emissions under the Climate Change Act. This ensures that the UK figures used within the cap are calculated on an equivalent basis to that used for the UK domestic aviation emissions used to assess performance.

Table 4: Calculating the UK share of the EU ETS cap (domestic aviation)

	2018	2019	2020	2021	2022	CB3 period
Average 2004-06 EEA domestic aviation emissions	20,285,925	20,285,925	20,285,925	N/A	N/A	60,857,774
From 2013 onwards, the cap will be 95% of this average	19,271,629	19,271,629	19,271,629	N/A	N/A	57,814,886
UK share of 2010 EEA domestic aviation emissions	9.6%	9.6%	9.6%	N/A	N/A	9.6%
Domestic aviation cap	**1,856,582**	**1,856,582**	**1,856,582**	**N/A**	**N/A**	**5,569,746**

As shown in table 4, the cap for domestic aviation is estimated to 5,569,746 tCO2e over 2018 to 2020. Table 5 sets out domestic aviation emissions, thus showing the effect of domestic aviation accounting on the net UK carbon account during the third carbon budgetary period.

Table 5: The net effect of the EU ETS (domestic aviation) during the third carbon budgetary period (2018 to 2020), tCO2e

	2018	2019	2020	2021	2022	CB3 period
Domestic aviation emissions	1,444,880	1,374,091	548,102	N/A	N/A	3,367,073
Domestic aviation cap	1,856,582	1,856,582	1,856,582	N/A	N/A	5,569,746
Difference	**411,702**	**482,491**	**1,308,480**	**N/A**	**N/A**	**2,202,673**

As the emissions from domestic aviation were less than the domestic aviation cap, a corresponding amount of units must be debited from the net UK carbon account. This means 2,202,673 tCO_2e are to be debited from the net UK carbon account during the third carbon budgetary period as a result of the EU ETS (domestic aviation).

Accounting during UK Emissions Trading Scheme (UK ETS) years (2021 and 2022)

From 2021, the UK was no longer participating in the EU ETS and so no adjustments were required. As such, the net UK carbon account in 2021 and 2022 reported in this Statement is equal to UK net territorial GHG emissions in 2021 and 2022, pursuant to sections 29(2) and 89 of the Act.

Net UK carbon account for the period

Section 18(4) of the Climate Change Act

As described above, the net UK carbon account is calculated by taking net UK emissions and adjusting these to account for the amount of units to be debited from and credited to the net UK carbon account.

The information in table 6 is taken from preceding tables in this statement and provides a summary of how the net UK carbon account is calculated for the third carbon budgetary period.

Table 6: The net UK carbon account calculation for the third carbon budgetary period (2018 to 2022), tCO2e

	2018	2019	2020	2021	2022	CB3 period
Net emissions (including net LULUCF emissions)	462,342,061	447,858,584	404,010,007	421,056,657	406,174,127	2,141,441,436
Units to be credited/debited from EU ETS stationary installations	24,310,361	-14,088,081	-1,074,996	N/A	N/A	9,147,284
Units to be credited/debited from EU ETS domestic aviation	411,702	482,491	1,308,480	N/A	N/A	2,202,673
Net UK Carbon Account	**487,064,124**	**434,252,994**	**404,243,491**	**421,056,657**	**406,174,127**	**2,152,791,393**

Note: carbon units to be credited to the net UK carbon account have been assigned negative values.

Over the third carbon budgetary period, the net UK carbon account was 2,152,791,393 tCO_2e, which is 391,208,607 tCO_2e below the third carbon budget of 2,544,000,000 tCO_2e.[15]

Section 18(6) of the Climate Change Act

Section 17 of the Act allows the Secretary of State to carry forward any amount of the surplus at the end of a carbon budget period to the next carbon budget. This power was exercised in 2019 when the third carbon budget was raised to 2,631,930,284 tCO2e, through the decision to carry forward 87,930,284 tCO2e of over-achievement from the second carbon budget. At the time of the decision, Government wrote to the Climate Change Committee in June 2019 confirming that this carry forward would be released once it is clear that any methodological changes to the greenhouse gas inventory baseline that were anticipated at the time would not impact our ability to meet the third carbon budget. This position was also confirmed to Parliament in July 2019[16]. As it is now clear that technical changes to emissions estimates have not hindered our ability to meet the third carbon budget, assessment of performance in this statement is based on emissions level that excludes the amount carried forward from the second carbon budget to the third.

Section 18(5) of the Climate Change Act

Section 17 of the Act allows the Secretary of State to carry back an amount from the fourth carbon budget to the third. This statement confirms that the UK will not exercise this power.

[15] This does not take into account the amount carried forward from CB2 to CB3 - see footnote 17
[16] 11 June 2019 (https://hansard.parliament.uk/Commons/2019-06-11/debates/B712473E-F9F0-4922-8102-BBD438F8FE0A/GreenhouseGasEmissionsTargets)

Section 18(7) of the Climate Change Act

This statement shows that, over the third budgetary period, the net UK carbon account was 2,152,791,393 tCO2e, which is 391,208,607 tCO2e (15%) below the cap of 2,544,000,000 tCO2e. This surplus will not be carried forward to the fourth carbon budget[17].

The average annual net UK carbon account across the third carbon budget period represents a 47% reduction from base year emissions. By the end of the period in 2022, UK net greenhouse gas emissions were 50% lower than the base year emissions. This statement also confirms the requirement under section 5(1)(a) in the Act, that the carbon budget for the budgetary period including the year 2020 be such that the annual equivalent of the carbon budget for the period is at least 34% lower than the 1990 baseline, has been met.

[17] 87,930,284 tCO2e of over achievement was carried forward from the second carbon budget to the third. Therefore, the overall surplus for the third carbon budget was 479,138,891 tCO2e (18%) below the cap of 2,631,930,284 tCO2e. This surplus will not be carried forward to the fourth carbon budget.

Annex A – Determination of Excess UK Assigned Amounts Units for the second commitment period under the Kyoto Protocol

The Carbon Accounting (Determination of Excess UK Assigned Amount Units) Regulations 2023[18]

Pursuant to Section 27(5) of the Act, these Regulations require the Secretary of State to determine whether the UK's emissions allowance under international emissions reduction targets are higher than the UK's emissions allowance under domestic carbon budgets. Any excess units representing the difference in stringency between the domestic carbon budget and international targets are to be made unavailable to prevent the UK from using excess emissions allowances to offset greenhouse gas emissions in the UK or elsewhere. The relevant international agreement for these Regulations is the Doha Amendment to the Kyoto Protocol which makes provision for the Second Commitment Period (2013-2020). The corresponding period under domestic emission reduction targets made under the Act is Carbon Budget 2 (2013-2017) and the first three years of Carbon Budget 3 (2018-2020).

In determining whether there is an excess, as described in Section 3(2) of the Regulations, account must be taken for the emissions on which each target was assessed as the scope and accounting methodology of the targets is not aligned. For example, the UK's emissions allowances for the Kyoto Protocol second commitment period does not include emissions in scope of the UK ETS, whereas these emissions are in scope of carbon budgets. Therefore, the calculation of excess units to be made unavailable is:

Kyoto Protocol second commitment period (target level – emissions accounted) – Carbon Budget (target level – emissions accounted)

Or more simply:

Kyoto Protocol second commitment period performance – Carbon Budget performance

[18] https://www.legislation.gov.uk/uksi/2023/577/made

Table 7: Level and performance of the UK's carbon budgets and Kyoto Protocol second commitment period over the 2013-20 period, tCO2e[19]

	Carbon budgets	Kyoto Protocol second commitment period
Target level	4,308,400,000	2,744,937,332
Emissions accounted	3,723,686,602	2,593,802,621
Performance	584,713,398	151,134,711

As set out in table 7, the UK's emissions allowance and performance under domestic carbon budgets over the 2013-20 period were significantly higher than the UK's emissions allowance for the second commitment period under the Kyoto Protocol. Therefore, there are no excess units which need to be made unavailable to prevent the UK from using excess emissions allowances to offset greenhouse gas emissions in the UK or elsewhere.

[19] Further details on the target levels and performance against each target can be found in tables 2.1 and 2.2 of DESNZ UK 1990-2022 greenhouse gas emissions statistics.
https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2022
For the 2018-20 period, the carbon budget level is assumed to be three fifths of the third carbon budget level.

This publication is available from: www.gov.uk/government/statistics/final-statement-for-the-third-carbon-budget-period

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